

**U.S. ARMY JOINT MUNITIONS COMMAND
FY 2006 EXECUTIVE SUMMARY**

In FY 2006 the U.S. Army Joint Munitions Command (JMC) continued its mission to supply warfighters with the right ammunition at the right place, on time, every time. As the Single Manager for Conventional Ammunition (SMCA) field operating activity, JMC's mission is to provide the conventional ammunition life-cycle functions of logistics, sustainment, readiness, and acquisition support for all U.S. military services, other government agencies, and allied nations as directed. As the logistics integrator for life-cycle management of ammunition JMC also provides a global presence of technical support to frontline units. In support of the Global War on Terrorism (GWOT), JMC continued to push ammunition to Southwest Asia (SWA) and worldwide locations, operated ammunition maintenance facilities in Kuwait, and managed the flow of munitions Logistics Assistance Representatives (LARs) and Quality Assurance Specialist Ammunition Surveillance (QASAS) to theater to support combat operations. JMC's mission to support all Services was accomplished by funding received from other customers and totaled \$1.1B and broke out as follows:

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|---------------|-------------------|
| Air Force | \$409,503,571.84M |
| Marine Corps | \$449,315,350.52M |
| Navy | \$205,503,581.90M |
| Other Federal | \$ 32,325,576.87M |

In addition to normal OMA program funding of \$230.8M, JMC received \$97.0M GWOT supplemental program funding, and \$29.1M RESET funding. Supplemental funding enabled the following high priority missions to be accomplished: contingency outload of ammunition that supported SWA operations, urgent maintenance projects that made critical contingency ammunition items available, and retrograde RESET depot receipt of ammunition from SWA and Korea. JMC shipped approximately ammunition in support of Operation Enduring Freedom/Operation Iraqi Freedom and training and retrograded/received ammunition.

To assist in logistics management of ammunition in the field, JMC supported 16 ammunition logistics assistance representative (LAR) deployments. Since 2002, JMC has deployed over 70 LARs, who have provided ammunition logistical expertise and technical assistance to divisional and non-divisional units, other services, and government agencies. LARs are a vital link to the field for the ammunition community. In addition to the LARS, six Quality Ammunition Specialist Ammunition Surveillance (QASAS) were deployed for 179 days each.

From July 2003 to June 2006, JMC was a subordinate to the Army Field Support Command (AFSC). To emphasize the distinct missions of the two commands, AMC directed a separation. The provisional separation of AFSC and JMC was implemented 1 June 2006 to prepare for their permanent transition to AMC major subordinate commands (MSC) effective 1 October 2006.¹ The command personnel split allocated the JMC 3,743 civilian authorizations and 18 military authorizations. This breaks down into 585 civilian authorizations and 5 officers at the HQ; 219 civilian authorizations at the Defense Ammunition Center (DAC); 181 civilian

¹ Because of the early division of AFSC and JMC, several offices continued to support both commands and provided their annual summaries in combined format in Volume I of this history.

and 7 military officers authorizations at the Army Ammunition Plants (AAPs) and depots; and 2,758 civilian authorizations and 4 military officers at the Army working capital fund (AWCF) installations.

In connection with the organizational changes, several important HQ level military and civilian personnel actions occurred during FY 2006. JMC Commanding General, Colonel (P) James E. Rogers was frocked to Brigadier General at a ceremony officiated by President George W. Bush at the White House on 23 January 2006. Colonel Jyuji Hewitt who was the Deputy to the Commander (DC) became the Chief of Staff (CS).

In addition to the AFSC/JMC realignment, AMC announced plans to create a Joint Munitions Life Cycle Management Command (JM LCMC) by November 2006. The LCMC will enhance the Ammunition Enterprise partnership already in place between the JMC, Armament Research Development and Engineering Center (ARDEC), and Program Executive Office – Ammunition (PEO Ammo). The proposed Joint Munitions Life Cycle Management Command (LCMC) was redefined as the Joint Munitions and Lethality (JM&L) LCMC later in the year with a planned stand up date of November 2006.

Continuous Improvement & Lean Six Sigma

In accordance with DA and AMC business transformation initiatives, BG Rogers prepared JMC to adopt Lean Six Sigma (LSS) in FY 2006. BG Rogers stated, “that JMC will break through our resource constraints to supply our warfighters with the right ammunition, at the right place, on time, every time through rigorous application of Lean Six Sigma. Lean Six Sigma will make sure we stay viable across the board.” The intent of LSS is to improve effectiveness and implement efficiencies that will free human and financial resources that can then be directly applied to operational requirements, as well as to more quickly provide better ammunition to our soldiers.

