



From Kuwait
Page 2

Redstone Delivers
WMI
Page 3

AP&B Division
Page 5

SUIT-A
Page 22

AmmoMail
Page 22

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Ammunition Quarterly

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From the Program Manager



Mr. Jerry Mazza
Program Manager for Ammunition

Welcome to the summer edition of the "Ammunition Quarterly." It has been an extremely challenging time. The efforts involved in supporting Marine Forces with Class V (W) during Operation Iraqi Freedom (OIF) have passed. We are now deeply engaged in retrograde activities. We as a community accomplished much and should be proud at all Commands and echelons. However, there were issues...issues that must be addressed in the near, mid-term, and long term. Lessons learned continue to role in, many involving our commodity. Too better manage OIF Class V (W) "lessons learned", I tasked my Logistics Division to capture and

consolidate, in accordance with the "CJCSI 3150.25A – Joint Lessons Learned Program", the numerous lessons throughout the campaign. I would ask that if you have anything that is of value, please provide input directly to Mr. Mike James at the following email:

JamesMA@mcsc.usmc.mil or, if of a classified nature, JamesMA@mcsc.usmc.smil.mil. My intent is to capture this data and place it into our Ammunition Knowledge Management Portal. This effort is not intended to replace any other organizational requirement rather, to serve as a central repository for our Occupational Field that will allow us to focus our efforts and resources in addressing that which will better support our Forces for the next fight.

On a similar note, MGySgt Chavez, Operations Chief at Camp Fox has taken time out of his extremely critical mission to provide some insight on the Marine Logistics Command Ammo mission during OIF. You can see from this article, the tremendous effort, complexities, and challenges of the MLC ammo mission.

Our Ammunition Quarterly is growing. In this edition, you will find a variety of articles, information and from activities here at Quantico, to Kuwait, Ecuador, Okinawa, Camp Pendleton, the I&I Staffs at Topeka, Kansas and Greenville, South Carolina, and Indiana.

An interesting perspective on the global nature of our community. I very much appreciate the authors for their interests in advertising our collective mission. Sometime back, PM Ammo hosted a contact email account titled, "AMMO MAIL." This was discontinued for various reasons however; I feel that there is value to re-establish "AMMO MAIL" for both our Occupational Field and for the Marine Corps as a whole. Effective as of this publication, "AMMO MAIL" is up and running. Please make note of the related article in this edition. I assure you that questions and issues posed via that medium will be expeditiously addressed. Semper Fi

Jerry



From Kuwait

MGySgt Chavez, Operations Chief, Camp Fox

Ammo Company, 2D Supply Battalion, Marine Logistics Command had a robust mission to support the United States Marine Corps in the MARCENT AOR, with Class V for Operation Iraqi Freedom as the Landing Force Support Party (LFSP) and then transitioning to the Marine Logistics Command (MLC).

Ammo Company, led by Capt Earl E. Nash sent the first leg of ammo techs on 26 Dec 02 to Kuwait for a security mission. As the mission in Kuwait developed and orders given, all able body ammo techs of Ammo Company journeyed into Kuwait with everyone on deck by 16 Jan 03.

2D FSSG's orders were to stand up as the LFSP in support of the MPF offload and eventually transition to the MLC for sustainment upon completion of the offload. The LFSP downloaded containerized Class V (A)&(W) from the entire 1st and 2D MPF Squadrons and partial of the 3D to their perspective locations, Camps Fox and Coyote in Kuwait.

Prior to any offload, Camp Fox and Coyote had to be prepared for receipt of any shipments. These two (2) Field Ammunition Supply Points (FASP) were already selected and approved by MARCENT. Camp Coyote was planned by 1st FSSG and surveyed by engineers and barricaded by host nation support, whereas, Camp Fox's un-barricaded FSUs were planned by MSgt Ochoa, surveyed and marked by the Ammunition Company and Aviation Ordnance NCO Marines. The 121 FSU sites were surveyed utilizing a hand held GPS and by marking them with survey flags and engineer stakes to make them ready for receipt of 2,420 containers, 20 containers per FSU. With the guidance of both MSgt Ochoa and SSgt Kershaw, the Sgts lead their Marines to a well-engineered FSU site. Even with blisters and miles of walking, this task proved to be a rewarding experience for both Class V (A)&(W) Marines.

Camp Fox was the MLC focus of effort and maintained most of the Aviation Ammunition as well as a small portion of Ground Ammunition to support MLC subordinate. Fourteen aviation ordnance Marines and Navy Dart/Daht teams also assisted the world finest Ammunition Community in supporting the entire USMC Aviation community in theater from Camp Fox.

Camp Coyote was 1st FSSG's site that maintained the MPF Class V (W) ammunition containers to support I MEF Forces with a Combat Load and 1 Day of Ammunition (DOA) prior to the war starting.

The MLC mission supported the war effort in everyway imaginable. This effort challenged the MLC to split in many directions for the support of the air/ground units, and to receive incoming air/sea shipments from Al Jaber (air) and Kuwait Naval Base (KNB)(sea shipment). Additionally, the MLC eventually replaced 1st FSSG at Camp Coyote allowing them to provide direct support to the task forces at Camps Chesty and Viper.

Sea shipments came in two phases: MPF and Black bottom ships. The MPF 24 hour download operations were orchestrated by SSgt Cleveland and a team of three. Responsibilities were to communicate with the Army and Navy to receive, sort, verify and direct over 1800 Class V (A)&(W) containers to Camps Fox and Coyote. All containers found a home.

CWO2 Duncan and a crew of 15 ammo techs orchestrated a more complex; 24hr download operation involving black bottom ships. The Gunner had responsibilities to communicate with the Army and Navy to ship over 2600 containers to various camps. CWO2 Duncan's duties started with his crew split between two locations and receiving, sorting, verifying and directing ammunition to Camps Coyote, Fox and the Army ASP, TSA. As the war progressed and intensified, the logistic trains bottlenecked therefore, bogging down the effort. This resulted in the MLC absorbing an additional challenge of moving ammunition beyond our mission description. CWO2 Duncan further directed convoys of ammunition into Iraq, Camps Chesty and Viper. Every convoy made their mission.

Along with the sea shipments came sporadic air shipments for special Class V (A). When 1st FSSG pushed forward in support of the task forces, 2D FSSG/MLC split in two, to maintain support in Camp Fox and to replace 1st FSSG at Camp Coyote to sustain the forces in Iraq. CWO2 Spencer, WO Hammers, MGySgt Chavez and MSgt Epps were the OIC, Storage Officer, Ops Chief and Storage Chief of Camp Fox while CWO3 Hobin, CWO2 Stout, MSgt Ochoa and SSgt Kershaw held the billets as the OIC, Storage Officer, Ops Chief and Storage Chief of Camp Coyote. CWO2 Spencer maintained 18 square miles of real estate that housed un-barricaded Field Storage Units

(FSU) and modular storage. Along with the containers were over 2000 pallets of Class V (A) for the aviation ordnance community were stored out in the modular storage. Along with their regular support, Camp Fox built two Forward Observation Bases (FOB) aviation ammunition packages with an excess of 200 pallets each in support of the rotary wing. To manage such a large quantity of ordnance was the record keeping of the Retail Organizational Logistical Management System (ROLMS), aviation Marines, GySgt Wilde and SSgt Simmons.

CWO3 Hobin orchestrated Camp Coyote that had 8 square miles of barricaded FSUs. Coyote depleted their 800 containers and received an additional 300 containers and break bulk ammunition from black bottom ships. Camp Coyote had additional missions of sustaining ground units with constant air packages within 24hrs notice, everyday unit requests for units entering Iraq and everyday convoys consisting of break bulk and containerized ammunition. To manage their large quantity of ground ammunition was the ROLMS team of Sgt Mathis and Cpl Sherburne.

Between Camps Fox and Coyote, Ariel Port of Debarkation (APOD) and Sea Port of Debarkation (SPOD), MLC ammo tech Marines touched and managed over \$1.6 billion of Class V (A)&(W) ammunition.

Overall, all the Ammo Techs of Camp Lejeune and Pendleton, the MEUs and Division Units performance was outstanding. Credit has to be given to the high echelon leaders from MARCORSSYSCOM, MARCENT and I MEF that provided guidance that aided to our/Marine Corps success.

MGySgt Chavez was assigned as the Operations Chief for the ASP located at Camp Fox.



Redstone... Delivers Weapons of Mass INSTRUCTION... Everyday!!!

MGySgt Shustack and MSgt Taylor MCD, Redstone Arsenal, AL

The first class for FY-03 Ammunition Managers Course Redstone Arsenal has just graduated but the memories of the course will last for some time. You may ask what has changed since I attended the course. Well, the curriculum is still as challenging as it ever was, it encompasses instruction on such subjects as: Combat Planning Factors; Transportation; Training Allowances; Drafting SOP's; General Security; Storage at Advance Bases; Fire Prevention, Protection, and Control; MLSR Reporting, Malfunction Reporting; DDA and Munitions Rule; ROLMS; Preparing Naval Correspondence; A&E Accountability; Field Return Inspection (CD); and Briefing Techniques. At the completion of some of these periods of instruction there is usually a routine practical application period. While others are not so routine, such as writing an SOP, preparing and giving a brief, completing an MLSR and Malfunction Report on a scenario that is provided, or figuring out the combat planning factors for a division based on a particular combat scenario. In addition to the instruction and practical applications, these classes provide for an opportunity for students to exchange their opinions, experience and thoughts on the subject matter.

As well as the aforementioned instruction, one entire week is devoted to the Naval Facilities Planning Course, Ammo-36. This course is a joint effort between the Marine Instructors and Naval Ordnance Safety & Security Activity (NOSSA). Of the thirty-six hours of instruction the Marines teach approximately twenty and the NOSSA representative, Mr. Gary Hogue teaches approximately, sixteen, followed by a four-hour test. This course provides the Managers with an in-depth review of the Department of Navy quantity distance standards as well as a facility-planning workshop.

