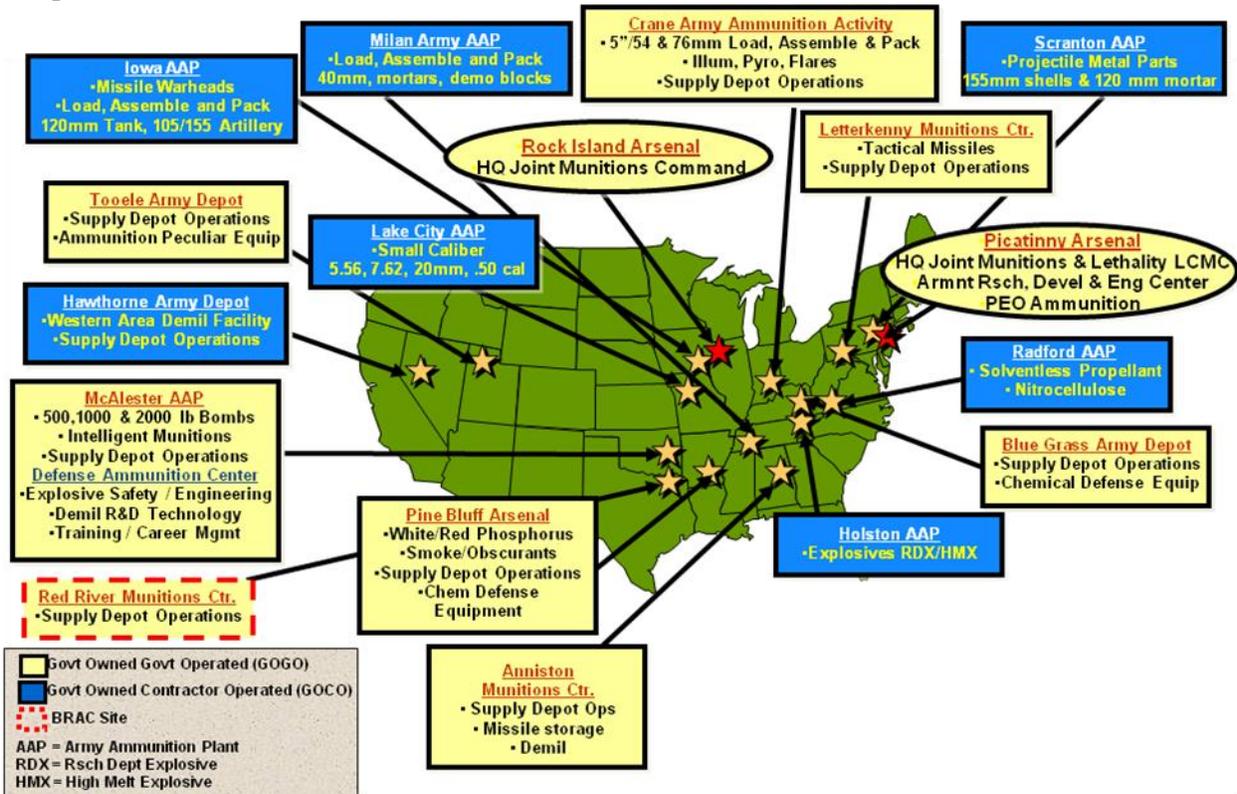


**THE U.S. ARMY JOINT MUNITIONS AND LETHALITY
LIFE CYCLE MANAGEMENT COMMAND
FY 2009 ANNUAL COMMAND HISTORY - EXECUTIVE SUMMARY**

JOINT MUNITIONS AND LETHALITY LIFE CYCLE MANAGEMENT COMMAND

The Joint Munitions and Lethality Life Cycle Management Command (JM&L LCMC) mission is to develop, acquire, field, and sustain value-added ammunition for the joint Warfighter through the integration of effective and timely acquisition, logistics, and cutting-edge technology. The mission core competencies include: research, development, and engineering; acquisition and program management; logistics management; industrial operations; contracting; serving as the Single Manager for Conventional Ammunition (SMCA) Executor and Field Operating Activity; conducting industrial base management; providing real time munitions readiness reporting; maintaining worldwide asset visibility; centralized ammunition management; performing demilitarization and disposal of unserviceable stocks; and providing integrated lethality solutions.

