The Challenge of Ammunition/Ordnance Management

by CWO2 Judith A. Ellis

Munitions are the warrior's edge, and preserving that edge is a major challenge.

Ask any Marine—any military occupational specialty—to identify the most essential item he needs for battle, and the resounding answer will be AMMO. Ground Marines speak of it as ammunition, aviators call it ordnance, and logisticians refer to it as Class V supply or more specifically as Class V(A) for aviation ordnance and Class V(W) for ground ammunition.* All of our training, tactics, and weapons platforms serve one purpose, to deliver steel on target. How we get the right "steel" in the hands of the warrior to engage the target is the challenge for ordnance logisticians. That challenge is growing in the face of declining procurement, diminished operations and maintenance (O&M) budgets, and shrinking industrial capacity to produce ammunition. This article focuses on the challenge of ammunition management that confronts the Marine Corps today.

Recently, ammunition shortfalls and logistics support issues have received heightened visibility at senior leadership levels in the Navy, Marine Corps, and Joint Staff, through lessons learned, published articles, and war gaming efforts. Consider the following scenario: It is 1995, Navy and Marine Corps component commanders have been tasked to deploy forces, equipment, and supplies to respond to a major regional contingency (MRC). Advance the calendar to 2003, and those commanders are again tasked, but this time to respond to two nearly simultaneous MRCs. How well do you think the Department of the Navy (DoN), meets this challenge in terms of ordnance support?

The above scenarios were examined during ORDWAR 95, the first wargame designed to focus exclusively on ammunition logistics. Conducted in December 1994, ORDWAR 95, a joint Navy and Marine Corps effort, identified a number of critical ordnance issues for the Marine Corps. ORDWAR 95 generally concluded that the DoN is capable of supporting ordnance logistics requirements for one MRC in 1995 and is marginally capable of fighting two MRCs in 2003 assuming that the programs funded in the President's fiscal year 1996 budget are executed on time. The following problems are just some of the issues noted that affect Marine Corps ordnance.

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Ordnance procurement is significantly underfunded. (Exact figures were not available at the time of writing, as the extent of this problem is being examined.) Senior personnel in ordnance management have reported the seriousness of this problem in a number of forums. A separate but related issue is the status of our inventory. Based upon current models depicting training and wartime usage rates, inventory levels are inadequate. Shortages exist in Maverick, Mk83 laser guided air-to-surface missiles, as well as Walleye and Sidearm missiles. In fact, the Sidearm is out of production, along with the production lines winding down for both the Mavericks and other laser guided bombs. Additionally, there are currently no suitable substitutes for shortages in 2.75-inch and the 5-inch airborne (Zuni) rockets. Neither rocket system has a follow-on system planned. Safety is a continuing issue with current 2.75-inch rockets, and the 5-inch rockets are out of production, (and out of the inventory) by 2003. Aviation is not alone, shortages exist in numerous ground ammunition items, to include mortar, artillery, and .50 caliber ammunition.

Another issue that exacerbates the current problems with ammo shortages is the declining industrial base in today's defense industry. Maintaining sufficient industrial base capacity to produce and maintain quality munitions continues to be a significant problem. Once a munitions production line is closed, it can take from 13 to 36 months to reopen that line and get new production of rounds or components into the inventory. The production of ammunition involves the procurement of unique components, development of safety procedures, and training of qualified personnel to run the line. This makes the shortages above, particularly with the 2.75-inch and 5-inch rockets even more significant.

Global sourcing of "swing" stocks for aviation ordnance items is a third critical difficulty. Ammunition war reserve stocks for operational plans fall into two categories. Starter stocks are those stocks

* For the purpose of this article the terms ammunition and ordnance are used interchangeably to denote both ground and aviation items.