Each class has several guest speakers, who provide informational briefs on a variety of ammo related subjects. During this past course both Captain Leighty and MSgt Chop provided insight on the mission

and functions of Training Command, Ammunition Section. They covered such topics as, Marine Corps Ammunition Requirements Management System– Training Requirements Subsystem (MCARMS-TRS); Developing and Publishing MCBul 8011; Special Allowances; Rollover policy; and Expenditure Reporting. Mr. Zarnesky, from the PMAM also briefed on the latest changes from the PM Shop. He talked about subjects such as, Marine Corps Ammunition Stockpile Management; Total Munitions Requirement (TMR); Ordnance Information System (OIS); Training Ammo Management Information System-Reinvented (TAMIS-R); Retail Ordnance Logistics Management System (ROLMS); Ammunition Knowledge Management Portal (KMP); Ammunition Logistics Focus Team (ALFT) just to name a few. These briefs are just another tool that the school takes advantage of to help instill that corporate knowledge that is so vital to our future ammo leaders.

During the course, Managers were also given classes on both emergency destruction and how to prepare firing systems. The emergency destruction portion of the course covered what items need to be destroyed by burning and what items need to be destroyed by detonation. In addition, the Managers also learned the logistical process behind finding and sighting the potential destruction area. Classes were taught on the use of different types of demolition material, including the Modernized Demolition Initiators (MDI) system, the setting up of both electric and non-electric firing systems. The Managers then put their knowledge to practical application on the demolition range, detonating ¼ lb blocks of TNT utilizing both firing systems, demilitarizing a 105mm HE round, and setting up a ring main and then detonating it.

Manager's classes go on the road! This class executed two guided tours. The First stop was to Milan Army Ammunition Plant. Milan is located in Gibson and Carroll counties near Jackson, Tennessee. It is a Government Owned Contractor Operated (GOCO) facility run by American Ordnance. Milan is an Ammunition load, assemble and pack (LAP) facility. They have some of the most up-to-date facilities, equipment and experience in the industry. Milan has produced many different types of rounds in their history. The tour started with a tour of their 40mm LAP facility where they have the capability to manufacture the whole 40mm family of munitions. The class was given a guided tour of the cartridge case assembly and powder pour. It was explained in great detail how critical it is to

have the correct amount of powder, and Milan demonstrated with their many checks and balances on the line how they ensured that the user received a quality product. The tour continued to the projectile line where the cartridge case and projectile were put together. Again, Milan demonstrated the quality checks that were in place on line to ensure a reliable and safe round for the end users.

We then toured the 155mm HE melt pour facility. The class quickly learned how hot this work could get with the temperatures in these facilities exceeding 150 degrees. Milan representatives walked the class to the many stations where the rounds are inspected then filled with the explosive mixture of composition "B." These rounds then have to sit and then be inspected visually as well as by x-ray for complete fills, cracks, voids etc.

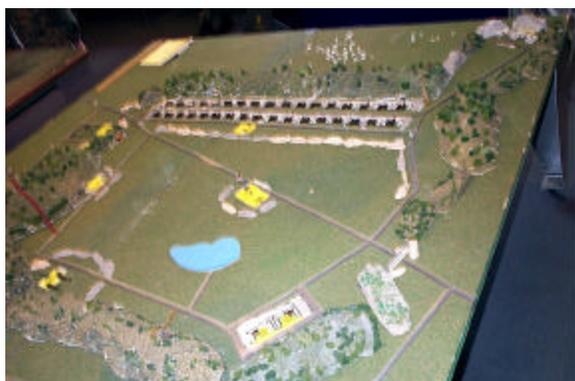
The Manager Class then visited Ensign-Bickford Aerospace & Defense (EBA&D) in Graham, Kentucky. EBA&D is a Contractor Owned Contractor Operated (COCO) facility. This facility is well known throughout the world for the innovative advancements in time fuse and combinations of firing devices for both commercial and military use. The tour started with an in brief of the facilities, we then proceeded to the manufacturing lines. The first stop on this tour was of their PBX and Booster Assembly facilities. The second stop took us to the time fuse facility where the fuse is made. This process starts with a single strand of thread and works its way through a series of turns where a hot plastic compound is added. While this is happening powder is added to the core, and the end product quickly exits into a water tank where it is quickly cooled.

We then proceeded to the recently fielded Anti-Personnel Obstacle Breaching System (APOBS) facility. This line assembles the many parts that are shipped into the plant to create the APOBS system. Some items were being manufactured as we watched. The class was really impressed with the weave that the lines machines could weave from a series of over 100 individual lines of thread to form a tightly woven sock to house the 108 grenades that are used to breach a 45 meter lane through a mine field.

The overall opinion of class 001-03 who participated in both of these tours was highly favorable. They recommend that future classes have a chance to participate in tours of both Milan Army Ammunition Plant and Ensign-Bickford Aerospace & Defense facilities. These tours are a newly added event to the

Managers Course. We in the Ammunition community deal with ammunition on a daily basis but rarely see the ammunition is in such a rudimentary stage. Keeping with the wishes of class 001-03 we hope to continue these tours, and send the future graduates of the Managers Course back to the Fleet Marine Force a little more knowledgeable as to the procurement and manufacture of the items we store and utilize.

The last week of the Managers Course is reserved for the Sand Table event. This is where the class is broken down into three groups: ASP 1, ASP 2, and ASP 3. The combat planning factors given to the class at the start of the course are utilized in conjunction with the SOP they have written to design and build a Field Ammunition Supply Point (FASP). The Managers use the knowledge they have learned throughout the course to build to scale a FASP. The exercise wraps up with each group briefing their work to the CO and visiting Ammo Officers.



Last, but certainly not least there is physical training (PT). Just as with the other practical applications some of the PT sessions are as routine as running three to five miles. Other PT sessions are not so routine, such as running in boots and utilities, running in the creek, hiking with ammunition boxes filled with sand or training with rubber rifles. The OIC wants to provide all students with an enriching military experience both mentally and physically. So, be prepared, bring two pair of boots and a motivated attitude.

The Managers Course will continue to evolve with the changing times. Expect some minor changes in the curriculum once the new Individual Training Standards are published.

MGySgt Shustack is the NCOIC and MSgt Taylor is the Chief Instructor for the Marine Corps detachment located at Redstone Arsenal, AL

AMMUNITION PROGRAMS AND BUDGET DIVISION

AP&D Management Team, PM Ammunition, MARCORSYSCOM

The Ammunition Programs and Budget Division (AP&BD), one of three divisions under the Program Manager for Ammunition is responsible for the development, procurement, quality assurance, and maintenance as well as all of the accompanying budget and fiscal responsibilities related to Class V (W) ammunition.

AP&BD's mission is to:

- Plan, program, and budget for the development and procurement of safe and effective ammunition and explosives in support of operating force requirements.
- Identify the current condition of the stockpile.
- Formulate, justify, and execute Ammunition budget appropriations.
- Maintain the stockpile in the highest state of readiness possible
- Act as the financial advisor for the Program Manager for Ammunition for the Procurement of Ammunition, Navy, Marine Corps Appropriation (PAN, MC), Operations and Maintenance (O&M) appropriation, Research, Development Test and Evaluation (RDT&E) appropriation and Reimbursable Funds.
- Ensure only quality ammunition is delivered to the Marine Corps inventory
- Act as the Program Manager's representative on other Services development, production, product improvement teams, and Joint Ordnance Commanders' Groups and committees that affect the Marine Corps.

To execute this mission AP&BD is comprised of a Division Head (NH IV) and three teams; the Infantry Weapons Ammunition Team (IWAT), the Large Caliber Ammunition Team (LCAT), and the Strategic Ammunition Business and Operations Team (SABOT). These teams work together to plan, budget and execute the Marine Corps' ammunition programs.

Infantry Weapons Ammunition Team (IWAT) <ul style="list-style-type: none"> o Major, Team Lead o Military, Assistant Program Manager o NH, Assistant Program Manager o NH, Assistant Program Manager o NH, Staff Engineer 	Large Caliber Ammunition Team (LCAT) <ul style="list-style-type: none"> o Major, Team Lead o NH, Assistant Program Manager o Military, Assistant Program Manager o Military, Assistant Program Manager o NH, Staff Engineer
Strategic Ammunition Business and Operations Team (SABOT) <ul style="list-style-type: none"> o NH, Team Lead o NH, Budget Analyst o NH, Budget Analyst o NH, Contract Specialist o Military, Acquisition Logistics Specialist o Military, Quality Assurance Specialist 	

The AP&BD is also engaged in limited development of munitions that are needed for unique Marine Corps requirements through the Foreign Comparative Test (FCT). Examples of FCT program efforts are a new floating smoke pot that is environmentally friendly and a new 40mm high velocity, non-dud producing practice round.



Floating Smoke Pot

The Infantry Weapons and the Large Caliber teams conduct acquisition for their respective ammunition families by programming, budgeting, and procuring ammunition that meets or exceeds the stated requirement. They develop and support Marine Corps ground ammunition funding lines; monitor their requirements, develop budgets; execute the budgets; ensure ammunition requirements are fulfilled; track cost, schedule and performance of all ammunition procurements; monitor the industrial base; and coordinate technical ammunition issues with other Services and Marine Corps organizations.

Related tasks include the monitoring, update, adjustment, and review of procurement status. A large percentage (60% to 70%) of Marine Corps procurements is made through the Single Manager for Conventional Ammunition (SMCA). The SMCA is a field activity of the US Army's Joint Munitions Command (JMC) located in Rock Island, Illinois. AP&BD works with the JMC Marine Corps Liaison to over see these procurements. However, this does not preclude the Marine Corps from procuring munitions through other Department of Defense agencies and commercial sources.

While the mission of AP&BD has not changed in many years, the Division transitioned to its current configuration in October 2002. The Division was formerly comprised of three branches centered on the functional the areas of 1) Research, Development and Acquisition (RD&A); 2) Quality Assurance and Maintenance (QAM); and 3) Financial Management. Today's structure has two teams commodity focused and dealing with all aspects of ammunition life cycle management that incorporates the combined functions of RD&A and QAM Divisions. The IWAT manages small arms ammunition, medium caliber, mortars, and pyrotechnics while the LCAT manages Artillery, demolitions, Rockets and missiles. The SABOT provides critical administrative, financial, contracting and operational support for these teams.