The JM&L LCMC aligns three organizations that execute the Army's munitions and lethality mission: the Program Executive Office for Ammunition (PEO Ammo) at Picatinny Arsenal, Dover, N.J., the Armament Research, Development, and Engineering Center (ARDEC) also located at Picatinny and the Joint Munitions Command (JMC) headquartered at Rock Island Arsenal, Rock Island, Ill. In FY09, JM&L LCMC leaders strengthened working relationships between ARDEC's science and technology workforce, PEO Ammo's acquisition professionals and JMC's logistics and sustainment experts. This annual command history contains full reports from each of the Ammunition Enterprise partners. To institute enterprise goals the commands worked jointly to establish a strategic path forward. Below is a depiction of the JM&L LCMC footprint.



JM&L LCMC Leadership

Brigadier General William N. Phillips commanded the Joint Munitions Lethality Life Cycle Management Command and Program Executive Office for Ammunition through February 2009. Upon relinquishment of command, Joint Munitions Command Commander, Brigadier General Larry Wyche assumed command of the JM&L LCMC. Mr. James Sutton relinquished command of PEO Ammo to Brigadier General Jonathon Maddux in September 2009.



Jan 07 - Feb 09
Brigadier General William N. Phillips
Commanding General, Joint Munitions and Lethality
Life Cycle Management Command;
Program Executive Officer for Ammunition



Feb 09 - Present
Brigadier General Larry D. Wyche
Commanding General, Joint Munitions and Lethality
Life Cycle Management Command
1 Aug 08 - Present
Joint Munitions Command Commanding General
(Dual hatted as JM&L LCMC and JMC CG beginning in Feb 09)



Mr. James C. Sutton
Director/Deputy, Program Executive
Office for Ammunition



18 Sep 09 - Present
Brigadier General Jonathon Maddux
Program Executive Officer for
Ammunition



Dr. Joseph A. Lannon
Director, Armament Research
Development and Engineering
Center

Accomplishments

During FY09, the JM&L LCMC executed an annual budget of approximately \$6 billion on Research, Development, Test and Evaluation (RDTE), Production, Operations, and Sustainment missions. The JM&L LCMC employed over 10,000 government personnel and 8000 contractors. Fielding ammunition in support of Operation Enduring Freedom and Operation Iraqi Freedom (OEF/OIF) continued to be most crucial. Intense ammunition management allowed JM&L LCMC to meet 100% of ammunition requirements throughout FY09.

The JM&L LCMC processed 39K Material Requisition Orders (MROs) and shipped 325K tons of ammunition to support CONOPS, Mobilization (MOB) Training, Foreign Military Sales (FMS), Base Realignment and Closure (BRAC) and the Integrated Logistics Strategy (ILS). By the end of FY09, the command supported OEF/OIF with approximately containers of ammunition. Since 2002, the current ammunition stockpile readiness status has improved from 30 of 42 ammunition families being reported in a red/black (not ready) status to 44 of 44 families now rated as green or amber (ready) status. Customer deliveries are at 99.7% for regular training, and at 100% for mobilization training.

Requirements to support the Afghanistan surge caused temporary shortages for nine items in theater. The shortages were filled with depot stocks and shipped to theater by December 2008. The command obligated \$7M to position ammunition to improve contingency out load capability in support of OEF/OIF. In addition, \$45M was obligated to 35 repositioning and rewarehousing projects, which saved \$75M by avoiding new construction and generated 300K additional square feet of storage space. PEO Ammo managed FY09 orders for other service ammunition valued at \$1.4B and Foreign Military Sales (FMS) orders with a value of \$492M.