JMC entered into an indefinite delivery/indefinite quantity (ID/IQ) contract with one of the world’s leading LSS consultant firms, George Group, LCC. The initial contract ceiling was set at \$10M. Through this contract vehicle, JMC commenced implementation of our LSS Deployment Strategy in April 2006. During the first year, JMC executed over \$6M of the original contract ceiling. This funding also allowed for the contract of a myriad of LSS activities for DA, AFSC, USA Community and Family Support Center, USA Medical Command, Naval Air Systems Command (NAVAIR) and USA Transportation Command (TRANSCOM). JMC later negotiated a higher \$20M dollar ceiling with the George Group and improved rates for Master Black Belt support, reducing hourly rates by almost 30%. JMC began value stream mapping processes and implementing LSS and at the end of FY 2006 JMC’s progress toward LSS deployment exceeded all the other AMC MSCs in terms of personnel trained and projects completed.

Integrated Logistics Strategy

In conjunction with the George Group, a formal charter was written in March 2005 to address the development of an Integrated Logistics Strategy (ILS). The ILS works to achieve

optimum balance among inventory, a warm production base, and outload at our installations and depots. ILS addresses asset imbalances from the current stockpile positioning to optimal stockpile positioning, which will allow JMC to influence budget submissions. The ILS will provide continued assessment of the operating environment and chart strategic direction based on those changes. The ILS Framework was developed over a 4-month period involving JMC and George Group Contractor support. Information was gathered from installations, JMC HQ, and higher AMC HQ personnel. The ILS framework is divided into three phases: constraints and issues, strategic framework, and implementation and ongoing management. The ILS has a clearly defined future state and uses data from all Services to help JMC provide optimal integrated warfighter stockpile and logistics solutions.

Centralized Ammunition Management (CAM)

CAM was initiated in FY 2003 to improve JMC support to Army training. By gaining visibility and control of ammunition assets at Ammunition Supply Points (ASPs) and at our wholesale activities, the stockpile management and transportation for training requirements has been streamlined. In FY 2006, the CAM resupply effort supported Training and Doctrine Command (TRADOC) and Forces Command (FORSCOM) installations, to include all National Guard sites. The total number of sites supported was 78 and continued to increase. After completing the addition of National Guard Units to the CONUS resupply process, JMC focused attention on pre-planning to include OCONUS ammunition supply points in the CAM resupply mission. CAM also supported mobilization for OEF/OIF. Mobilization packages continue to be pushed to FORSCOM and Special Operations Command (USASOC) units as required.

The JMC Logistics Integration Transportation Division coordinated and tracked the movement of 11,842 CAM transportation control numbers (TCNs). This effort supported both Army regular re-supply and mobilization training. On time delivery for CAM shipments in FY06 was 99%. The CAM team continued to develop automated sourcing tools for CAM documents that will enhance the ability to consolidate shipments and reduce transportation costs.

Ammunition Readiness - The Munitions Readiness Report

The Munitions Readiness Report (MRR) system implemented in 2001 provides major elements of the Army with a common methodology for assessing munitions readiness. The MRR is managed for continual improvement and the configuration has increased in relevancy and improved in accuracy since its inception. This year JMC released MRR version 2.0. The new version implements changes which were achieved through collaboration with Department of the Army G-3/5/7, initiated in 2005. These changes align MRR configuration as a primary munitions readiness data source to the Balcony Brief, a monthly readiness briefing presented to the Executive Office of the Headquarters, Department of the Army (EOH DA). Munitions readiness is currently one of the key Army readiness elements reported, and the structure for a portion of the Balcony Brief was developed directly from the MRR.

MRR Version 2.0 includes major changes in the "S" or on hand assets rating methodology. "S" ratings are now provided separately for Training, Training Unique, and War Reserve items. Depot assets are now factored into various "S" ratings and the method to

organize munitions into groups and subgroups based on the ability to use one item in lieu of another was changed. With the new munitions organization, we have also improved the method of aggregating item readiness ratings for these groups and subgroups. With version 2.0, JMC will maintain historical readiness data within the MRR. This will allow users to analyze and improve the accuracy of our out month forecasts. A new system layout has also been introduced. An “Ammo Enterprise One Voice Feeder” chart has also been added to the MRR system. This allows activities throughout the Ammunition Enterprise (such as elements within DA, PEO, and the PM shops) to input and edit MRR data online. The MRR is also now reported on a monthly basis versus quarterly. Throughout FY06, 91% of the items reported in the MRR were green. The remaining 10% covered critical combat items.