Research Development and Acquisition

The Infantry Weapons and the Large Caliber teams conduct limited Research and Development as most R&D is performed through U.S. Army agencies. To date these efforts have been limited to Small Business Innovative Research (SBIR) tasks. Two current on going SBIR programs that AP&BD have are; 1.) The potential for a non-energetic dog scent kit replacement and 2.) Polymer case ammunition.



Polymer Cased 5.56MM



Manufacture's production line

The single source document utilized by both teams for determining stockage levels is the Marine Corps Total Munitions Requirement (TMR) published by CG Marine Corps Combat Development Command (MCCDC). This document identifies ceiling limits called Approved Acquisition Objectives (AAO), for each Department of Defense Identification Code (DODIC) and includes the war reserve, training and testing requirements. The AAO serves as a target on which all procurements are based.

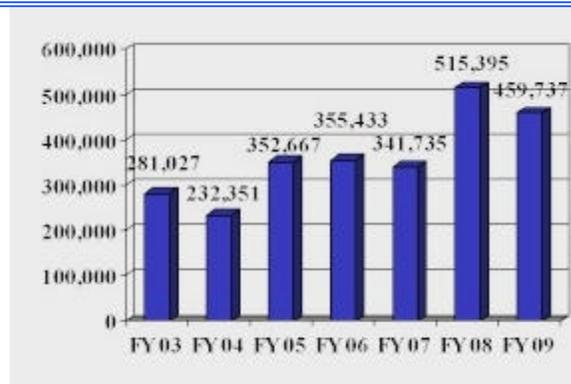
The acquisition procurement process includes the following functions:

- Adequate Lead Time: Requirements received.
- Item competes against all other requirements for fiscal resources.
- Procurement orders are placed with the procuring activity up to three years later because of funding lines.
- Inadequate Lead Time: Requirement received.
- Search for trade-offs within the programmed buys (in other words, other planned buys are reduced or cancelled).

Upon release of funding from the budget phase to the execution phase, the Marine Corps executes appropriate commercial and inter-service contracts to acquire necessary quantities of ammunition and explosives. The Marine Corps procures the majority of its ammunition via a Military Interdepartmental Procurement Request (MIPR).

Upon receipt of a MIPR an obligation against the Marine Corps funded budget occurs, which becomes the contract between the Marine Corps and the SMCA/JMC or other DoD procurement activity. SMCA's acceptance of a MIPR creates a "due in" for the Marine Corps, which is posted in the various SMCA/JMC logistic and procurement systems. Each order is then monitored monthly throughout the production cycle.

AP&BD currently manages the PANMC budget for over \$2.5 Billion.



PROCUREMENT AMMUNITION, NAVY, MARINE CORPS IN \$THOUSANDS

Upon completion of production, the DOD contractor representative accepts the ammunition resulting in a DD Form 250 being forwarded to the SMCA/JMC along with the ammunition lot data card and LOT acceptance test results. The SMCA/JMC inventory manager then transfers the accepted ammunition to the Marine Corps in accordance with the shipping instructions contained in the MIPR. At this point the transaction is entered into the Command Commodity Standard System and forwarded to appropriate SMCA storage depot. The SMCA maintains depots at McAlester, OK, Crane, IN and Tooele, UT where approximately 65% of the total Marine Corps ammunition inventory or approximately 180,000 tons is stored.

The final action consists of forwarding a receipt transaction back to the SMCA/JMC, which in turn generates a billing transaction back to the Marine Corps Comptroller, who then executes a disbursement of funds. After delivery of the last transaction and completion of all disbursements the MIPR is audited for completeness, final billing is accomplished and the order is then closed.

Although this process appears straightforward and efficient; in reality it is somewhat complex and time-consuming, with lead times ranging from 13 – 36 months for the first delivery of ammunition once a funded MIPR is accepted by the SMCA.

The Marine Corps Liaison Staff at the SMCA continually monitors the process to mitigate delays in production and delivery of our ammunition. This is accomplished through the a Configuration Control Board (CCB) where technical issues are reviewed and resolved by ensuring an equitable allocation of

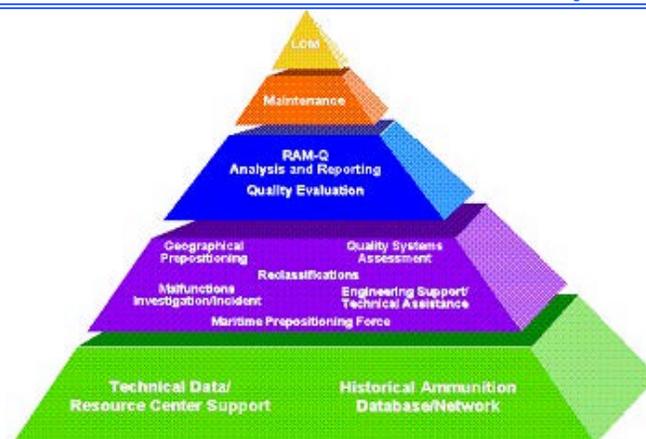
production ammunition, proper posting of gains and tracking of shipments, to mention a few.

Quality Assurance & Maintenance

The Infantry Weapons and the Large Caliber teams are responsible for maintaining quality ammunition. Quality is one of those intangible aspects of any organization that all commodity managers must pursue. It is a constant, never ending process that must be part of organizational culture.

The Assistant Program Managers (APMs) ensure quality for their items through quality assessments and audits of manufacturers, surveillance, and maintenance programs with engineering and technical support from Naval Surface Warfare Center, Crane Division, Marine Corps Department Code 403 and Marine Corps Programs Department (MCPD) Code 409.

Conservative estimates value the current Marine Corps Class V (W) stockpile at approximately \$4 Billion. First and foremost, the Program Manager must know the true current condition of this valuable commodity in order to make sound and effective management decisions. So, what condition is Marine Corps Ammunition in at this time? In March 2003 only six percent of the stockpile was unserviceable making ninety four percent available to the war-fighter for training and operations.

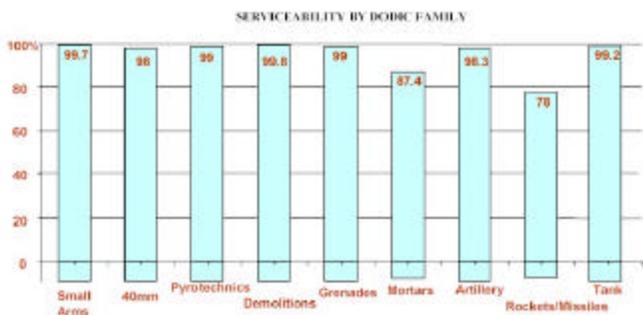


Life Cycle Management Pyramid

Reliability, Availability, Maintainability, and Quality (RAM-Q) reports are the result of surveillance inspections, functional testing, and laboratory analysis of representative lot samples from the inventory. Quantity, storage locations (environmental exposure), age, malfunction history and manufacture variables are considered when selecting samples to arrive at a statistically significant means of determining reliability (future performance) at a given confidence level. Each year a specific number DODICS are assessed in this manner. APBD works with MCPD and the PM Ammunition Inventory Manager to select Lot samples and positioned them at test sites for evaluation. From the RAM-Q reports the overall state of the stockpile can be determined at the LOT level. Then inventory management decisions such as reclassification, global positioning, and maintenance options can be implemented by the PM-AM staff.

MARCORSYSCOM (AM) conducts the Quality Systems Assessment Program, under the direction of the MCLNO Rock (spell out) Island IL. The liaison schedules engineers and quality experts at Marine Corps Programs Department, NSWC Crane Division, Detachment, Fallbrook (MCPD) to conduct quality audits of ammunition manufactures. This program evaluates the quality systems utilized by ammunition suppliers against current industry standards. These audits include evaluating both new production and renovation operations. The major element of this task is representing the Marine Corps in assessments of its ammunition suppliers and providing technical assistance in quality systems methodology as directed.

Quality Audits of suppliers are conducted that include the following:



The Program Manager for Ammunition is able to determine the state of the stockpile through several programs as shown in this Life Cycle Management pyramid:

- Review supplier's quality system manuals, procedures and work instructions for compliance with contract clause, specifications, and industry standards.
- On-site audits of suppliers for compliance with quality system requirements.
- Audits and reviews of maintenance lines, as directed.
- Participation in multi-service audits as the Marine Corps representative.
- Participation in the JMC's joint service meetings on quality issues.
- Reports on the results of the audits and other reviews and assessments, including areas of compliance/non-compliance.
- Monitoring the JMC's management of the quality assessment programs utilized for Marine Corps buys.
- Participating in Pre- and Post-Contract Award and Facility reviews.
- Reviewing contract deliverables (e.g. Statistical Process Control (SPC) Plans, Quality Assurance (QA) Program Plans, etc.), as directed.
- Reviewing new solicitations to ensure that Marine Corps Military Interdepartmental Purchase Request (MIPR) requirements are included.
- Monitors First Article Tests (FAT) and Lot Acceptance Tests (LAT).

AP&BD conducts analysis of the stocks, identifying items that can be salvaged through rework, renovation, or modernization. The APM's, with engineering and technical support from NSWC Crane Division Code 4033, determine if a maintenance effort is more cost effective than new procurement. Once a maintenance project is scheduled a complex process is begun to obtain replacement components, select a maintenance site, position assets and conduct a quality audit of the maintenance line. The Maintenance Program gives PM-AMMO an option to meet the requirement and avoid the excessive cost of new procurement. All of these efforts are designed to ensure that only the best possible assets are delivered to the Marine Corps.

Support.

While the Infantry Weapons and the Large Caliber teams are procuring, assessing, and maintaining the stockpile, the Strategic Ammunition Business and Operations Team SABOT provides key support.

The Quality Assurance Specialist manages the Malfunction and Reclassification Programs. These

programs utilize a detailed historical database of each lot number where all reported malfunctions and investigation results are recorded and used to analyze the stockpile

The database also includes Army, Navy and Air Force Notices of Ammunition Reclassification, Overhead Fire Supplements, and Ammunition Information Notices.