In support of urgent Warfighter requirements the JM&L LCMC executed urgent materiel release and shipments for the: AN/VSQ-6 Vehicle Optics Sensor System; Self Protection Adaptive Roller Kit, Full Width and Track-Width System; Spider network munitions; M211/M212 Countermeasure Decoy/Flares; Brigade Combat Team Non-Lethal Capabilities Sets; Rhino IED Defeat System v2.6; XM1066 155mm IR Illumination Projectile; XM19 Abrams Reactive Armor Tiles; XM33 Bradley Reactive Armor Side Skirts and Cartridge .300 Winchester Magnum, Mk248 modified.

JM&L LCMC executed full materiel releases for the M1155A1 Enhanced Portable Inductive Artillery Fuze Setter; M100, Grenade, Rifle, Entry Munition and M101, Grenade, Rifle, Entry Munition Target Practice; M95/M96 Mortar Fire Control System-Heavy Version 4.1; M915, 105MM, Dual Purpose Improved Conventional Munition Cartridge; M150/M151 Mortar Fire Control System-Dismounted; M211/M212 Countermeasure Decoy/Flares; Close Combat Mission Capability Kit, Cartridges, Marking M1041, M1042 and M1071; M136A1 AT4 Confined Space Reduced Sensitivity Shoulder Launched Munition; M821A2, 81MM, High Explosive Mortar Cartridges; and M889A2, 81MM, High Explosive Mortar Cartridges.

ARDEC pushed nine items to full materiel release during FY09. ARDEC also arranged 17 urgent materiel releases, of which 12 received approvals in under 180 days.

In September 2008, JM&L LCMC established the Enterprise Integration Office at JMC to plan for and execute deployment of the Logistics Modernization Program in FY10. Throughout the FY, JM&L LCMC supported operational planning to realign Directorate of Logistics (DOL) ammunition supply from IMCOM to the AMC Material Core Enterprise. JMC led efforts on development of criteria on pilot efforts for transfer of base operations at certain installations to IMCOM.

HQs, JMC and several ammunition installations successfully executed Exercise Golden Cargo 2009. The Reserve Component transported approximately 8K tons in support of JMC's Integrated Logistics Strategy (ILS). JMC also supported USMC Javelin Thrust 2009 at Hawthorne Army Depot and an exercise associated with the Turbo Containerized Ammunition Distribution System.

The JM&L LCMC conducted a DoD Fuze Analysis Assessment of future fuze production demands, projected contractor revenue streams, and continued viability of critical fuze producers. OSD representatives, thirteen fuze engineers and program officers from each of the Services participated. The team assessment included critical analysis of funding requirements for each producer as well as an in-depth discussion of their competencies. The collaboration projected future health of the fuze base as well as what actions, if any, should be taken.

JMC supported the North Dakota National Guard's flood-fighting efforts during flooding on the Missouri and Red Rivers in North Dakota by providing urgent requirements of C4 and detonation cord. Tooele Army Depot delivered requirements within 18 hours in support of the National Guard.

Systems Fielded in Support of OEF/OIF

<i>Item</i>
Mortar Fire Control Systems
Lightweight Handheld Mortar Ballistic Computers
120mm Mortar Systems
81mm Mortar Systems
60mm Mortar Systems
Vehicle Optics Sensor System
Interrogation Arms
Husky Mounted Detection System
Self Protection Adaptive Roller Kit
Various Counter IEDD/PF equipment

Production and Deliveries

<i>Item</i>
Excalibur rounds shipped to theater
M789 30mm LW rounds airlifted into theater
Small Caliber rounds produced

