AMMUNITION QUARTERLY
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Provide ideas/articles to the Program Manager for Ammunition, MARCORSYSCOM, 2200 Lester Street, Quantico, VA 22134 or via email to AmmoMail@usmc.mil

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ON THE COVER:
In this issue of the Ammunition Quarterly we peel away our old design and implement a new look and a new logo for the magazine as we bid farewell to our Program Manager, Jerry L. Mazza.

Photo by the Marine Corps
WELCOME to this new edition of your Ammunition Quarterly magazine. You may know that we took a pause to renew our approach in providing the Marine Corps Ammunition Community with an informative newsletter. With this edition, I am convinced that we have raised the bar. I hope you find the articles to your liking and enjoy the publication.

While there is much going on in ammunition, I do want to speak briefly on our current state. As you may know, we have all heard about the continuing resolution and sequestration. As we move forward in preparation for Fiscal Year 2014, I am satisfied that we should be able to support the demands of our forces for some time to come. Three significant events have had a collective impact on our ammunition management mission. First, the Office of the Secretary of Defense directed changes to the modeling of our requirements process that reduced overall requirements significantly. Second, the Marine Corps' force structure reduction to 182,100 caused a reduction of $1.13 billion from the Program Objective Memorandum (POM)-13 during POM-14 development. These two changes, coupled with the high procurement years now delivering ammunition from production ($2.7 billion in the production pipeline), posture the Marine Corps well for future support of conventional ammunition. Of course, we may have occasional “spot” shortages, but in general terms we are fine for the foreseeable future.

Of special note—it is with extremely mixed emotions that I announce that, with my retirement of June 30, 2013, this is my last Ammunition Quarterly. After 14 years as the Program Manager (PM), my time has come to vacate this position. Collectively, my retirement will bring to a close a 36-year career supporting the Marine Corps. The first 20 years were as an active-duty Marine; the last 16 were with the Marine Corps Systems Command, where I have served as the PM for Ammunition (PM Ammo) since July 1999. As I depart, I am so very proud of our ammunition community across this institution. I will tell you that since the inception of hostilities back in 2001, our Marines have not wanted for one of the most critical commodities that make our warfighter successful on the battlefield—ammunition. The same was true for Desert Shield/Desert Storm as many of those lessons learned were dusted off as we prepared for massive ammunition support in late 2002. It is often said: “Ammunition is the lifeblood of the military,” and I report to you that your 2311 ammunition technicians and their leaders within the 2340 ammunition officers corps—coupled with the entire PM Ammo mission and your ammunition expertise at Deputy Commandant for Combat Development and Integration (requirements) and Commanding General, Training and Education Command (training)—may very well be one of the (if not THE) most refined, synchronized and collaborative commodities within the Marine Corps.

It is a subtle but very efficient community. Our ammunition community provides direct support to the warfighting arm of the Marine Corps, and those many Marines and civilians who go about quietly executing the very tenets of our enterprise-wide mission are collectively nothing less than impressive, exhibiting a passion for doing what is right for your Marine Corps forces. To these ammunition professionals across the Marine Corps, it is not a job—it is a profession. And to every Marine ammunition type and every civilian who supports the Marine Corps-wide ammunition mission—I could not be prouder of what you have accomplished since 9/11. As I depart, I know that we have an absolutely impressive and qualified...
ammunition community as well as one that is well-postured to continue the critical support of this commodity regardless of any challenge. Sometime around early April 1974, I was advised, as a graduating recruit from Parris Island, that I would be an ammunition technician. Then, I had no idea what that meant. Today, I know. I know that I have been a part of Marine Corps ammunition, and I know that I would not have wanted to spend my last 36 years in support of any other commodity in the Marine Corps. For all of your support, loyalty, friendship and camaraderie, I am sincerely and forever grateful.

Semper fi,
AMMUNITION INCINERATORS

By CW02 Christopher Roy, PM Ammunition

Ammunition incinerators have recently become operational in the theater of operations and many other locations throughout the world. The Transportable Ammunition Destruction System (TRADS) has a small arms ammunition disposal rate of approximately 1.5 pallets per day with a minimum burning temperature of 850 °C or 1,562 °F. Received in June 2012 during Operation Enduring Freedom 12.1 at the newly constructed Munitions Storage Area/Ammunition Supply Point (ASP), Marines from Camp Pendleton’s Las Pulgas ASP were among the first to see the incinerator in action. The TRADS has disposed of mass quantities of unserviceable small arms and remains operational and ready to consume ammunition up to 14.5 millimeter (mm).