The Acquisition Specialist manages the Ammunition Budget Management System (ABMS). ABMS, the heart of the Marine Corps procurement system, is a web-based database that allows AP&BD to develop and submit budgets and conduct trade-offs during budget drills. ABMS projects and compares the Marine Corps' ammunition requirements against the most current 30 September Serviceable Inventory. This comparison is the basis for formulating, preparing, reviewing, and submitting budget documentation to the Navy Comptroller (NAVCOMP) Budget, the Office of the Secretary of Defense (OSD) Budget, and the Presidential Budget. (PRESBUD). Among the many forms ABMS generates is the Asset Dynamic for each DODIC. This Dynamic contains all of the information that an APM needs to make procurement and maintenance decisions. It shows the inventory, the requirement, planned expenditures, combat expenditures, procurements, and substitutes. The Acquisition Specialist also provides assistance in areas of project initiation, system development, test and evaluation, logistics management, and life cycle management of ammunition programs.

The SABOT manages the money required for the Infantry Weapons and the Large Caliber teams to conduct their Acquisition and Maintenance. The two types of money used are:

- Procurement Ammunition Navy, Marine Corps (PAN, MC)
This appropriation is good for three years and is used to procure all conventional ground ammunition for the Marine Corps. The Marine Corps PAN, MC budget currently contains 21 budget lines, consisting of 123 DoDIC's.
- Operations and Maintenance Funds (O&M, MC)
The O&M, MC funding provides for not only daily operational needs but also supports requirements for contractor services support, automated information systems, engineering support, and stockpile assessment,

maintenance and renovation. This funding is good for one year.

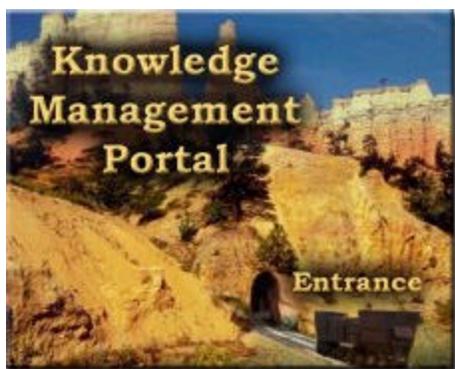
The SABOT also manages the funds reimbursed to PM Ammo for providing ammunition to programs such as:

- Developing Country Combined Exercise Program (DCCEP)
- Testing of weapons and equipment
- WARSAW Initiative Funds
- Foreign Military Sales
- Counter drug interdiction training
- Other agency support (Secret Service, FBI, State Department, etc.)

In addition to coordinating all audits from such organizations as Government Audit Office (GAO), Department of Defense Inspector General (DODIG), and Navy Audit Agency, the SABOT is a member of the OSD Ammunition Procurement Improvement Team (APIT). The APIT establishes procedures for procuring ammunition on an actual cost basis. The SABOT recently added a contracting specialist to its staff to allow to be more responsive to the needs of the user and reduce the time to procure ammunition.

The Ammunition Programs and Budget Division is a very diverse organization that is focused on supporting the Fleet in the fielding, procurement and maintenance of the highest quality ammunition. The AP&BD prides itself on being a flexible organization capable of adapting to the new and increasing needs of its customers.

The AP&D Management Team of PM Ammunition can be reached at DSN: 378-3114.



Access the KMP at

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The Acquisition Support Group (ASG) Marine Corps Ammunition Branch Code 4033, Crane Indiana

Mr. Robert R. Payne, Manager, ASG, Code 4033, NSWC, Crane Indiana

I remember as if it was yesterday...It was a February afternoon in 1973 and Platoon 1149 was sitting in the Squad Bay at MCRD San Diego. The Senior Drill Instructor was standing in front of the platoon with a piece of paper and I heard him shout, "Payne, 2311, Ammunition Basic School, Huntsville Alabama. You want to know what you are going to do for a living?" I responded with the proverbial, "SIR YES SIR". "You're going to be a box kicker and that is all you are going to do all day long." I had no idea what he was talking about, nor could I have ever imagined that thirty years later, I would be sitting where I am today.

Hidden in southern Indiana is a place called the Crane Division of the Naval Surface Warfare Center (NSWC). It is a Naval installation without ships, although it does have a nice lake. Crane covers one hundred square miles that touches four counties, contains 1,800 earth covered magazines and more than 3,000 structures overall. Most don't know that Crane stows approximately 45 percent of all Marine Corps-owned in-CONUS ammunition assets. The majority of those reading this probably never even heard of the place. Did you know that Crane is the second largest CONUS ammunition storage facility?

In 1991, while assigned to the Program Manager For Ammunition, Marine Corps Systems Command, the boss called me in one morning. He told me to pack my bags because I was getting orders to Crane Indiana. I asked, "where?" He said Crane Indiana...Finally; he looked at me and asked, "You've never heard of Crane Indiana? It doesn't surprise me because it's one of the best kept secrets around." Housed in one of those 3,000 plus structures is a group

called the Marine Corps Ammunition Branch, Code 4033. Code 4033 is divided into two sections: the Acquisition Support Group (ASG), and the In-Service Engineering Agent Group (ISEA).

Due to the Marine Corps' unique roles and missions, at times they are required to search for unique ammunition to meet their needs. On occasion the Marine Corps will identify a requirement for an ammunition item which none of the other services need. Once the Program Manager for Ammunition determines that the item is not an SMCA-managed item, the Acquisition Support Group (ASG) at Crane is contacted. The ASG at Crane serves as the SMCA for Marine Corps-unique ammunition items.



Marine Corps Non-Lethal Items

Once the project is received by the ASG Manager, it is assigned to a Lead Engineer or Technician. The Project Lead then begins developing the Procurement Data Package (PDP), which contains Market Surveys, the Technical Data Package for the item to be purchased, and other additional information (Contract Data Requirement Lists, etc.). This is submitted through a chain of people, including the NSWC Crane Legal Department. A solicitation is advertised in the Commerce Business Daily, and potential manufacturers may bid on it. If selected and the company has no previous history with the government, the manufacturer may be inspected by the government to ensure that they have the ability to manufacture the item. If the procurement is for ammunition, a safety survey is also required. Once that hurdle is passed, the company will provide a small sample of the item (the "first article") that will be tested. If the item passes the test, they are approved to go into full production. Not only does the ASG initiate acquisition of the item, but the Lead Engineer/Technician will attend First Article and Lot Acceptance Tests of the item. Additionally, they are responsible for making periodic visits to the

manufacturer to ensure a quality product is being produced for the Marine Corps.

One of the major differences between acquisitions made by SMCA and the ASG is the type of specification used. The SMCA traditionally procures ammunition based on a Design Specification and the ASG procures ammunition based on a Performance Specification. The ASG has also utilized the "Down-Select" process: samples from multiple sources are obtained and tested against the performance specification (based on the Operational Requirements Document, (ORD)). Although this process is time consuming and expensive, it ensures that the "Cream-Of-The-Crop" is being procured for the Marine in the field, and is a testament of the Program Manager's resolve to ensure the most quality product on the market makes it to the fleet.



M913 Tested At Camp Pendleton

The number of projects that the ASG supports for the Marine Corps varies each year. Inventory levels, consumption, and war reserve levels (if applicable) influence the annual procurement requirements. On the average, the ASG will have 20 to 35 active procurements at a time for items such as the SESAMS rounds; most of the Non-lethal items; Demolition items (MM series of DODICS; the Diversionary Charge; .50 Caliber SLAP-T); 5.56mm Frangible Round; Fuze for the M913; and the ML25. In FY 2003, the ASG at Crane processed in excess of \$45M in procurements for the Marine Corp, Air Force and Coast Guard.

The ASG also serves as Configuration Manager for several ammunition items for the Marine Corps, such as the SMAW, APOBS, the M913, and ML25. The Configuration Manager is responsible for maintaining the Technical Data Package for an item, which includes processing and approving Engineering Change Proposals (ECP's) and Requests for Deviation, and maintaining drawings for the item. When a

recommendation is made to change something regarding the item, the change is processed through the ASG.

For new ammunition items that the Marine Corps plans to introduce into the inventory, the ASG coordinates safety testing and prepares data packages which are approved by the Program Manager for Ammunition and then presented to the Navy's Weapons System and Explosives Safety Review Board (WSESRB). Before an item can be loaded aboard a Naval Vessel, it must be approved by the WSESRB and meet stringent safety requirements. Testing often includes a 40-foot drop test, shipboard shock and vibration test, temperature and humidity testing (28 days with the temperature fluctuated between -65 and 165 degrees). Once the item is exposed to all of these tests, it must function. If not, it simply fails and is not accepted. Results are presented to the WSESRB and once the WSESRB certifies that the item has passed all tests, only then can it be loaded aboard a Naval Vessel.



M1134A3 Fuze for Line Charges

Managing the ASG for the past couple of years has not only been a challenge, it has been extremely satisfying as well. There are 13 full time individuals within the group and there are seven people that are funded to support the group on a part time basis. The ASG is comprised of Engineers, Technicians, Configuration Management Specialists, Logistics Management Specialists, Program Analysts and yes, an old gray haired retired Gunnery Sergeant that thirty years ago could not even spell Ammunition. One of the most impressive things about the ASG is that there are approximately 370 years of ammunition experience within the group. Even though I spent six weeks last year in hotel rooms and traveled approximately 13,000 miles, mostly to and from Quantico, this old "Box Kicker" could not be more impressed with the support provided to the Program Manager for Ammunition.

Through a little "Grunt" work and working with the manufacturers, the ASG has been successful in saving the Marine Corps a lot of money and has been successful in meeting several emerging procurement requirements.