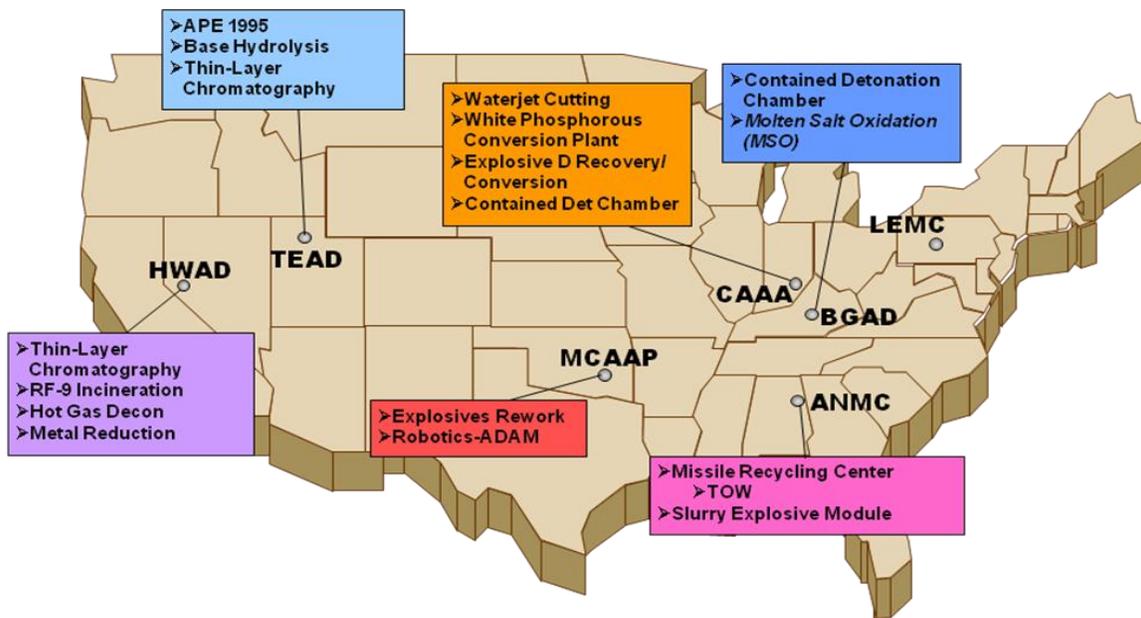
40mm rounds produced
Medium Caliber rounds
Large Caliber rounds
MK80 (500 lb, 1000lb, 2000 lb) series bombs
LBs of Explosives
AK-47 Ammunition ¹
Rounds of 18 Various types of Non-Standard Ammunition ²

Security Assistance - Foreign Military Sales

During FY09, the top ten FMS Countries included Afghanistan, Egypt, Australia, Kuwait, Iraq, Israel, Georgia, United Arab Emirates, United Kingdom, and Taiwan with an undelivered value of \$743M. The Security Assistance team developed 122 FMS cases valued at \$474M. New FMS tasks received grew by 12% in FY09.

Demilitarization

The Army’s goal is to reduce the demilitarization stockpile by 6% annually. Currently, the JM&L LCMC assesses POM funding as insufficient to properly reduce the demil stockpile. Throughout the FY, JM&L LCMC obligated \$102M in demilitarization funding, the third highest level of annual funding in the history of the conventional ammunition demilitarization program. The map below displays the existing JMC demilitarization capabilities and locations.



¹ Afghan security forces guarding forward operating bases in support of ONS from Combined Joint Special Operation Task Force – Afghanistan.

² Delivered to the Combined Security Transition Command - Afghanistan for fielding to the Afghan Security Forces.

Additional demilitarization capabilities exist across the US and emerging capabilities are being established or developed at each of these installations. In addition work continues on the Republic of Korea Demilitarization Facility (DEFAC) for MSO, SCWO and propellant to fertilizer conversion.³

Modernization

Ongoing modernization is essential to maintaining a viable ammunition industrial base to meet future requirements. Since 2003, JMC and PEO Ammunition have executed \$1B in funding for ammunition plant modernization projects. In 2009, JMC and PEO Ammo developed modernization strategies for all nine Government owned ammunition installations. In FY09, 34 new ammunition plant modernization projects were initiated. In conjunction with that strategy, JMC and PM Joint Services submitted over \$200M in infrastructure projects for funding consideration to Department of the Army (DA). IMCOM also submitted a list of Military Construction Army (MCA) projects totaling \$2.2B, which includes project proposals for JMC installations. One major project funded at \$100M at Radford AAP broke ground in FY09 to replace the 29 year old Nitric Acid Concentrator/Sulfuric Acid Concentrator (NAC/SAC) and Acid Area Tank Farm.