The TRADS’ explosive disposal technology is classified as a Rotary Kiln Incinerator, often referred to as an Explosives Waste Incinerator. This is a thick-walled, cast steel, cylindrical kiln (an oven, furnace or heated enclosure) with an internal spiral flight that acts as an internal auger to move materials through the kiln as it rotates. A natural-gas-fired burner at the discharge end of the kiln provides the initial heat and temperature to ignite materials fed to the kiln. The heavy steel walls contain the effects of the small items that are allowed to detonate in the kiln.

TRANSPORTABLE AMMUNITION DESTRUCTION SYSTEM (TRADS)

Equipment – Purpose

In the TRADS, ammunition is destroyed by the indirect application of heat. The evolved gas is collected and then treated in compliance with the provisions of the Waste Incineration Directive (WID). The solids are discharged to a collection bin.

The design of the TRADS is largely determined by WID requirements, which state that evolved gas must be burned at a specified temperature in the presence of at least 6 percent oxygen, filtered to remove particulates and treated to eliminate acid gases before it may be released to atmosphere.

TRADS – Description

What It Does

The TRADS unit, developed by Explosive Ordnance Demilitarisation Solutions, Ltd (EODS)-Caldo, is a system specifically designed for the destruction of small-arms ammunition. The unit, which can typical-
How It Works

The ammunition to be destroyed is charged into the feed hopper and lifted by the belt feeder at a controlled rate to the top of the feed chute. The ammunition enters the rotary incinerator, which is heated externally for about 50 percent of its length by a burner that fires into a chamber fitted around the incinerator.

The rounds heat up as they pass through the incinerator. The propellant ignites, causing the round to function and ignite the firing cap and tracer elements in the bullet head, producing gases or vapors which are emitted. The cartridges and projectiles are conveyed through the incinerator until they are discharged through the solids collection housing to the removable collection container (not shown).

The gases produced are drawn through the pollution control system by the main fan, driven via a frequency converter that varies the fan speed to maintain a constant level of suction to the incinerator.

The gases pass from the incinerator through the transfer duct to the afterburner, which is heated by the secondary burner. The afterburner is maintained at sufficient temperature so that all the remaining combustible material such as residual propellant and carbon monoxide is fully oxidized. The gas from the afterburner passes directly into the heat exchanger, where heat is transferred into air from the atmosphere and the gas temperature is reduced. The atmospheric air is blown through the heat exchanger by the cooling air fan and comes out of the exchanger in three streams. These hot air streams are used to recycle heat back into the process, with the hottest stream being used as the combustion air for the secondary burner.

The gas passes from the heat exchanger through a duct to the ceramic filter where hydrated lime is metered into the gas flow. The lime is entrained with the gas and captured on the surface of the ceramic filter elements, where it reacts with the acid gases, hydrogen chloride (HCl) and sulphuric acid. This single operation removes the acid gases as well as all of the entrained solids. Additionally, the removal of the HCl and particulate solids at temperatures of above 400°C prevents the ‘de novo’ formation of dioxins and furans. The collected solids are regularly blown off the filter elements by reverse pulse cleaning and are collected under the filter in a removable container.

After the ceramic filter, the cleaned gas passes through the main fan and up the stack to be discharged to the atmosphere.

How It Is Transportable

The TRADS is limited to low order detonations such as small-arms rounds. It is not designed to take the blast from High-Explosive rounds or shells. The client must inform EODS of the types of ammunition that are going to be destroyed in the system to allow the correct filter size and feed chute dimensions to be manufactured within the system.
complete with the ISO container sockets at the four corners. It can be transported on a skeleton trailer, with the four corner locks holding the unit in position on the trailer. Alternatively it can be loaded and transported on a flatbed trailer.

When in position and ready for use, the TRADS is supported on eight detachable legs which can be extended or retracted to compensate for uneven sites. The legs are removed for transport but can be used to raise and lower the system to load it onto a trailer. Alternatively a crane may be used to off-load the unit.