JMC partnered with the Program Manager for Ammunition, Marine Corps System Command to develop a Marine Corps Munitions Readiness Reporting system (the USMC MRR). While maintaining common reporting conventions, this new system incorporates Marine Corp unique rating algorithms. The USMC MRR brings the Services one step closer to a joint MRR application

Industrial Base Assessment Tool (IBAT)

In addition to assessing the readiness of the stockpile JMC began developing a tool to better assess the industrial base. The JMC Industrial Preparedness Division worked with Ammunition Enterprise partners and contractor, Decision Sciences Inc. to develop the Industrial Base Assessment Tool (IBAT). The SMCA IBAT is an initiative to automate the Ammunition Production Base Plan to facilitate industrial base preparedness planning in acquisitions. The SMCA IBAT is a web-based data system that documents the production capabilities, capacities, production schedules, deficiencies, and industrial base metrics of the SMCA ammunition supply chain to assist in optimizing acquisition decision making that affects the preparedness of the National Technical Industrial Base (NTIB). The data system also provides “what-if” scenario generation and ammunition maps to identify potential supply chain choke points.

Development of the IBAT has been a time-phased spiral effort. Initial meetings were held among all stakeholders in the enterprise to determine the most important focus areas for this tool. Phase III of the development began on 1 April 05 and was completed by 31 Mar 06. Phase III consisted of additional modeling modes along with more extensive reporting features. Item planners in the Industrial Preparedness Division of JMC continue to populate the database with producer and item information which will be used by the models. A new set of Product Improvement Efforts (PIEs) were placed on contract 1 Aug 2006 and product improvements are scheduled for completion in July 2007. While still in developmental phases the tool has already proved to be useful in providing real time data. The IBAT has gone from a once every two year assessment to providing real time data to the entire ammunition community

Ammunition Industrial Base

JMC managed operations at 12 ammunition plants, 3 ammunition storage depots, and the Defense Ammunition Center in FY2006. The ammunition installations focused on supporting regular mission and wartime requirements. Each plant has provided detailed reports in the

annual historical summaries following this summary. The following section highlights their accomplishments and challenges throughout the year.

Crane Army Ammunition Activity's (CAAA) efforts to reuse MJU decoy flares were awarded the Office of the Federal Environmental Executive 2006 White House Closing the Circle award in waste pollution prevention 12 June 2006. The award recognizes outstanding achievements of federal employees and their facilities for efforts that resulted in significant contributions to or have made a significant positive impact in regard to environmental stewardship. With the successful implementation of this idea, the government now has a process to rework MJU-32/B and MJU-38/B Decoy Flares, utilizing recycled magnesium, Teflon, and Viton grain.

Holston Army Ammunition Plant (HSAAP) is a DoD production scale manufacturer of RDX and HMX based explosives in the United States. A significant challenge for the installation was the continued development of new products. This included several insensitive munitions such as PAX-21, Air Force products (CXM-AF), and OSI products (OSX). Facilitization and large-scale manufacture of DNAN (a new explosive for Holston production to support PAX-21 and other Insensitive Munitions (IM) melt-cast explosives) presented challenges in processing and handling of DNAN waste-water. Issues were resolved by use of a neutralization step, which allowed processing in the Holston Industrial Wastewater Treatment Facility.

Iowa Army Ammunition Plant (IAAAP) continued to be a U.S. producer of 120mm tank training cartridges and the production capability to Load, Assemble and Pack (LAP) all 120mm cartridges. The plant also remained the U.S. producer of the 155mm M107 high explosive projectiles and one of two producers of the 155mm M795 high explosive projectiles. Due to a critical need, a renovation program was started to return unserviceable 120mm M830 High Explosive Cartridges to a serviceable status. Iowa AAP also produced Add on Armor kits with reactive armor tiles continued to support the Stryker vehicle. Production of Javelin, Sidewinder, Hawk and XM982 Excalibur missile warheads continued as well as various research and development programs. Tragically, lives were lost in an accidental explosion at Iowa AAP on 12 June 2006. A memorial service was held 12 July 2006 for two American Ordnance employees who died in an explosion at Building 1-12. Iowa's Modular Artillery Charge System (MACS) continued to meet production goals.