Diversionary Charge

The ASG is also accustomed to handling special "One-Time" projects. We served as the lead activity for the Insensitive Munitions Compliancy Initiative for the family of Line Charges and C-4. We were tasked to test the Line Charge, M112 C-4 Blocks and the M757 Demolition Kits in accordance with the MIL-STD-2105. Phase two of the Initiative will begin in the near future. It is hoped that this initiative will aid in the development of a less sensitive weapons system - a product that will accomplish the Marine's mission, but be much safer for the user. The ASG has also been instrumental in improving the packaging configuration of the K765; improving the durability of the Diversionary Charge (DWBS); coordinating a comparative test between the HC and TA Smoke Grenades; and coordinating the testing efforts to identify a new 40MM CS round.



SMAW Weapon System

At the ASG, we are continually looking at ways to improve our processes and ensure we are providing

the best possible product to the Marine. One would have to believe that there is a lot more to this business than just “Kicking Boxes”.

Article provided by Mr. Robert R. Payne, Manager, Acquisition Support Group, Marine Corps Ammunition Branch, Code 4033, Naval Surface Warfare Center, Crane Division, Crane Indiana

The New “Silver Bullet”

Capt P. Barack, MARCORSYSCOM

No, it's NOT a new light beer. The new “Silver Bullet” is a 120mm Armor Piercing, Fin Stabilized, Discarding Sabot - Tracer (APFSDS-T) Tank Cartridge - the M829A3. The predecessor, the M829A1 got the nickname “Silver Bullet” by tank crews during Operation Desert Storm. The M829A1 was widely regarded as the most effective tank-fired anti-armor weapon in the world, and overwhelmed Iraqi armor during Operation Desert Storm.

The M829A3 APFSDS-T Cartridge (DODIC: CA26) is the fourth generation 120mm Kinetic Energy (KE) tank cartridge and will provide a significantly greater armor penetration capability over our current tank cartridge - the M829A1 APFSDS-T cartridge (DODIC: C380).

In the mid-1990s, the Marine Corps opted not to procure and field the M829A2 cartridge. It was determined at that time the improvements made to the cartridge were not significant enough to warrant a considerable financial investment. However, the dramatic improvements of the M829A3 cartridge proved significant enough to warrant such an investment.

The M829A3 Cartridge was developed to meet the need identified by the U.S. Army for a KE round that provides the M1A1/M1A2 Main Battle Tank with extensively improved armor penetration capability at extended ranges against enemy heavy armored vehicles equipped with advanced Explosive Reactive Armor (ERA), over that provided by currently fielded tank ammunition.



The key word is “advanced” – if what the intelligence community predicts to be the future ERA threat comes to fruition, then the need for a new, improved KE cartridge is absolutely necessary.

The M829A3 Cartridge consists of a KE projectile assembled into a combustible cartridge case containing an optimized primer and improved propellant, creating a propulsion system with higher efficiencies. The projectile consists of an enhanced depleted uranium penetrator covered by a windshield assembly, fin and tracer assembly, and a three-segment sabot manufactured with advanced composite materials. Additionally, the M829A3 incorporates improvements in composite materials for reduced parasitic projectile launch hardware, which minimizes projectile weight. While improvements to packaging increase survivability of the individual round, changes are transparent to both the user and the ammunition technician. With only minor changes in weight, the new container is palletized 30 rounds to a pallet as is the current M829A1 Cartridge.

The Marine Corps will request a Program Objective Memorandum (POM) initiative for fiscal year 2006. If successful, the M829A3 will be introduced into the Marine Corps inventory during fiscal year 2008.

Capt Barack was assigned as the Assistant Program Manager for Large Caliber

Instructor-Inspector Staff, Topeka

CWO3 Garrett, I-I, Topeka, Kansas



The mission of the Instructor-Inspector staff is to ensure that the Marine Reserves are properly trained and ready to assume the roles and responsibilities of the active duty forces upon mobilization. This process covers a wide array of functions, from the coordination of training on military bases to performing audits of pay and entitlements.

The Topeka I&I staff is comprised of nine Marines (7 active duty and 2 active reserve) and one Navy Corpsman (active reserve). At a glance the staff resembles a small Battalion staff with a S-1, S-4, S-3, Motor Transport, Supply section and Medical section. History of the Unit: The Reserve unit in Topeka is the General Support Ammunition Platoon, Ammunition Company, 4th Supply Battalion. It's history started in 1954 when it was an Infantry Rifle Company then it transitioned in 1982 into a supply unit. Due to a need within the Marine Reserves for 2311 Ammunition technicians, the unit once again was re-designated to its current mission as an ammunition unit on 1 October 1998. In order to retrain the unit to fulfill its new mission, Redstone Arsenal sent several Mobile Training Teams to Topeka to accomplish this task in which this took two years to complete. This unit was recently mobilized for Operation Enduring Freedom; it was the first time that the unit has been activated in its history.

The mission of the reserve unit is to provide "General Support" of ammunition to the operating forces once mobilized for a contingency. The unit has a Table of Organization (T/O) consisting of 2 Ammunition Officers (2340) and 111 Enlisted (2311) Ammunition Marines.

Unit training is the focus of all duties for the I&I and the reserve staff, the first step is to decide the direction that the training is to proceed. The Officer in Charge of the unit publishes his intent with regards to the training of the unit throughout the year. The reserve unit has a staff section within its T/O; this staff section along with the I&I staff collectively develop a comprehensive training schedule for an entire year. The training is comprised of a myriad of tasks from MBST, ammunition training and all required yearly classes. Each Marine reservist must perform 48 drill periods (equivalent to 24 days) in a 12-month span to include an additional 2-week active duty-training period (AT). With such a short time to train the Marines prior to the 2-week AT, time management is critical to ensure the training is completed in the time allotted. The

culmination and practical application of all the training thru out the year happens at the AT.

One of the major accomplishments here in Topeka with regards to training is the establishment of a Retail Ordnance Logistics Management System (ROLMS) classroom. ROLMS is the USMC standard system for accountability of ammunition. Other than the schoolhouse in Redstone Arsenal it is the only classroom setup to teach Marines how to utilize ROLMS in the active and reserve fleet. Twelve Marines are taught per class during a drill. ROLMS was used during Rolling Thunder 2-02 to great success; this was the first time ROLMS had been used for an entire exercise in the reserves. Marines are still taught the manual system of 'Blue Cards/10774's' but ROLMS is the main focus.

During the 2-week AT exercise periods, the I&I Staff will deploy members of the staff as subject matter experts to provide guidance to the group. In past years the unit has provided support to NALMEB in Norway, 10 Marines in Ft Bragg and CAX 7/8 in 29 Palms. Prior to the active duty training period, the unit holds a Field Ammunition Supply Point (FASP) exercise prior to going out to support the AT season. During this season the Marines perform all functions of FASP duties, to include vehicle inspections, issues, turn-in's and records keeping. HST's are also practiced during the year leading up to the AT season utilizing Army support. Due to the lack of space, most practical application training is done on either an Air force or Army installation.

The only way for a reserve unit to be successful is to have open lines of communication between the reserve staff and the I&I staff, without this the unit will waste enormous amounts of time at drill reinventing the wheel. Between drills the I&I staff coordinates ranges, orders ammo for weapons qualifications, schedules medical appointments as required and any other training aspects needed to support the reserve staff.

Another mission of the USMC Reserve and I&I is community outreach. The USMC Toys for Tots program is the largest communities outreach the reserves and I&I perform. This program starts after Thanksgiving and continues through to the end of the year. The intent of this program is to provide toys for the less fortunate children in the community. Other community outreach programs Topeka Marines are involved in are the High School Marine Corps Junior ROTC program, the Naval Sea Cadets and numerous color guards.

Inspector-Instructor can be one of the most interesting and demanding duties to perform in ones career. To be successful you need to approach it with an open mind and you have to be very flexible, not to mention have a good public affairs personality.

CWO3 Kurt C. Garrett is currently assigned as the Inspector-Instructor for the G/S Ammunition Platoon located in Topeka, Kansas.

“It is not a question of if; it is the question of when”

CWO2 Linn, Las Pulgas ASP

That has been the mindset of the 2D GS Ammunition Platoon, Topeka, KS since September 11, 2001. Every Marine knew that we could be called to active duty at a moments notice and we prepare for just that event. The call finally came in early February 2003; we were being activated in support of Operation Enduring Freedom for the period of one year. Each Marine was leaving their families and civilian jobs to answer the call of our nation. With all of their gear, the Topeka Marines reported for duty on 13 February to start the mobilization process. All of the practice and training had paid off for this evolution, the mobilization process ran just like it was suppose to.... quick and painless. Within a few days, the Topeka Marines were ready to start their movement to Camp Pendleton, CA. We arrived at Camp Pendleton on February 21st and were task to support operations for the Las Pulgas ASP.

Despite most of I MEF being deployed, the Las Pulgas ASP remained busy issuing ammunition to SOI, Base units, AAV School, and the rifle and pistol ranges. For comparison, the ASP processed approximately 2200 requisitions and 1600 tons of ammunition and explosives between 1 Feb 03 and 30 Apr 03, compared to 4300 requisitions and 2300 tons for the same period a year ago. In addition to the routine operations and the increased tempo due to the war effort, the majority of the requests for ammunition became priority.

Under a pre-existing Intra-service Support Agreement (ISA) between MCB Camp Pendleton and I MEF, the ASP is operated and staffed by 1st FSSG ammo techs from 1st Supply Battalion. In turn, MCB

augments the FSSG with 15 ammunition technicians and 4 civilian employees. When the FSSG deploys, these Marines and civilians form the nucleus of ASP operations that the activated reservists fall in on. When the 1st FSSG Ammunition Company commander deployed, the remnants of Ammunition Company were re-designated as Ammunition Platoon and placed under Headquarters and Service Company, 1st Supply Battalion.

During the mobilization process of Topeka, the senior leadership from Topeka and the Las Pulgas ASP devised a plan and structure on how we wanted the integration to proceed once Topeka stepped on deck at Camp Pendleton. Despite a few days check-in process, the integration plan was implemented instantaneously and the Topeka Marines were hard at work.