The TRADS unit is finished with sufficient weatherproofing for external installation, and built-in lighting. The only requirement is hardstanding to enable forklift access to bring feedstock and remove scrap, and to provide a stable base for the supporting legs.

**Services and Control**

Electricity for the TRADS is produced by the 55 kilovolt-ampere diesel-powered generator, which is mounted on the skid next to the air compressor and facing the control panel. On-site electricity should be 400 volt 3-phase capability.

**Consumables**

Gas oil, or diesel, is used for the generator, the primary burner and the secondary burner. Fuel usage varies, and with more fuel being used at start up, the typical consumption is 15 liters per hour.

Prilled urea is available in 25 kg bags and typical usage is 1.5 kg/h.

The lime used is finely ground slaked lime, calcium hydroxide, which again is available in 25 kg bags. The typical usage is 2 kg/h.

**Advantages of Using TRADS:**

- Equipment is straightforward to install and commission.
- Site requirements are minimal.
- Emissions to atmosphere conform to EC requirements.
- Unit is easily relocated.
- System does not require a crane to be lifted to the site.
- System requires only one technical operator.
- System is more economical to run than larger systems on permanent sites.

**Hard Installation**

TRADS can be installed as a permanent installation should the client require. This type of installation requires a site survey and a general layout drawing to tailor the system to suit the site and the client.

**Capability**

As noted above, the TRADS unit can process 700 kg/h of small-arms ammunition up to and including 14.5 mm caliber.
Maj. Armand J. Frappier received the Ordnance Order of Samuel Sharpe award from Brig. Gen. General Jonathan Maddux, Program Executive Officer Ammunition, U.S. Army. Maddux recognized Frappier’s significant contribution to the Program Executive Office Ammunition (PEO Ammo) at the Army All Saints Ball held at Picatinny Arsenal on June 16, 2012. Col. Jeffrey Wilson, Project Director for Joint Services, and senior Army Ordinance approved the award and presented Frappier with a certificate to accompany the Samuel Sharpe Medallion. Every year, the Picatinny community honors those who have contributed not only to their own organization but also to the Ordnance Corps. The Ordnance Order of Samuel Sharpe recognizes those individuals who have served the U.S. Army Ordnance Corps with demonstrated integrity, moral character and professional competence over a sustained period of time, and whose selfless contributions to the Corps stands out in the eyes of their seniors, peers and subordinates. Only a few select individuals receive this award each year; however, it is uncommon that a member of a sister service receives this award. Frappier was among five to receive this award this year.

Maj. Armand J. Frappier, United States Marine Corps, has served as the Marine Corps Liaison for the Marine Corps Systems Command (MCSC), Program Manager for Ammunition (PM Ammo) at Quantico, Va., to the PEO Ammo at Picatinny Arsenal, N.J., since July 2009. Frappier has represented the Commander MCSC on all issues related to the research, development, quality and acquisition of Marine Corps ammunition and explosives from the PEO Ammo. He resolves all quality and acquisition issues related to life cycle management and logistical considerations while acting as the single point of contact for various project officers within PEO Ammo. Frappier is responsible for cost, schedule and performance of 200 different ammunition products for the Marine Corps that are procured through the Army. He is a liaison to the Program Manager Combat Artillery Systems (PM CAS), Program Manager Maneuver Ammunition Systems and the Program Close Combat Systems. Products overseen by Frappier include small caliber, medium caliber, demolitions, grenades, mortars, artillery, tank ammunition and fuzes in support of PM Ammo. Frappier worked closely with the PM CAS Mortar Team in finalizing the formula for the next generation 81mm Red Phosphorus cartridge, with the Excalibur Team to bring this precision capability to the Warfighter, and with the Close Combat Team in advancing the next generation smoke and shoulder-launched capability. He has taken a proactive approach to insure that the Marine Corps’ investments in ammunition and explosives items totaling in excess of $1,700M across the Program Objective Memorandum are well understood and executed as effectively and efficiently as possible. Frappier has consistently provided timely and accurate quality and budget information and requirements on all U.S. Marine Corps priorities within PEO Ammo by coordinating major geographically dispersed Army and U.S. Marine Corps staff actions.