Lake City Army Ammunition Plant (LCAAP) continued to operate at capacity throughout FY06 with total production valued at \$430.5M. Also, rounds of 9mm was awarded to Olin Winchester Corporation, totaling \$6.1 million; rounds of .300 Winchester Magnum, a critical sniper round used by the Special Forces, to Federal Cartridge Corporation, Anoka MN which is valued at \$976.7K.

In conjunction with the AFSC contracting center, JMC also completed the contract award for 300M rounds of small caliber ammunition to General Dynamics Ordnance Tactical Systems (GDOTS) who will serve as a second source supplier. JMC supported GDOTS to resolve technical issues to get production up and running resulting in the production of 5.56mm, rounds of 7.62mm and rounds of .50 caliber ammunition.

The McAlester Army Ammunition Plant Ammunition (MCAAP) production workload increased by more than \$7M rising from \$65M in FY05 to \$73M in FY06. The plant produced inert and live-loaded bombs; renovated rounds of various munitions and demilitarized short ammunition and ammunition components. A decrease in inert (training) bomb production was based on the U.S. Air Force's decision to seek an alternative to cement loaded inert bombs. In terms of quantity, inert bombs traditionally represent up to 92% of all bomb manufacturing at MCAAP.

Final assembly of the XM982 Excalibur testing rounds projectiles occurred at MCAAP in September 2006. The XM982 Excalibur is a precision guided extended range artillery projectile. The Raytheon Missile Systems and BAE Systems Bofors' Excalibur team delivered the first production Excalibur global positioning system-guided 155 mm artillery rounds to the U.S. Army 19 Sept. 06. This paves the way for the next series of testing required to field the weapon in theater next year.

At Blue Grass Army Depot (BGAD), the renovation of the Chemical Defense Equipment (CDE) Shipping Center enabled JMC to significantly improve support to the Soldier in the field. The improved facilities and automation have reduced order ship times by 50%, while at the same time achieving a reduction in our operating costs. The CDE shipping center received and processed Go-to-War materiel release orders (MROs) and sustainment MROs. In addition, the center prepared and shipped unserviceable chemical protective over-garments to a local recycling center. Blue Grass also executed a wide variety of ammunition maintenance projects, including three major projects for the Air Force. Maintenance projects included renovation of 105mm howitzer rounds and 120mm mortar rounds. BGAD installed wind corrected munition dispenser tail kits and refurbished Air Force ammunition. BGAD demilitarized ammunition and explosives and began accepting new missions affiliated with BRAC.

Tooele Army Depot teamed with General Atomics, the Defense Ammunition Center, the United States Air Force and the Joint Munitions Command to build, install and test a Hydrolysis Prototype Production Plant (HPPP). The plant is utilized to dispose of Cartridge Actuated Devices (CAD) and Propellant Actuated Devices (PAD) utilizing Sodium Hydroxide to dissolve aluminum casings and neutralize the explosives. The Hydrolysis plant has been under going a through testing.

The Defense Ammunition Center (DAC) continued supporting OEF/OIF with QASAS deployments to the field. DAC continued its work on the Automated Tactical Ammunition Classification System (ATACS), which sorts and inspects small arms ammunition by size and for defect. During this time period, DAC continued to make modifications and improvements to this vital technology that does the work of approximately 30 Warfighters, freeing them up for mission critical operations. The first ATACS was deployed to Camp Arifjan, Kuwait, in support of OIF and OEF in FY04 and a second ATACS was deployed to Fort Irwin, California in FY06 to be utilized in the inspection and separation of small arms ammunition (SAA).

An urgent issue for FY06 was the supply and re-supply of aircraft countermeasure flares in South West Asia (SWA). Despite inventory and production shortages, JMC has managed to maintain a sufficient supply of flares to the field. Another critical issue involved pen flares,

which are used as escalation of force rounds in protecting military convoys. Pen flares were pulled from CONUS depots and shipped to SWA. The JMC Flare team, in conjunction with PM CCS counterparts, received the Federal Executive Board of Northern New Jersey Acquisition Award and was nominated for the David Packard Award for Acquisition Excellence for their efforts in solving the shortages.

After ongoing challenges with the M67 fragmentation grenade in past years, JMC decided the M67 would be executed as a system buy with three option years. A contract was awarded in June 2006 with first delivery expected in October 2007. A gap contract was planned for the M228 fuze component. The award is planned for FY07 to provide for deliveries that cannot be placed on existing contracts. M18 and M83 major components will be provided as government furnished material beginning with FY07 orders. This material was previously plant procured material.