The motivation and eagerness of Topeka was very apparent in the first few days of operations. Not performing ASP functions on a daily basis, the Topeka Marines made the swift transition from their civilian lives to that of active duty ammunition technicians in true Marine Corps fashion. Magazines were being re-worked and cleaned, maintenance was being performed throughout the ASP and ammunition was being issued in a timely manner. Within a few weeks, the Las Pulgas ASP had undergone a complete “facelift.” The hard work and dedication of the Topeka Marines has paid large dividends in not only maintaining with but also exceeding the operational tempo and mission requirements of the ASP. “The Marines of 2nd GS Ammunition Platoon Topeka, KS have fully integrated themselves into this structure and continue to execute the ASP's mission with a high level of motivation and a desire to learn. Their support has been crucial to the ASP's success; indeed, the ASP could not perform its mission without them. I am extremely impressed with their enthusiasm and dedication.”, CWO 2 Tim Graham, Officer-in-Charge, Las Pulgas ASP.

Although the FSSG is slowly returning from the Middle East, the Topeka Marines will continue to march on and maintain operations at the high level of motivation and dedication that they have performed so far.

CWO 2 Greg Linn is currently assigned to the Las Pulgas ASP

Ecuador, Mission Complete

GySgt Singleton, MCD, Redstone Arsenal, AL

A Physical Security Stockpile Management (PSSM) assessment of the Ecuadorian Army's storage of Arms Ammunition and Explosives (AA&E) was conducted from 14 – 16 January 2003. The Ecuadorian Army requested this assessment after a significant explosive incident occurred at Rio-Bamba, a major base with explosive storage facilities located south of the capitol city of Quito. The explosion resulted in loss of life and millions of dollars in damage, both on and off base.



Explosion at Rio-Bamba

The formal request for assistance from the U.S. Government was facilitated through the Commander, USMILGP, Ecuador. The assessment team was comprised of Capt Diaz, USMC, SGM Maldonado, USA, of the Defense Threat Reduction Agency (DTRA) and CWO3 Holtzclaw, USMC of the Marine Detachment, Redstone Arsenal, Alabama.

LTC McDonald, USA, USMILGP, Ecuador and LtCol Castillo of the Ecuadorian Army facilitated the tour of AA&E facilities, escorting the assessment team and interfacing with base/unit commanders. It was noted that everyone the assessment team came in contact with exhibited exceptional levels of cooperation, professionalism and willingness to apply corrective measures.

As a result of this assessment, it was determined that Ecuadorian Army personnel, their infrastructure and equipment remain exposed to an explosive threat of an even greater magnitude than experienced in Rio-Bamba. Additionally, at all sites toured, a significant exposure to

an explosive incident continues to exist for the civilian population, specifically elementary schools, businesses and homes remain within the explosive arch (blast overpressure and fragmentation threat) should an incident occur. An immediate reduction of this exposure can be accomplished with a minimal monetary investment. A corrective action plan was suggested that would help the Ecuadorian Army effectively improve their overall physical security and stockpile management issue.

Overall, the AA&E situation in Ecuador is best described as that of maintaining serviceable, unserviceable and obsolete assets as a means to project capability. In reality, the AA&E situation is an enormous liability rather than an asset as arms and ammunition are extremely vulnerable to proliferation and particularly susceptible to accidental explosion with widespread devastating results as a direct result of the amount of net explosive weight stored in a deteriorating condition.

After the assessment, DTRA made several contacts with CWO5 Patterson and GySgt Singleton in preparation for travel to Quito, Ecuador to begin a training seminar to assist the Ecuadorian Army in creating and establishing a plan in storage and stockpile management of the AA&E located in Ecuador.

CWO5 Patterson and GySgt Singleton of Redstone Arsenal provided support to Defense Threat Reduction Agency (DTRA) as a Mobile Training Team (MTT) to Ecuador, South America. From 23-28 March 2003, the instructors teamed with DTRA representatives, SGM Maldonado and Major Diaz, to carry out this mission. Prior to departure on 23 March, the Mobile Training Team prepared lessons to instruct and practical exercises for the Ecuadorian Army. Once all the lessons and exercises were completed, the Instructors from Redstone and DTRA contact Army SGM Maldonado, put in countless hours to accurately translate all the material prior to travel. On 23 March the team traveled to Quito, Ecuador and arrived later that evening.

On 24 March, after a coordination meeting with the Ecuadorians at the U.S. Military Group (USMILGP), the team began setting up the classroom and preparing for the ammunition training seminar. Training began on 25 March covering subjects such as Ammunition Safety, Ammunition Storage, Ammunitions Security and Weapons Security. Attending the seminar were 52 Ecuadorian service

members from all branches to include some civilian contractors. On 26 March the training continued and everything the instructors covered had to be translated into Spanish by another dedicated member of the team, Army SGM Maldonado. This made the training seminar time consuming. Training that normally would take one (1) hour lasted 2 hours and sometimes longer, but the team was determined and motivated to get the job done. The Ecuadorian military had hundreds of questions. They (Ecuadorians) wanted to correct their problems and establish a program to prevent further mishaps.



Devastation of AA&E Explosion

On 27 March 2003, the team, with their class, traveled to a local Ammunition Depot (El Corazon) where the students were broken down into "inspection teams". The inspection teams were asked several questions by the instructors during their evaluation of El Corazon AA&E storage site as a practical exercise. This proved very effective as the students used the training from the seminar they received earlier in the week to identify real problems and make technical recommendations.

Later that afternoon the training culminated with a graduation ceremony where each student received a certificate for attending the seminar. On 28 March, the MTT returned home to Redstone Arsenal. The Instructors from Redstone are willing to train and educate physical security and stockpile management of AA&E anytime and anyplace.

We returned from Ecuador with a great appreciation of the procedures Marines practice everyday. Instructors from Redstone pass on our rules, regulations and procedures that save lives and unfortunately we sometimes fail to recognize how lucky we are. So let's not forget how bad other countries have

it and let's continue to perform our duties in an exemplary manner to prevent mishaps from AA&E.

GySgt Singleton is currently assigned as an Instructor with the Marine Corps Detachment located at Redstone Arsenal, AL

I-I, Greenville, SC supports Camp Lejeune ASP

CWO2 Harman, Camp Lejeune, ASP

Ammunition Company, Greenville, SC had been training for the possibility of a Presidential Recall for over a year. Last year, the Battalion Commander, Colonel Smith, assured us "it is not if, it is when" during his visit. Finally, the call came on January 28, 2003. Forty-three Marines were recalled from their civilian lives and jobs to support operations at the Ammunition Supply Point, Camp Lejeune, NC. Detachment 1, Ammo Company, Rome, Georgia was activated a couple weeks prior in support of I MEF Forces for further assignment to theatre of operations in country. Detachment 2, Ammo Company, Topeka, Kansas was activated in early February 2003 to support operations at the Ammunition Supply Point, Camp Pendleton, Ca. For most at the Greenville unit, the call up was a relief. The days of waiting and wondering were worse than the possibility of not being recalled at all. The Greenville Marines were ready to go.

Once recalled, a unit must go through a complete check in process that consists of Admin, Medical, equipment inventory, and other key mobilization stations. Reserve units are graded on their ability to mobilize on an annual basis by inspectors. Therefore, it comes as no surprise that the check in process on Tuesday afternoon went smoothly. This is a direct reflection of the outstanding preparations made by the Inspector-Instructor Staff (I&I). Prior to the recall, the I&I staff had put in many long days and nights preparing for the execution of the mobilization order. There was lots to do, ID cards had to be made, Key wives meetings, Camp Lejeune brief, tri-care, etc. After two days we were ready to depart for Camp Lejeune, NC (CLNC).

Most of our Marines have never had the opportunity to work inside a regular ammunition supply point. Their

Ammunition Quarterly 17

specialty is running Field-ASPs at the Combined Arms Exercise (CAX) or a FIREX. Occasionally, a few Marines have the opportunity to receive permissive temporary additional duty (PTAD) in locations such as Camp Pendleton, Camp Lejeune, and Norway, but these occasions are rare. The excitement was electric in the air around the Greenville Marines. They had been waiting for an opportunity to get involved in the events that were beginning to unfold. Although most would prefer to have been sent to Kuwait, the fact that they had been recalled would have to suffice for now. We arrived on Friday, in the early afternoon, to get checked in and assigned billeting. The weekend consisted of acclimatization to the area and getting all our gear stowed. Having a weekend off, while wearing green, is quite a change of pace for Reserve Marines.

For the next two weeks, we began checking in at base and getting established in our assigned billets. Therefore, our first stop was a visit to the CLNC ASP. The legendary Mr. Johnson, briefed the Reserve Marines on the CLNC ASP operations. The Marines were introduced to Mr. Nelson and Mr. Frazier, civilians that run the records and the issues sections, respectively. All of the civilians are key players in the running of the ASP. They provide the continuity, with the constant turnover of the Marines assigned to the ASP. Mr. Johnson has been assigned to the ASP since 1993 and assumed responsibilities as OIC, upon the active force deployment. He is ultimately responsible for the ASP operations, a task he takes very seriously. After retiring from the Marine Corps, Mr. Johnson continued to work with and around Marines for a total 50 dedicated years to our great Nation and he continues to march. Everyone I have encountered in the Ammunition Community regards him with the highest respect and admiration. It is no surprise that he has managed to run the ASP at the same levels of accuracy and responsiveness that were achieved in the past.

Currently, Reserve Marines are still in place at the CLNC ASP with no expectation of leaving anytime soon. We have Marines trickling in on the stop/loss program and other circumstances from the Iraqi Freedom Operation. The Marines of Ammunition Company Greenville, SC are highly motivated and excited at the opportunity to work at the Base ASP. The knowledge that we are gaining will be a tremendous asset to the unit and our other operations in the future. The youngest of the Marines here today will likely be the leaders of our operations in the next Presidential Recall.

CWO 2 Edwin Harman is currently assigned to the Camp Lejeune, ASP

3D Marine Division's Ammunition Office

Captain Oliver, 3D Marine Division Ammunition Officer

Its mission is to perform ammunition related duties for the Assistant Chief of Staff, G4, in support of the Commanding General. This includes, but is not limited to, guidance over ground ammunition in all areas of planning, operations, and procedures. The structure of 3D Marine Division poses unique challenges because it is comprised mainly of Forward Deployed units participating in the Unit Deployment Program (UDP) and Forward Stationed. These units are:

Fourth Marine Regiment

Headquarters Element
 Infantry Battalions:
 UDP (East Coast)
 UDP (West Coast)
 UDP (Hawaii).