Frappier has provided his expert ordnance and supply knowledge to improve organizational effectiveness between the Marine Corps and the Army when resolving issues related to quality assurance at the lowest level. While his efforts have been to support Marine Corps, his contributions have had a direct impact on ammunition throughout the Department of Defense with the interest of the Warfighter at the forefront.
MCSC Commander Praises Marine Corps Ammo Techs

By Monique Randolph, MCSC Corporate Communications
Marine Corps Systems Command

2012 Marine Corps Ammunition Awards

www.marcorsys.com.mcn.mil/am/ammunition

The event, hosted by the Marine Corps Association and Foundation (MCA&F), honored four Marines for outstanding performance in the ammunition field in 2012.

“It's because of the support of ammo officers and technicians that Marines don't have to worry about where the ammo comes from or how it gets there. They just know they have what they need when they need it,” the general said to the crowd of more than 250 ammo students, technicians, officers and industry representatives gathered at the National Museum of the Marine Corps.

Every day, Marine Corps ammunition technicians handle ammunition and explosives—from small arms to artillery—that make Marine forces efficient, effective and lethal, Kelley said.

The awards are named in honor of Marine Gunnery Sgt. Edwin Johnson Jr., the husband of Gunnery Sgt. Tasha Johnson, who works for MCSC’s Program Management Office for Ammunition. Gunnery Sgt. Edwin Johnson was killed in Afghanistan when his team was ambushed during a patrol.

“I was fortunate enough to serve with Gunnery Sgt. Edwin Johnson in my younger years,” said Lt. Col. Robert Emminger, Deputy Program Manager for ammo and master of ceremonies for the event. “My memories of him are of a young sergeant, always displaying an infectious smile, one who possessed unequalled leadership skills and ... was one heck of an ammo tech.”

The Gunnery Sgt. Edwin W. Johnson Jr. Memorial Awards were presented in four categories. The recipients were: Ammunition Technician of the Year Cpl. Shakeesha Bradley, Ammunition Company, 1st Supply Battalion, Combat Logistics Regiment 1, 1st Marine Logistics Group; Ammunition Technician Noncommissioned Officer of the Year Sgt. Antonio Milord, Ammunition Company, 1st Supply Battalion, Combat Logistics Regiment 1, 1st Marine Logistics Group; Ammunition Technician Staff Noncommissioned Officer of the Year Gunnery Sgt. James Cullen, Logistics Integration Division, Capabilities Development Directorate, Combat Development and Integration; and Ammunition Officer of the Year Capt. David Blann, Ammunition Company, 1st Supply Battalion, Combat Logistics Regiment 1, 1st Marine Logistics Group.

This is the fourth year MCA&F has held the ammo awards. This year, more than 1,400 Marines competed in all four categories.

“These [four Marines] represent the community you are about to become a part of,” Emminger said to the ammunition school students in attendance. “They have exhibited exceptionally noteworthy performance and displayed initiative, dedication and esprit de corps. They have consistently demonstrated abilities and knowledge above what is expected of an ammunition technician or officer of their rank.”
General Dynamics Ordnance and Tactical Systems–Canada Inc. (GD-OTS Canada) has successfully manufactured artillery and mortar ammunitions for the Canadian Armed Forces and its allies since the early 1940s. An active member of the National Technology and Industrial Base, the company has been producing high-quality 60 and 81 millimeter (mm) mortars for more than 14 years for the U.S. government, primarily for the U.S. Marine Corps. The company’s expertise in U.S. mortar ammunitions production was first demonstrated in 1997 through a subcontract from Milan Army Ammunition Plant (AAP) awarded by the U.S. Army Operations Support Command Rock Island; and upon recommendation from the Product Manager (PM) for Mortars, the life cycle manager responsible for all mortar acquisition. The subcontract was to fill more than 57,000 81 mm M821A1 mortar projectiles ultimately delivered to the U.S. Marine Corps. Upon successful completion of the Army contract, GD-OTS Canada continued to build on its reputation as a dependable solution provider by delivering its products within budget and on time or ahead of the contractual delivery schedule.