Ammunition Maintenance & Demilitarization

In FY 2006, the Army ammunition maintenance requirement totaled \$33.1M (OMA and PA plans); of which \$14.1M was funded. Ammunition maintenance mission received \$4.8M OMA funding which was insufficient to fulfill the critical (priority 1 & 2) requirements of \$10.3M. There was \$9.5M in unfunded priority 3 & 4 requirements. This is the third year of under funded maintenance requirements. Lack of funding has come at a time when the Army's stockpiles are severely depleted and many ammunition items are in very short supply. With the funding received, ammunition maintenance funded 5.56MM CTG Dummy, 105mm SMK, 105mm ILLUM, 81mm SMK RP, Flare ACFT Countermeasure M206, Simulator Target Hit XM25, 155mm Projectile SMK WP, 155mm Projectile HE SADARM M898, Hand Grenade SMK, M6 Blasting Cap, and Ammunition Peculiar Equipment (APE) Rebuild. The unfunded OMA requirements were added to the FY 2007 program.

JMC demilitarize and performed maintenance on ammunition with a budget of \$80M. As storage space becomes more critical as infrastructure is being reduced by Base Realignment and Closure (BRAC) actions, the Ammunition Enterprise is focusing on what new technologies/methodologies can be applied to demilitarization to address the issue.

The JMC Demolition/Mines Team's prominent issues were supplying demolition charges and materials to SWA to destroy captured ammunition and Improvised Explosive Devices (IEDs), and control and demilitarization of persistent landmines in accordance with President Bush's landmine policy.

Program Executive Office - Ammunition (PEO-Ammo) Summary

In order to document the PEO Ammunition annual activities their annual historical summary is included at the end of Volume II. The PEO Ammo is headquartered at Picatinny Arsenal in Dover, NJ and is led by Brigadier General Paul S. Izzo. The PEO Ammo has program and fiscal responsibility for nearly 300 Army programs, comprised of all Research Development Acquisition (RDA) funding lines, Procurement Ammunition Army, Other Procurement Army, Weapon Track Combat Vehicles and Research Development Test and

Evaluation (PAA, OPA, WTCV and RDT&E) with an average per annum funding stream of approximately \$2.6B. In addition, PEO Ammunition managed 230 FY06 orders for other Service ammunition valued at \$1.2B. The PEO Ammunition organization is comprised of the Program Managers for several battlefield Operating Systems (BOS) (Ammunition, Fire Support, Maneuver and Mobility) and two Program Executive Group (PEG) (Equipping and Sustaining) structures.

The PEO Ammunition reports that modern and enhanced war reserve ammunition items are essential to the success of Army maneuver forces. The Army continues to have a critical shortfall in preferred munitions, which could not be addressed with the existing total PAA obligation authority. Therefore, the U.S. Forces often rely on substitute munitions that have lower lethality and accuracy to meet current requirements. The stockpile of substitute munitions is aging, being depleted, and will require an upgrade or replacement over the next few years. The Army funds a modest program of such modern items, however, continues to have a critical shortfall in war reserve ammunition.

PEO Ammo reports that demilitarization funding is significantly short of requirements and the stockpile continues to grow. In accordance with the Program Manager Demil Strategic Plan, which seeks funding to meet an annual six percent stockpile reduction goal, the combined ammunition/missile demilitarization annual shortfall is approximately \$90M.

The Army is committed to improving the utilization and efficiency of the Defense Industrial Base. Looking forward, the FY 2008 Presidential Budget (PB) funding supports production base modernization improvements at Radford, Holston and Lake City Army Ammunition Plants (AAPs), where capabilities exist to support all the U.S. Services' requirements. Furthermore this funding supports Government Owned, Contractor Operated (GOCO) AAPs and critical machine tooling for the private sector. Facility sizing issues are expected to become further complicated by the anticipated drop in ammunition requirements being projected over the POM. Appropriate sizing of the government owned munitions production base is critical to ensure affordable munitions availability for the war fighter.

Conclusion

JMC proved its flexibility and proficiency as it transformed for the future in FY 2006. JMC closed out the year preparing for the final separation from the AFSC. The commands worked together in the last half of FY 2006 to ensure all support to the field and ammunition missions were conducted seamlessly. JMC prepared to implement its path forward as an independent command by utilizing LSS business transformation initiatives. The ammunition installations and depots worked continuously to support wartime requirements while JMC LARs deployed to SWA to address ammunition issues in theater. The ammunition plants and depots met increased workload as the command prepared to close four BRAC installations. Command leadership continued to broaden the Ammunition Enterprise working relationship with ARDEC and PEO Ammunition in preparation for working under a future life cycle management organization.