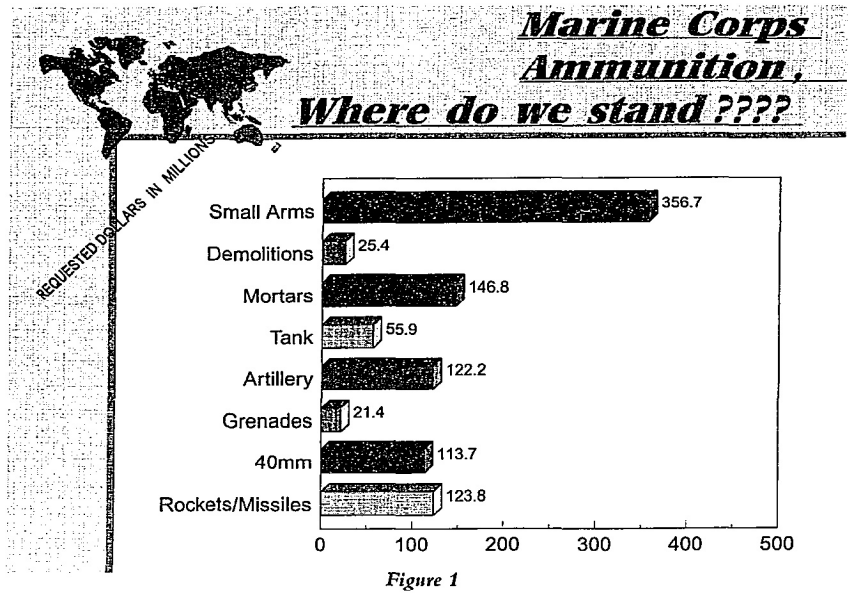

Figure 1

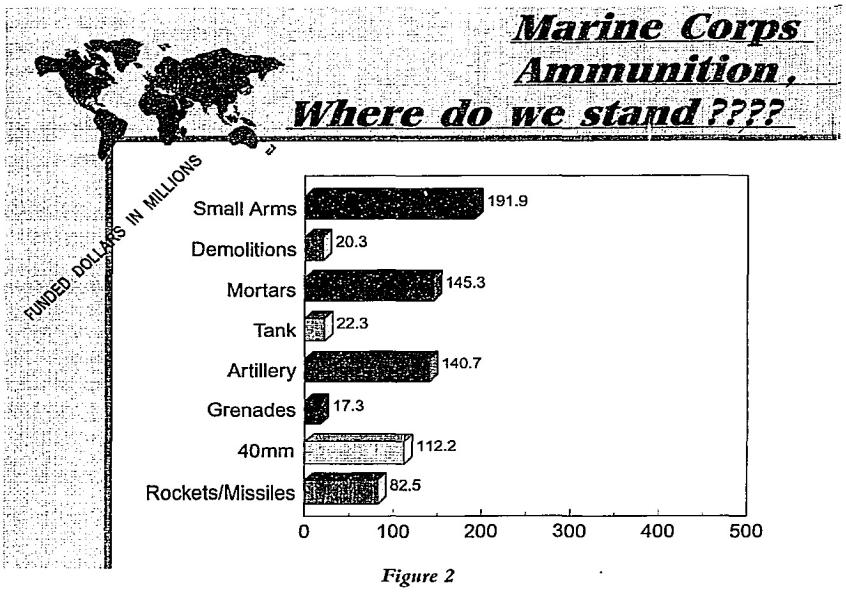

Figure 2

which must be held in or near a theater and are dedicated for the initial 30 days of sustainment for an operational plan. Swing stocks are all other stocks allocated as resupplies for any operational plan. Aviation ordnance is a joint resource for both the Navy and the Marine Corps. It is procured and managed by the Navy with operational control given to the fleet. "Swing" stocks are not currently identified by either Navy or Marine Corps component. This introduces a command and control management issue as it makes it difficult for a component commander to measure his warfighting capability against the limited inventory available. It is essential to remember that both starter and swing stocks must be identified in specific operational plan to generate transportation requirements to ensure timely movement to the warfighters. Required ammunition has to be sourced and entered into the time phased force and deployment data (TPFDD) before the strategic lift plan can be developed.

Finally, all ordnance assets are not visible to a joint task force commander from a single management information system. The Services and even some components in the same Service, use incompatible ammunition management systems. At best this makes joint planning very difficult.

To understand how these issues will be resolved, one must understand how Marine Corps ammunition is managed. Ammunition and ordnance management in the Marine Corps is a Navy/Marine Corps team effort. Aviation ordnance is procured by Naval Air Systems Command and managed by the Naval Ordnance Center. Marine Corps aviation ordnance requirements and policy concerns are addressed by the Deputy Chief of Staff for Aviation at Headquarters Marine Corps. The Naval Ordnance Center (NavOrdCen), a newly formed command headquartered in Indian Head, MD, is responsible for in-service management of all Navy ordnance to include Marine Corps aviation ordnance. The Navy resource sponsor for NavOrdCen is on the Chief of Naval Operations (CNO's) Staff OpNav Code N41. In addition, NavOrdCen provides the following valuable services for the Marine Corps: explosive safety inspections, explosive ordnance disposal technology development, and storage of some Marine Corps war reserve and training ammunition at naval weapons stations. To ensure Marine Corps interests are addressed, 11 of the 25 military billets at NavOrdCen Headquarters, including the chief of staff billet, are filled by Marines. Marine liaison and security force personnel also serve in NavOrdCen's various divisions and field activities.