The company received its next mortar contract in 1999 from PM Mortars, awarded by the U.S. Army Tank Automotive and Armaments Command, Armament Research, Development and Engineering Center. The contract was to conduct non-destructive inspection of 81 mm shell bodies; safely discard defective/empty shells; fill non-defective shells with Composition B, and inspect shell bodies already filled from Milan AAP. GD-OTS Canada successfully completed the first option of the contract, and additional options were successively exercised. The successful completion of this contract demonstrated GD-OTS Canada’s capability to meet tight schedules and challenging requirements from its customers—including setting up, beginning and sustaining production with a very aggressive schedule to restart and support Milan AAP load and/or assemble and pack operations. In total, GD-OTS Canada inspected more than 385,000 81 mm empty or explosives-filled shell bodies, melt poured over 92,000 projectiles, and shipped them to Milan AAP, where they were assembled and then delivered to the U.S. Marine Corps.

Commitment to Continuous Process Improvement

As part of its continuous improvement process, and to meet new customer requirements, GD-OTS Canada continually reviews and improves upon its manufacturing and quality inspection methods, as well as the company’s management and contract administration processes. GD-OTS Canada senior management has endorsed Statistical Process Control (SPC) as a critical element in its policy of total quality management. SPC is promoted within the company not only as an essential technological tool for continuous quality improvement, but also as an important attitudinal tool for production personnel striving to achieve the company’s goal of total customer satisfaction. The company provided its first General SPC Plan on May 5, 2004, to Program Manager Combat Artillery Systems (PM CAS).

Another example of process improvement came in response to
an August 2006 PM CAS solicitation issued by Rock Island Contracting Center (RICC) for the Load Assemble/Pack (LAP) of 60 mm High-Explosive (HE) M888, M720A1, M768, and 81 mm HE M889A1, M889A2 and M821A2 mortar cartridges. The company laid out a conceptual plan for manufacturing the mortars to meet the stringent safety-critical characteristics and other U.S. government quality and performance requirements. The goal was to build an assembly process that would be both economical and meet the high quality standard of less than one defect per million occurrences (i.e., a Process Capability Index [Cpk] of 2.00 for critical characteristics). It should be noted that in excess of 50 major defects and critical characteristics per product nature are part of the product specifications or requirements.

In May 2007, GD-OTS Canada received a PM CAS 5-year (base plus 4 option years) production contract for the LAP of the 60 and 81 mm HE mortar cartridges from RICC. Following the award, the company designed, built and installed a modern and fully automated manufacturing line for the 60 and 81 mm HE mortars. The line was designed using the most current and relevant technology available, as well as existing Lean Six Sigma approaches used on similar mortar LAP programs. In addition, an existing melt pour facility was renovated for contract-required PAX-21 melt pour activities, adding new capability to the company’s established TNT-based melt pour facility. These facilities were used for the completion of the previous contract to manufacture more than 197,000 60 mm M888, 238,000 M720A1 and 175,000 M768 HE mortar cartridges; and 501,000 81 mm M889A1, 201,000 M889A2 and 539,000 M821A2 HE mortar cartridges.

The demonstrated monthly throughput of this new manufacturing line is well above the capacity requirements stated in the solicitation. It allows for surge capacity that can rapidly be developed to meet any urgent customer requirements. It also allows changeover between models of the same caliber to be performed within hours, and a changeover between calibers (60 to 81 mm, or 81 to 60 mm) in just days. The melt pour line can process 60 or 81 mm mortars with Comp B or PAX-21—and, soon, IMX-104 explosive. The fact that six models of various calibers can be processed on the same production line exhibits the flexibility and capability of both the melt pour and the assembly lines to meet any future requirements.

The complete process mapping used by the production engineers to monitor and control the manufacturing steps includes more than 100 entry points. The melt pour and assembly and pack lines are built on concepts such as positive acceptance, unit tracking, and 100 percent automated critical characteristics and major defects inspections; meaning that this automated assembly line has, by design, data-driven process control parameters. Each automated inspection station is tested and qualified in accordance with the “Review Guide for Critical Characteristics Control Plan and Critical Plan of Action,” per the contract’s critical defects clause. These equipment factors remove human error from the inspection reliability, virtually eliminating the risk of a critical nonconformance escape. Reliability of automated acceptance inspection equipment is demonstrated through an equipment qualifying process using a calculated number of reject standards to reach a quality level of less than one defect per million parts produced.