Third Marine Regiment

Headquarters Element
 1st Bn, 3d Marines
 2D Bn, 3d Marines
 3D Bn, 3d Marines
 1st Bn, 12th Marines,
 HQ Btry
 A Btry
 B Btry
 C Btry

Twelfth Marine Regiment

Headquarters Btry, 12th Marine Regt
 3D Bn, 12th Marines
 Headquarters Btry, 3/12
 UDP Btry (East Coast/5/10)
 UDP Btry (West Coast/3/11)
 UDP Btry (Hawaii/1/12)

Combat Assault Battalion

Headquarters & Service Company
 Combat Engineer Company
 UDP Light Armored Reconnaissance Company
 UDP Amphibious Assault Company

Third Reconnaissance Battalion

Headquarters Company

A Company

B Company

Headquarters Battalion

Headquarters & Service Company

Truck Company

Communications Company

Division Exercises

Continuing training limitations and restrictions placed on units stationed on, or deployed to, Okinawa have caused the Division to look for additional opportunities off Okinawa. The Division Ammo Office ensures training ammunition is available in Korea, mainland Japan and tracks these different sites separately for the Division's Major Subordinate Commands (MSC). The MSC's identify where and how much ammunition is to be put at each site to cover scheduled training events as outlined in the Division TEEP at the beginning of each Fiscal Year. The Division ensures each storage site has a MARSO so that they can properly support our training plan. The following is a composite listing of the many agencies that the Division's Ammo Office must coordinate with to ensure successful training throughout Southeast Asia.

Japan

Close coordination between the Division ammo office, the Fuji ASP, and the LNO at Yokosuka is instrumental for successful training on mainland Japan. Milstrips are sent thirty to forty-five days prior to any training event on mainland Japan. This allows sufficient time for Camp Fuji to request and receive re-supply from Yokosuka for ammunition shortfalls. There are normally four Fuji-CAO and four Artillery Relocation (Arty Relo) exercises each fiscal year. The Fuji-CAO exercises are Infantry and Combat Assault Battalion heavy training, and often include a LAR detachment. (CAB goes as Composite Company made up of AAV's, LAV's and Engineers). Artillery Relocation shoots take place on the East & North Fuji ranges as well as in Ojojahara, Hijadi, and Yausubetsu. The Arty Relo shoots were initiated as a result of an agreement between U.S. Forces Japan and the Government of Japan (GOJ) as a result of lost training opportunities on Okinawa. Ammunition requisitions are sent to either Camp Fuji for the East & North Fuji training areas or Yokosuka for the Ojojahara, Hijadi & Yausubetsu

training areas. Coordination for all transportation requirements is done locally. Another challenging exercise that takes place on mainland Japan is Forest Light, which is bilateral training conducted between the U.S. Infantry and the Japanese Ground Self Defense Force (JGSDF) infantry twice a year. The size of the unit can range from a Company to a Battalion. This exercise takes place (at various locations within Japan). The movement of the ammunition must be closely coordinated between the Division Ammo Office and Yokosuka LNO if the exercise takes place on the northern island of Hokkaido. The only way to reach this island is by ferry.

Korea

Ammunition for prepositioning in Korea is forecasted in March of each year for the following Fiscal Year. This makes un-forecasted training events difficult to support. However, it is possible to coordinate delivery of additional ammunition with the USMC LNO, in Sasebo, Japan. The challenge here is the limited storage space and storage location for Marine Corps training assets within U.S. Army ASP in vicinity of Taegu, Korea. The best areas for Infantry training on the Korean peninsula are at Camp Casey (The Warrior Base), which is near Seoul. This is approximately a 6-8 hour drive from the ASP at Taegu. Training on the Korean peninsula is generally conducted under the Korean Incremental Training Program (KITP). This is Infantry and Combat Engineer oriented training. There are two KITP training events each fiscal year. Close coordination with United States Forces, Korea (USFK), and FSSG LNO located at Camp Henry, Korea is essential. Requisitions for training requirements are sent to the FSSG LNO, he turns the requests into requisitions on DA 581s for submission to the Army ASP. The unit training ensures that all funding for transportation is provided by MIPR, to the FSSG LNO so that they can contract vehicles to deliver ammunition to the training sites. The size of these exercises varies and at times a small Combat Service Support Detachment (CSSD) will be assigned to support larger training evolutions. When this is the case the CSSD will sign for the ammunition and distribute it to the training units. Training in Korea can be challenging due to the competing requirements from Army units training on the peninsula, Korean civilian work schedules at the ASP and coordination of explosive vehicles.

Hawaii

Third Marine Regiment in Hawaii draws all ammunition from the ASP, Kaneohe Bay or Lualualei for local training and HCAO exercises. 3D Marines also conducts two annual training exercises at the Pohakolua Training Area (PTA), located on the Big Island of Hawaii. PTA provides fire and maneuver training for Infantry and Artillery units and allows them also to do MCCRES in preparation for upcoming UDP to Okinawa. Ammunition for these exercises is shipped from MCLNO Lualualei. Another exercise supported by 3D Marines is TAFAKULA, on the Island of Tonga.

Philippines, Thailand, Australia

The two largest annual Combined Arms and Inter-Operability Exercises that take place within the Division are Balikatan (Philippines) and Cobra Gold (Thailand). Balikatan begins first and is immediately followed by Cobra Gold. Although they are different exercises the ammunition is generally shipped out on the same ship to save on transportation costs. The ASP, Camp Schwab prepares the ammunition for shipment in twenty-foot ISO containers. Requirements for these exercises must be submitted to the ASP, Camp Schwab at least ninety-days prior to the beginning of Balikatan due to ship lead times. Early planning is the key for success. Because these are MEB size training exercises there is a CSSD in support of each exercise. The Division submits requisitions to the ASP and the CSSD assigned to the exercise signs for all the ammunition and coordinates with the ASP for transportation to the pier and subsequent loading onto the designated carrier. Philippine Interoperability Exercise (P.I.X.) was conducted for the first time in FY03 and considered a success. This will become an annual exercise. Training exercises that take place in Australia also require extensive lead times. Exercises such as Crocodile, a biannual exercise, are very large. It also poses a unique challenge in that it often involves a Tank Company. Since there are no Tank units within III MEF there is no tank ammunition stored on Okinawa as well. Coordination with MARCORSSYSCOM, MFP, & III MEF is required to ensure that assets are available for training in support of this exercise (Tanks are part of the MPF Offload Exercise Freedom Banner that precedes this exercise). CAB also provides a LAR, AAV, and Combat Engineer detachment. Training requirements for this exercise must be identified 4-6 months from the desired training date. Ammunition for this exercise is prepared and shipped from Sasebo, Japan.

There are numerous other smaller exercises that take place within the area of operations. Southern Frontier is a TACP exercise executed by 1st MAW, with support from 3D Marine Regiment, and 4th Marine Regiment assisting with 81MM mortar sections training with Australian forces. The Wing provides transportation for this exercise. There are also several 1st MAW supported TACP exercises in Korea. CO-Op from the Sea is a two-week exercise in Vladivostock, Russia.

Training at Jungle Warfare Training Center (JWTC) is conducted for each UDP Infantry unit during their deployment phase to Okinawa.

Developing Countries Combined Exercise Program

The Developing Countries Combined Exercise Program (DCCEP) regulated by Title 10, USC, Section 2101 is used extensively in the 3D Marine Division area of operations. The Division ammunition office is guided by USCINCPACINST 4000.7 series dated 12 March 1998, when a DCCEP requirement is identified. Use of this funding allows incremental expenses that are reasonable and proper costs of goods and services consumed by a developing country as a direct result of that country's participation in a bilateral or multilateral military exercise with the U.S., including rations, fuel, training ammunition, and transportation. This basically allows for the reimbursement of the host nation for goods and services associated with its participation in a certain exercise. This is if the country has its own source for procuring ammunition to be fired out of their weapons, in other words they provide for their own supplies and are reimbursed under Title 10. However, when warranted by the inability of a foreign defense force to provide adequate or reliable training ammunition, component commands or subordinate activities may provide training allowances for those foreign exercise participants paid for, or reimbursed by Title 10 funds. This simply means that where they have no means to procure ammunition for their own weapon systems, this program allows for the U.S. Government to provide assets when available and approved by MARFORPAC, Commander U.S. PACOM and MARCORSSYSCOM. The preferred course of action is to have the host participating nation provide its own training assets and request for reimbursement. DCCEP funds are strictly controlled and it is the responsibility of the requesting country to ask for funds during the Initial Planning Conferences. The Officer Conducting Exercise (OCE, Unit heading the current exercise) should assist the host nation once a request has been

identified, so that training costs may be identified. The OCE will then work with the hosting nation and request munitions within the approved monetary amount.

Division Ammunition

There are several exercises each year that the Division Ammo staff can expect to participate in. Ulchi Focus Lense (UFL), which takes place annually in Korea. This is a computer scenario exercise driven by current Operational Plans in the defense of the Korean peninsula. U.S. Forces work closely with Korean forces in this exercise. Similar to UFL is another annual computer based exercise with the Japanese Self Defense Force (JSDF), Yamasukura. This is not a force on force exercise but a tactical training opportunity for the JSDF. The Division Staff also conducts numerous CPX exercises on Okinawa. Capt Oliver, Master Sergeant Tolfree, and Lance Corporal Sanchez currently staff the Division's Ammunition Office.

Captain Oliver was the 3D Marine Division Ammunition Officer and transferred to MARCORSYSCOM PM Ammunition

Marine Day

Mr. Lettinhand, MARCORSYSCOM-PMAM-OPS Team Lead

Personnel from the Office of the Program Manager for Ammunition recently participated in the Annual Marine Day held at Quantico, Virginia. Marine Day is an annual event that provides the opportunity for Congressional Staff members to view the Marine Corps latest ground weapon systems and equipment, aviation assets and ammunition. Personnel from the Program Office setup static displays of many of the Class V (W) items and provided representatives with answers to technical questions on the display items.