Ground ammunition is budgeted, procured, and managed by the program manager for ammunition (PMAM), Marine Corps Systems Command (MarCorSysCom). PMAM is responsible for the complete life cycle management of ground ammunition stocks. PMAM is collocated with the deputy chief of staff installations and logistics. This collocation permit better integration of ammunition logistics support and general supply management. In addition to procurement and stockpile management, PMAM also develops policy for ground ammunition matters, performs as the technical agent for all safety matters, deliberate planning, systems development, inventory management, quality assurance, and maintenance related to explosive ordnance. In short, PMAM is one stop shopping for all ground ammunition matters.

Headquarters Marine Corps, the OpNav, NavOrdCen, MarCorSysCom, and other agencies are currently working the issues identified in ORDWAR 95. Ammunition budget shortfalls are being

aggressively pursued by all cognizant authorities. The conclusions drawn from ORDWAR, appear to reinforce the fact that there is a significant budget problem. A detailed review of the processes by which ammunition requirements are determined is currently being conducted to evaluate the full extent of this shortfall.

Product improvement initiatives are underway to remedy the existing safety problems with the 2.75-inch rocket motor inventory, however, no replacement for the 5-inch systems is being considered. In terms of the industrial base there is no easy fix. The challenges are to be "forward thinking" about ammunition/ordnance requirements, to ensure that shortfalls are properly identified, and to devise procurement strategies that consider the long leadtime for required acquisition of new items. The contribution that operating forces can make now is to conduct training with appropriate simulators or acceptable substitute items, whenever possible, and save our best and newest ordnance for the battlefield, where it is most needed.

In addressing the timely sourcing of stocks, the ground ammunition community is also looking at a new approach to prepositioning, and the identification of ammunition stocks to support specific contingencies. For aviation ordnance items, the establishment of specialized activity classification codes (ACCs) that identify Marine aviation assets for deliberate planning for strategic lift is an ongoing effort. NavOrdCen is also in the process of standing up a Logistics Readiness and Planning Cell to coordinate sourcing of swing stocks and provide assistance to the fleets and OpNav in coordinating the movement of ammunition to the war fighters.

All Services are now working towards a single ordnance management system. This effort is centrally managed at the Joint Logistics Systems Center (JLSC) with MarCorSysCom and NavOrdCen jointly working on a prototype system to provide total asset visibility (TAV). This prototype will link existing management systems together and see if TAV can be achieved and to identify the hard spots. The goal of TAV is to provide a system that will enable fleet and Marine force commanders to have visibility of their assets from depot to the user.

In addition to conclusions drawn from ORDWAR 95 and initiatives aimed at correcting problem areas, other important issues and concepts affecting Marine Corps ordnance readiness need to be considered.

First, no issue affects the operational commander as much as how ammunition requirements are determined and apportioned. This starts with the Capabilities Based Munitions Requirements (CBMR) Process. The CBMR guidance is a new DoD directive (DoDInst 4100.41) that directs the Services to move towards capabilities based development for war reserve requirements. This policy directs the Military Services to calculate munitions requirements to perform their designated missions in support of the CinCs in the Defense Planning Guidance scenarios. The Service budget submissions will then be developed consistent with these requirements. This is a change from previous policy, which allowed the Services to compute requirements based upon force strength and weapons density, and gave the Services more autonomy in selecting their requirement scenarios. The Unified Commanders (CinCs) dictates the portion of the theater targets allocated to the Service component commander. This provides the scenario upon which ammunition requirements, can be determined by usage modeling of the related force structure. The CBMR is a step in the implementation of the Defense Reorganization Act of 1986 and inserts the CinCs into the program development process of the Services.

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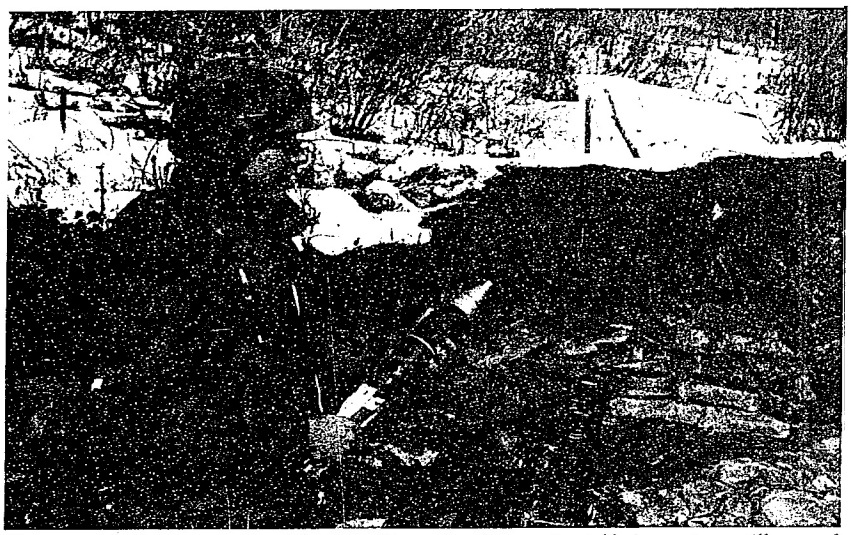
Both Class V(A) and Class V(W) managers employ methodologies to ensure that the right ordnance is available to warfighters for particular contingencies, while maximizing training opportunities. For ground ammunition, requirements are generated for war reserve and training using personnel and weapons densities, matched to scenarios in accordance with the CBMR guidance. Requirements are then matched against the current stockpile, and available supply rates (ASRs) are set for both war reserve and training. For example, if an ASR of 80 percent is set for a particular item, then that using unit will only receive 80 percent of their standard annual requirement. The ASR methodology bases its percentages on ensuring a baseline inventory is maintained for contingencies. The ASR process undergoes a continuous evaluation, and asset posture is evaluated quarterly to maximize usage of available ammunition.