One of the most widely known process capability metrics is the Cpk, defined as the ratio of the tolerance to the process variation, which takes into account if the process has shifted from its target—generally, the center of the tolerance. The aim of process capability metrics is to compare process spread to tolerance. A high process capability
Working Together for Success

The success achieved would not have been possible without the partnership approach between GD-OTS Canada and the PM CAS Integrated Program Team (IPT), incorporating members from ARDEC, U.S. Marine Corps and Joint Munitions Command, who worked together through the course of the contract to implement and qualify the processes. One example of this collaboration is an exponential-weighted moving average control chart for the conforming run length, developed and prototyped on a different mortar program in February 2000. The control chart has become instrumental in monitoring the melt pour reject rates at different inspection stages in past contracts as well as in the course of the current contract.

In summary, GD-OTS Canada is confident that its overall capability for the LAP of 60 mm HE M888, M720A1 and M768 mortar cartridges, and 81 mm HE M889A1, M889A2 and M821A2 mortar cartridges meets all aspects of technical, quality (including critical characteristics and Lean Six Sigma) and management requirements for the current contract. Since being commissioned in 2008, the production line has undergone a significant number of improvements. Its implementation represents a warm production line capable of responding to any surge capacity request from the U.S. Marine Corps and remains a capability asset for the U.S. government. The robust and mature manufacturing methodology and processes developed for the production line have been successfully proven throughout the current contract, demonstrating that GD-OTS Canada can provide the U.S. Marine Corps with high quality products on time or ahead of schedule. GD-OTS Canada continues to partner with the U.S. Marine Corps and PM CAS, developing plans to leverage the current success transition from acceptance by attributes to acceptance based on process control of critical and key characteristics. On December 1, 2011, GD-OTS Canada manufactured the 1 millionth 60 or 81 mm mortar HE ammunition to be delivered to the U.S. government with the support of PM CAS and the IPT.
In the classroom, the training Ammunition Supply Point (ASP) and on the range, the U.S. Marine Corps Munitions School has been training basic ammunition technicians since moving to Fort Lee, Va. in mid-2011. Master Gunnery Sgt. Shifflet arrived at Fort Lee in mid-2010 and has done a superb job in setting the school up for success. The students begin their training by conducting bilateral training with the Army for two of three phases. During Phase 1, the students learn ammunition identification and preparation of demolition firing systems. In Phase 2, the students employ firing systems and conduct demilitarization operations at Fort A.P. Hill. Currently, the range training is conducted at the new range facility at Fort Lee where we have a beautiful state of the art facility, a training ASP and a local demolition range nearby where the students learn electric and non-electric firing systems.

The final phase is known as the Marine organic side. In this final phase, the Marines learn Navy and Marine Corps policy and procedures pertaining to storage, transportation, requisition and inventory, to name a few. Also during Phase 3, the Marines conduct motor vehicle and rail car inspection (Ammo 51) and after successful completion become certified motor vehicle and rail car inspectors. Upon graduation, the Marines are sent to the operating forces as basic ammunition technicians, earning the Military Occupation Specialty 2311.

The first class conducted at Fort Lee started on July 18, 2011 and since that time, over 500 basic ammunition technicians have been trained and sent to the fleet, along with 136 Noncommissioned Officers (NCOs), 28 Senior NCOs (SNCOs) and 13 Warrant Officers (WOs).

We also have the luxury of sending each basic course to visit the Quantico ASP for an in-depth working tour. This opportunity really helps the students put it all together. Thanks to Chief Warrant Officer 2 (CWO2) Hollingsworth, Master Sgt. Ford and the Quantico ASP!

Currently we have a full staff at the schoolhouse with the arrivals of CWO5 Price, who will serve as director, and Capt. Harrelson, who will serve as the company executive officer. Like everybody else we will have significant turnover in the coming year and will need SNCO Instructors. We have had a lot of interest, so please contact the occupational field sponsor to get the ball rolling.

This fiscal year, we will train 376 basic students, as well as conduct three NCO Mobile Training Teams (MTTs), two Manager courses and the WO course.

The Ammunition NCO MTT (U.S. Marine Corps) course class dates are as follows:

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The III Marine Expeditionary Force (MEF) G-4 ammo Noncommissioned Officer (NCO) billet in Daegu, South Korea provides a junior Marine with a unique experience to coordinate ammunition logistics across multiple services. The billet requires an ammo technician to perform a number of collateral duties in support of the Marine Corps’ execution of large- and small-scale exercises within the Republic of Korea.