In June 2009, ARDEC opened its newly renovated Packaging Design and Prototype Laboratory at Picatinny Arsenal. The facility features a new drop tester which replicated munitions falling from trucks and trains, a loose-cargo vibration table, chambers testing packaging performance under extreme heat and cold, and a new leak tester.

JM&L LCMC directed Automatic Information Technology (AIT) initiatives across JMC to include: RFID interrogator infrastructure upgrades, implementation of the Joint 2D Bar code Label, sustainment of two critical Logistics automated systems (MTMS/MTMS-FM) and hand held scanner upgrades.

Continuous Improvement

JMC completed 93 Green Belt and Black Belt (GB/BB) projects in FY09. JMC certified 160 GB/BBs and exceeded the FY09 benefit goal by 208% (\$10.8M vs. \$22.5M). The command received 3 DA Master BB certifications and sustained its own training efforts by independently teaching 5 GB/BB classes. JMC is the only MSC within AMC that operates a truly self-sustaining LSS program. JMC achieved \$89.6M in validated Value Engineering total savings and cost avoidances.

³ Installation of Ammunition Peculiar Equipment (APE) at the joint US/Republic of Korea Demilitarization Facility (DEFAC) at Young-Sang, South Korea was completed in FY09. The DEFAC is a joint US/ROK project to reduce outdated conventional stockpile of US and ROK assets currently stored in South Korea, thereby freeing up ammunition storage igloos in South Korea.

Base Realignment and Closure (BRAC)

JM&L LCMC completed closure of Kansas AAP, Mississippi AAP and Lone Star AAP in accordance with BRAC 2005 law. The closure of these plants included movement and/or disposal of 17,600 tons of industrial stocks. JMC successfully moved the Sensor Fuzed Weapon (SFW) production line from Kansas AAP to McAlester AAP one year ahead of schedule allowing Kansas AAP to close early saving \$8M.

Safety

JMC is on track to exceed reduction goals of 25% in all safety related areas of total lost day case rate, total lost work day cases, total lost work days and total restricted days. In FY09 Crane AAA became the first installation to achieve Voluntary Protection Program (VPP) merit status and awaits star status.

DAC led the LCMC with continued OEF/OIF support with USATCES forward personnel in Iraq and in Afghanistan. DAC participated on Army Boards of Investigation of explosives accidents at Aberdeen Proving Ground and Radford Army Ammunition Plant. DAC led the Army by providing explosives safety expertise and briefings on ARCENT technical assistance visits to Jordan and Lebanon. DAC represented the Army and led explosives test projects in Australia. To improve safety in theater, DAC developed and presented the first Tactical Explosives Safety Workshops to deploying Army units.

Due to a fatality caused by a live round mixed with dummy ammunition (DDI), an IPT was established under PEO Ammo direction. JMC then led efforts to identify, retrieve and retrofit the DDI in the entire Army inventory.

Achieving Excellence

ARDEC was awarded four of the Top 10 Army's Greatest Inventions for the PD Cue-CROWS Lightning, the Light & Medium Machine Gun Cradle, the XM153 – CROWS and their design of the Overhead Cover for the Objective Gunner Protection Kit. ARDEC received numerous other 2009 awards to include the:

- Thomas Alva Edison Patent Award
- Army Large Research and Development Lab of the Year
- 9 Army Research & Development Achievement Awards
- National Federal Laboratory Consortium Award for Excellence in Technology Transfer
- Richard Goodman Strategic Planning Award
- Gold USD (AT&L) Workforce Development Award