Numerous inquires were made about the items on display, especially in view of related current events that they had seen on CNN and other news programs. Many of the Congressional Staffers were interested in learning more about the Marines capabilities in protection of themselves and non-combatants. The effective range of the munitions was of high interest as well. Additionally, a number inquires centered on Non-Lethal ammunition. Staffers wanted to know how an individual felt once hit with these rounds. The Program Office representatives provided detailed discussions on

the various types of non-lethal ammunition, with the main focus being placed on the cartridges containing rubber balls and beanbags.



Captain Barack answering questions at "Marine Day"

The Congressional members left Marine Day with a better understanding of the Marine Corps latest technological developments in fielding more effective ammunition to support the Marine on the modern day battlefield. In addition, this enhanced awareness of Marine Corps products has the potential to provide Congressional assistance in supporting Marine Corps deficiencies to include ammunition and explosives. It is time well spent with those that resource the Armed Forces.

Mr. Lettinhand is currently assigned as the, MARCORSYSCOM-PMAM-OPS Team Lead and may be reached at DSN: 378-3168, e-mail: LettinhandEL@mcs.usmc.mil



Supported Unit Iterative Transformation- Ammunition (SUIT-A)

Ammunition Logistics Focus Team (ALFT)

SUIT-A is a complimentary effort to the ongoing Integrated Logistics Capability (ILC) Expanded Validation (EV) effort. The EV and SUIT-A efforts are moving the logistics chains from their current "as is" to a "to be" operational architecture (OA). The "to be" OA causes the logistics chains to function the same in a garrison or deployed environment. An Ammunition Logistics Focus Team (ALFT) co-chaired by MGySgt Coronado (Marine Forces Pacific Ammunition Chief) and CWO5 Patterson (OIC MOS producing school Redstone Arsenal) was established to enable the SUIT-A effort.

SUIT-A will ensure the supported unit portion of the ammunition logistics chain complements the "to be" operational architecture (OA) (Figure 1) of the Global Combat Support System – Marine Corps (GCSS-MC). An Ammunition Logistics Focus Team (ALFT) has been established within PM-AMMO to execute. The ALFT will focus on revolutionizing the ammunition logistics chain that supports the war-fighters' needs

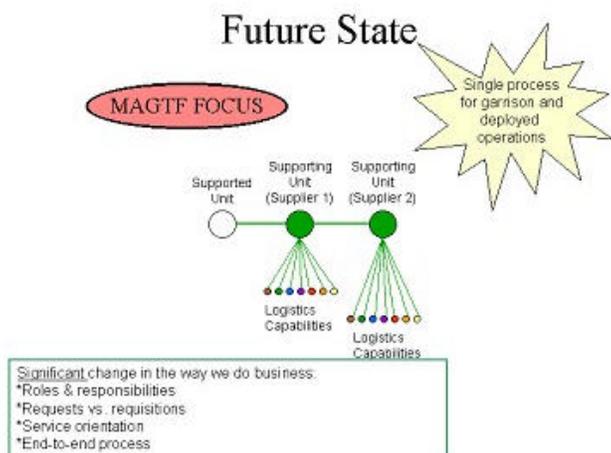


Figure 1 - ILC Operational Architecture (future)

specified in Requirement 11 of the CINC-129 war-fighters' requirements document. All current and "to-be" functionality will be designed and oriented to the

supported unit ("customer", C), with primary interfaces to first-echelon suppliers ("supplier 1", S1). It will also examine, and revise or develop ammunition logistics tactics, techniques and procedures (TTP). In addition to producing current TTP the SUIT-A effort will produce a Supported Unit Ammunition Module (SUAM), which will capitalize on existing functionality as well as rapid development of material solutions to fill identifiable deficiencies. The SUAM will be part of the Naval Ordnance Information Systems (OIS) functionality. OIS is one of the systems of the family of systems of the GCSS-MC. SUIT-A will be an aggressive schedule with the end goal of testing in late October 2003. For additional information regarding this effort visit the following link:

[http://www.marcorsyscom.usmc.mil/am/ammunition/IM&S Division/Systems/SUIT.asp](http://www.marcorsyscom.usmc.mil/am/ammunition/IM&S%20Division/Systems/SUIT.asp)

"AmmoMail"

The Program Manager for Ammunition has re-established the "Ammo Mail" system, which is much like the existing "Marine Mail" system. The "Ammo Mail" system will serve as a medium for you to ask questions, send your thoughts, suggestions and recommendations on Ammunition related subjects to the staff at the Program Manager for Ammunition. This initiative is to focus attention to pertinent issues concerning the Ammunition Community. "AmmoMail" is a way to connect the "Ammunition Community" to improve the way we do business, to enhance communication among every member of the community, and to build a sense of connectivity that extends beyond geographic boundaries.

Send your questions, concerns and constructive criticism to AmmoMail@mcsc.usmc.mil we will provide an answer with-in 5 working days of receipt. Additionally we will post a limited amount of questions received in the upcoming Ammunition Quarterly with answers provided. Through your questions, your thoughts, and suggestions we receive, we will open another avenue to garner fresh ideas for continued improvements with-in the "Ammo Community" and enhance the way we do business.

“Ammunition Quarterly”

The Ammunition Quarterly (AQ) provides a network and communications medium for the Marine Corps Ammunition Community to share information. It is your newsletter and your comments, suggestions or questions are welcome. As always this is the Ammunition Communities Newsletter and is intended to provide new and experienced Ammunition personnel with pertinent information. Produced quarterly the AQ is posted to the Program Manager for Ammunition Web Page, The Knowledge Management Portal and distributed by hard copy to select organizations lacking full IT capability. As well, our AQ is distributed widely throughout the USMC to include most General Officers.

The editorial staff invites authors to submit articles dealing with topics drawn from several areas’ pertaining to Ammunition. Articles may be on a wide array of issues and topics, including processes, analysis, evaluation, activity, success stories, research and ammunition safety. Have you found a way to do something smarter, faster or improve your activity? If so, the AQ is a forum in which you can share your successes with your counterparts throughout the Marine Corps. Ultimately, these shared ideas will improve our ability to rapidly get the steel on the target!

Make a commitment today and write an article to enhance the knowledge of the “Ammunition Community”. Challenge your Marines and Civilian counterparts to put pen to paper and be proactive with-in their community. Provided below are issues and deadlines for publication of your Ammunition Quarterly:

Publication Schedule and Deadlines

Issue	Deadline
October 1	August 20
January 1	November 20
April 1	Feb 20
July 1	May 20

Knowledge Management Portal (KMP)

The revised KMP is significantly streamlined to increase download times and improve navigation. Many of the incorporated changes were requested by the customers, and we remain firmly fixed on supporting their/your requirements. We appreciate the valuable feedback we have received and welcome increased communications. The Knowledge Management Portal is intended as a tool for the entire ammunition community and its value can only increase through your input. For One Stop Shopping for Ground Ammunition Information visit the KMP at <https://www.ammokmp.marcorsyscom.usmc.mil/>

To request access to the Knowledge Management Portal please fill out the Request Access Form at:

<http://www.marcorsyscom.usmc.mil/ammoaccreq.nsf/Request+Form?OpenForm>

The latest release of the Knowledge Management Portal contains:

- A revised look and feel
- Navigation featuring a drop down Alpha menu bar
- Additional drill downs on the inventory and DODIC Search pages
- Increased inventory search functionality including, search by Condition Code, Activity or partial Activity name, and AAC
- Thumbnail pictures for faster downloads
- Current year Presidential Budget Quad Charts offering a snapshot of each item procured for the current fiscal year

Marine Corps Ground Ammunition School

FY 2003 MANAGERS COURSE DATES (SNCO/OFFICER ONLY) (Attendance quotas are divided among MARFORLANT, MARFORPAC & MARCORSYSCOM)

Class 003-03 @ Redstone Report Date 24 Aug, Grad Date 26 Sep. There are 14 quotas for this class. The Ammunition Managers course includes the Explosive Safety for Navy Facility Planning Course (Ammo 36).

FY 2004 MANAGERS COURSE DATES

Class 001-04 @ Redstone Report Date 23 Feb 04, Grad Date 25 Mar 04. The Ammunition Managers course includes the Explosive Safety for Navy Facility Planning Course (Ammo 36).

Class 002-04 @ Redstone Report Date 24 May 04, Grad Date 28 Jun 04. The Ammunition Managers course includes the Explosive Safety for Navy Facility Planning Course (Ammo 36).

Class 003-04 @ Redstone Report Date 23 Aug 04, Grad Date 27 Sep 04. The Ammunition Managers course includes the Explosive Safety for Navy Facility Planning Course (Ammo 36).

FY 2003 NCO MTT DATES

Class 004-03 @ CPCA Report date 15 Jul, Grad date 12 Aug 25 school seats available for this class. The NCO MTT course includes the Naval Motor Vehicle and Railcar Inspection Course (Ammo 51).



FY 2004 NCO MTT DATES

Class 001-04 @ CLNC Report Date 6 Oct 03, Grad Date 5 Nov 03. 25 school seats available for this class. The NCO MTT course includes the Naval Motor Vehicle and Railcar Inspection Course (Ammo 51).

Marine Corps Ground Ammunition School

FY 2004 NCO MTT DATES (Continued)

Class 002-04 @ CPCA Report Date 12 Jan 04, Grad Date 11 Feb 04. 25 school seats available for this class. The NCO MTT course includes the Naval Motor Vehicle and Railcar Inspection Course (Ammo 51).

Class 003-04 @ CLNC Report Date 21 Apr 04, Grad Date 19 May 04. 25 school seats available for this class. The NCO MTT course includes the Naval Motor Vehicle and Railcar Inspection Course (Ammo 51).

Class 004-04 @ CPCA Report Date 12 Jul 04, Grad Date 9 Aug 04. 25 school seats available for this class. The NCO MTT course includes the Naval Motor Vehicle and Railcar Inspection Course (Ammo 51).



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