The Daegu Detachment was stood up in the late ‘90s with the mission to provide all of the logistical and contracting support for III MEF exercises within the Republic of Korea. The detachment provides liaison between the Marine Corps units training in Korea and the U.S. Army, U.S. Air Force and the Republic of Korea’s military and civilian service agencies. The detachment arms personnel with knowledge of the unique guidelines for training on the Korean peninsula and provides Marines with established relationships with key Army agencies that supply most of the “on-ground” support for training.

The ammo NCO is the subject matter expert on the peninsula. The billet requires the Marine to be proficient in all aspects of ammunition storage, transportation and issue/turn-in for both the Army as well as the Marine Corps. In addition, the Marine must also become knowledgeable in the specific regulations on the Korean peninsula. Working as the coordinator between the two services requires frequent interaction with various personnel to ensure that Marine Corps training is executed as planned and timelines are met. But the coordination does not just go between services. Often the training units lean on the detachment to work with U.S. civilians as well as Korean nationals to facilitate training that may fall outside the scope of what is normally done.

In addition to supporting the Class V requirements, the ammo NCO serves as transportation chief and contracting representative. The ammo NCO coordinates all transportation requirements, as well as contracts for Camp Services, for all the different training areas. The ammo NCO is responsible for coordinating the transport of all Marines and gear from the boat to the training area in a safe and timely manner, as well as for coordinating the transport of gear and ammunition around the peninsula during the exercise. Often these are last-minute requests that require detachment personnel to be on call throughout the duration of all exercises.

The daily battle rhythm includes composing the situation report, munitions status report and exercise updates to Marine Forces Korea and III MEF G-4 as well as logistical support capabilities for the day and transportation verification with internal personnel. During the slower times, the ammo NCO focuses on ensuring Marine ammunition stored at Army locations is serviceable and ready for issue. This also includes moving ammunition to storage locations closest to upcoming exercise sites. The Marine Corps maintains a close relationship with the U.S. Army’s 19th Expeditionary Sustainment Command Munitions Branch and, at times, will work with their personnel to ensure the timely completion of Army-required paperwork. The major challenge is to get the Marine Corps units to police the expended brass and ammunition containers and return them to the Army ammunition supply points. The Army is required to turn in a specific weight of brass directly related to the amount of ammunition issued. If the Marines do not return a specific amount of brass, the Army will suspend issuing ammunition to the Marines.

Planning and coordinating these exercises with officers and staff NCOs gives Marines an excellent opportunity to network with people in the ammunition community. While providing around-the-clock availability and responding to timelines from senior Marines can be challenging and stressful, it can also be a fulfilling experience for those ready to step up to a new challenge.
In 2006, recognizing the need to have a permanent on-site quality assurance expert on the ground at the Naval Munitions Command (NMC) Charleston, S.C., the Program Manager for Ammunition (PM Ammo) made it a goal to hire that skill. The actual hiring description included the following: “This position serves as the Quality Assurance Specialist (QAS), Ammunition Programs and Budget Division, PM Ammo. The overarching responsibility of the QAS is to serve as the ammunition quality subject matter expert and provide technical support to the on site PM Ammo Liaison at the Charleston Detachment in terms of ammunition evaluation, inspection, and reporting.”

Such were my beginnings here at Charleston, S.C., my place of birth. As the QAS for Ground Ammunition with PM Ammo, my duties are to inspect ground ammunition during the regular loading cycle of each Maritime Prepositioning Force fleet. I am part of the Marine Liaison Office – Charleston, and my office and inspection bay are located at Joint Base Charleston, formerly known as the Naval Weapon Station in Goose Creek, S.C.

My list of inspections for each ship is provided to me by the Expeditionary Systems Evaluation Division (ESED) of the Naval Surface Warfare Center, Crane, Ind.—ESED being located in Fallbrook, Calif. They maintain a master list of prior inspections and discrepancies, which is broken down by Department of Defense identification code and lot number. Both questionable assets that have been flagged from prior inspections and newer lots that have not been looked at are included in the list. I do a walk-through, checking various work bays. If I see items with outer packaging that may be questionable, or if something just does not look right, I have these items sent to the inspection bay for a closer evaluation. NMC will also call me with suspect items they find while doing their routine loading/unloading of ISO containers. To give you an idea of some of the challenges I have experienced related to ammunition quality assurance, I have provided a few pictures that convey the condition of some of the ammunition assets off-loaded from a maritime prepositioning ship.