JMC was awarded the 2008 Secretary of the Army (SecArmy) Award for Organizational Excellence in Manpower and Force Management and the SecArmy's Safety Army for Industrial Operations Safety. JMC's Mortar Fire Control Team was awarded the DoD Top Five Program Award. Crane AAA was awarded a DoD Valued Engineering award for their work and \$7M savings on the Decoy Flare Rework Project. Tooele AD received the 2009 SecArmy Energy and

Water Management Award (Small Group category for Water Conservation). Radford AAP received the National Safety Council Occupational Excellence Award. The Defense Ammunition Center received the Army Knowledge Management Award in the process category for Ammunition Community of Practice (CoP) for collaborative efforts between DAC, the Combined Arms Support Command, the Ordnance Munitions and Electronic Maintenance School, and the Defense Acquisition University.

Defense Ammunition Center (DAC)

The Defense Ammunition Center (DAC) holds a strong presence in support of OEF/OIF and deployed personnel with the best available expertise and training in the Quality Assurance Specialist, Ammunition Surveillance (QASAS), Ammunition Management, Explosives Safety, and other needed fields in FY09. DAC trained over 52K military and civilian personnel in ammunition related subjects for mandated certification and special skills development. DAC produced 20 Ammunition Peculiar Equipment (APE) End Items and Kits; 48 Ammunition Drawings; and United Nations Performance Oriented Packaging. DAC also fielded 1 Desert Optimized Equipment Suite to theater; 1 Spent Brass Sorter APE 1412 to Ft. Bragg and Supercritical Water Oxidation, Molten Salt Oxidation and APE conventional equipment to the Republic of Korea Demil Facility (DEFAC).

Crane Army Ammunition Activity (CAAA)

Crane Army Ammunition Activity (CAAA) shipped Material Release Orders (MROs) of various ammunition items in support of OEF/OIF. The diversity of production executed throughout the year is a testament to the flexibility and capacity of Crane. Major programs included the loading, assembly, and palletization of 5"/54 KE-ET projectiles, inspection of 5"/54 KE-ET projectiles, renovation of 5"/54 KE-ET projectiles, LAP of 5"/54 MK 186 (PBXN-9) press loaded projectiles, inspection and repackaging of casting powder, refusing of 76mm HE cartridges, the breakdown of the Sparrow warhead for NAVAIR, and the remark and inspection of Fire Bomb containers for NAVAIR, all for the Navy. Crane also produced illuminating candles in various configurations to support requirements. CAAA won both the FY08 Department of Defense Value Engineering Achievement Award and the Army Materiel Command Installation Award for its joint, Army-Navy work on the decoy flare rebuild project. Significant developments included the movement of equipment from Picatinny to CAAA to allow for production of M45A1 burster tubes, which are used in 155mm White Phosphorus rounds.

Holston Army Ammunition Plant (HSAAP)

For several years Holston Army Ammunition Plant (HSAAP) workload increased significantly in support of Air Force bomb fill requirements. In FY09, JMC executed a workload strategy to provide Holston a "soft landing" as a result a reduction in Air Force's dynamic bomb fill requirements which avoided layoffs of 65 contractor personnel. The LCMC awarded a new supply and facilities use contract for HSAAP with BAE Systems Ordnance System Incorporated (OSI). The contract awards a 25 year contract to manage the facility which is renegotiated at 5 year intervals.

Iowa Army Ammunition Plant (IAAAP)

Iowa Army Ammunition Plant (IAAAP) continued to meet Modular Artillery Charge System (MACS) production goals. Production of add-on armor kits with reactive armor tiles to support the Stryker vehicle was completed in early FY09. Limited production of Javelin K-Charge, Sidewinder, and Excalibur missile warheads continued as programmed. The 120mm M829A1 and M829A2 Depleted Uranium (DU) demilitarization operations continued as scheduled.