Training requirements for Marine aviation are calculated based on MCO P3500 se-

Ammunition shortfalls in small arms munitions could seriously affect both readiness and sustainability in a crisis.



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ries instructions, referred to as the Training and Readiness (T&R) Syllabus. The syllabus specifies training sorties by type/model/series aircraft for aircrew. Each sortie has a specified ordnance requirement. Marine forces apply T&R factors against total air crew planning factors to derive a noncombat expenditure requirement. Training of new pilots and major exercise requirements are also factored into the process. Consolidated requirements are then sent to the applicable fleet type commander for consolidation. Once the total requirement is calculated, the existing stockpile is evaluated by the resource sponsors (OpNav N88) and an noncombat expenditure allocation is developed. War Reserve requirements for Navy and Marine aviation units are generated using a process managed by OpNav N411 called the nonnuclear ordnance requirements process. This process employs modeling to generate requirements in accordance with the CBMR guidance.

At times, though operational commanders may feel that local ammo/ordnance managers are "hoarding" ammunition, decisions regarding allowances are made at the headquarters level, by ordnance managers that have overall visibility of the current stockpile. The thrust of these decisions is to ensure that we will have what we need to maintain battlefield superiority (the warrior's edge) in time of contingencies. There are no short-term fixes, even if money to make the ammunition shortfalls go away was made available tomorrow, it would still take a long time to get the items into the inventory. Other factors affect stockpile availability besides those already described, these include: deterioration with age, malfunctions, and positioning. Therefore, methodical and informed conservation of existing assets becomes a key management tool. Long-term strategies for more aggressive procurement and for expanded research and development could improve our position in the out years, however, they are exactly that . . . long term.

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One on-going initiative that should assist in conserving the stockpile is the development of alternative training technologies—an issue raised in the Commandant's Planning Guidance (CPG). The Marine Corps Combat Development Command is looking at ways to simulate effective training that will not require the use of live ammunition. This will not eliminate the requirement for live-fire training, but will augment it and conserve ammunition. A collateral benefit is that it will also allow for increased safety to personnel.

How can the operational commander contribute to ammunition readiness? The reality is that there is a finite stockpile with extremely long leadtime needed for procurement of new items. Commanders should train with suitable substitutes whenever possible and practical. Additionally, the use of alternative training technologies, once fielded, should be maximized. This allows the newest and best items to be maintained for contingencies. Marine Corps commanders need to change the "use it or lose it attitude" that has characterized ordnance usage. In the past, if shutdown of a range was imminent, or it was nearing the end of the fiscal year, it has been common practice to shoot all the ammo. With the current budget constraints and the long leadtime for even most basic ammunition items, expenditure of ordnance without viable targets or training scenarios can no longer be accepted. Using units should work with the local ammunition supply point or ordnance facility to turn in unused ordnance in the best condition possible. Using units can assist in the process by not opening ammunition containers until it is time for that ammo to be fired. Though this practice may be time consuming to the user, ammunition saved during peacetime adds to the limited stocks that will be available during war. Even training-unique items must be conserved so they will be available to train mobilizing forces.

What can the operational commander expect to see in the future? We should start to see improvements in ammunition asset visibility and allocation. For the long term, improved technologies will assist in providing quality training while conserving live ammunition, including those responsible for setting funding levels, carefully plan. As we move into the 21st century, we should have the ordnance we need to fight and win decisively, as long as all involved in the management and use of ammunition, including those responsible for setting funding levels, carefully plan. Without adequate ordnance, even the most sophisticated platforms, are just that—platforms. State of the art, reliable munitions, in sufficient quantities, in the right place, at the right time, are truly the warrior's edge.

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