During my time here, I have initiated two cost saving operations. The first was to change out MN79 desiccants on site instead of sending them back to the depot for rework. This saves shipping costs and keeps the rounds on station. The second was to change out damaged 155 mm skid tops and bottoms, which also keeps the rounds here and saves transportation costs. A working party, made up of myself and active-duty Marines, completes this task.

Having three children who have served in the military, I understand the important role I play. It feels good knowing that when the ammunition leaves my hands and goes to our Marines it has been properly inspected to ensure their safety.

If you have any questions related to my position, feel free to contact me by phone at (843) 764-4368 or email at: william.c.wall1@navy.mil.
In January 2012 the Class V (W) Requirements Generator received a major overhaul by the Logistics Integration Division (LID). While this overhaul included product improvements to the existing program, our emphasis was on the addition of packaging and shortfall calculations as described below. Integration of these improvements to the Class V (W) Requirements Generator includes the ability to calculate transportation requirements and forecast munitions shortfalls based on asset availability in support of combat and training operations.

**AMMUNITION PACKAGER:**

Integration of the Marine Corps Packaging Digest into the Requirements Generator greatly enhances the ability of both ammunition and logistics personnel to calculate transportation requirements to support the movement of ammunition in both combat and training. The Ammunition Packager is intended to provide a 90 percent solution to your deliberate planning needs and consists of three steps:

1. **Quantities** – Enter quantities for Department of Defense Identification Code (DODIC)-National Stock Number (NSN) combinations manually or import them into the Ammunition Packager from the following:
   - A plan saved in the Requirements Generator
   - A TAMIS e581 report (provided the report was generated with the “detail report option”)
   - A Microsoft Excel file

2. **Transportation** – Select transportation types to consider in the report. Results in the report display the total quantity for each vehicle independently without reflection of other vehicle types selected for consideration. To assist in developing load plans, future upgrades will include the...
ability to constrain the transportation available to a limited combination of transportation types.

3. **Report** – Produce the report, which displays the actual pallet dimensions. (See Figure 1.) When calculating transportation requirements, the Ammunition Packager assumes that all cargo space calculations are based on standard pallets of 40”L x 48”W x 48”H, regardless of actual pallet dimensions. (Note: When computing the number of vehicles required or building a load plan, the user must complete calculations for non-standard [cabbage-load] pallets).

The Ammunition Packager additionally provides users the following features:

- View or modify the NSN used as a default for each DODIC

- View data for the default transportation types used by the Ammunition Packager or create/edit Custom Transportation Types (maximum pallet quantity and maximum load weight [pounds])

- View or edit Default Substitute DODICs (some DODICs are too new to have data in the Packaging Digest but have one or more suitable substitutes identified in the interchangeable DODIC listing)

- View Packaging Digest Data (in Microsoft Excel format) currently used by the Ammunition Packager—the current Packaging Digest for the Marine Corps can be accessed from the “Help” menu.

**SHORTFALL CALCULATOR:**

Built to provide ammunition managers a way to accurately manage resources in support of assigned missions, the Shortfall Calculator generates reports to help identify shortfalls between the amount of ammunition required for a plan and the amount of ammunition available for each increment of a mission. Quantities required or available can be imported into the Shortfall Calculator using the same method as described in Step 1 of the Ammunition Packager description. Two report formats are available—the first lists each DODIC followed by each increment and the second lists each increment followed by DODIC. (See Figure 2.)
MISSION

In support of the National Strategic Plan and Defense Planning Goals, PM Ammo will conduct/leverage research, development and acquisition activities and execute post-production total life cycle management support for all conventional ground ammunition required by Marine forces to train for and successfully conduct Expeditionary Maneuver Warfare.

Our mission is clear—to introduce military munitions into the Marine Corps stockpile and manage all facets thereafter. From formulating budgets and developing acquisition strategies to procuring and disposing of munitions, PM Ammo supports the complete or total life cycle of ground conventional ammunition and explosives for our Corps.