Lake City Army Ammunition Plant (LCAAP)

Lake City Army Ammunition Plant (LCAAP) continued in its role to produce the highest quality small arms ammunition to meet the critical combat needs of the Warfighter. The government extended the sole source, non-competitive, 4 year production contract to ATK in March 2009 at an estimated value of \$2B. The LCMC and LCAAP will team up in future years to compete a new contract.

McAlester Army Ammunition Plant (MCAAP)

McAlester Army Ammunition Plant (MCAAP) produced inert and live-loaded bombs, renovated rounds of various munitions, demilitarized items, melted out energetics, and recovered H-6 explosive and tritonal. Depot functions remained at a hectic pace with shipments in support of OEF/OIF. The plant prepared to receive Red River Munitions Center (RRMC) stocks being transferred due to BRAC law.

Milan Army Ammunition Plant (MLAAP)

Milan Army Ammunition Plant (MLAAP) production continued on 40mm, 60mm, and 81mm mortar components, Spider grenades, C4 extrusion, and ignition charges. FY09 was the first year of execution of the new Facility Use Contract that was awarded to American Ordnance (AO). Milan received final shipments of Improved Conventional Munitions (ICM), Multiple Launch Rocket System (MLRS), and M67 grenade equipment from Lone Star AAP in compliance with BRAC mandates. Production of 40mm was steady during the year, but declined 10% from FY08. Production of mixed-belt target practice rounds increased by 325%. Fuze and cartridge case receipts were the main cause for production slowdowns. American Ordnance has a third party contract with Lockheed Martin to load ATACMS warheads with grenades. All required units were delivered on time or ahead of schedule.

Radford Army Ammunition Plant (RFAAP)

Radford Army Ammunition Plant (RFAAP) continued to produce quality propellants, energetics, and munitions for our Nation. Radford AAP planned and executed key modernization projects valued at over \$288 million in FY09. Work began on the old Nitric Acid Concentrator/Sulfuric Acid Concentrator (NAC/SAC) and the Acid Area Tank Farm. Significant improvements were made to the reliability, environmental compliance, and efficiency of the

powerhouse to bring it up to standard to operate for the next decade. JM&L LCMC management led a team in preparation for the competition for the facility use contract at Radford.

Scranton Army Ammunition Plant (SCAAP)

Scranton Army Ammunition Plant (SCAAP) continued manufacture of large caliber ammunition metal parts. Operating contractor, General Dynamics Ordnance and Tactical Systems (GD-OTS) continued to invest a minimum of \$2M per year for a total investment of \$20M over 10 years for facilities and equipment upgrade and refurbishment.

Pine Bluff Arsenal (PBA)

Pine Bluff Arsenal (PBA) produces, stores, and demilitarizes conventional ammunition. PBA serves as the Group Technology Center for illuminating and infrared munitions, serves as the Specified Mission Facility for smoke munitions, and maintains the U. S. capability for white phosphorus fill. PBA supports the storage and destruction of the second largest stateside chemical weapons stockpile and is the Joint Services' Center of Expertise for Chemical-Biological Defensive Equipment. PBA planned \$90M in major construction for FY10. Through FY09, Pine Bluff produced grenades without a failure. A study was conducted which named Pine Bluff Arsenal as "Best in Class" in Safety.

Blue Grass Army Depot (BGAD)

As new mission, Blue Grass Army Depot (BGAD) produced urgent requirements for mortar fins in FY09. The quantity filled production gaps of urgently needed 81mm Mortar High Explosive, and Full Range Practice Cartridges to support Army and Marines. During FY09, BGAD executed a wide variety of ammunition maintenance projects, including two major projects for the Air Force. BGAD demilitarized ammunition and explosives during FY09. BGAD also completed numerous fabrication projects in coordination with ARDEC, TACOM and other Army entities for HMMWVs, MRAPS and other wheeled track vehicles. During FY09, BGAD shipped Chemical Defense Equipment (CDE) MROs in support of sustainment and contingency operations. BGAD deployed 15 personnel in support of OEF and OIF in 2009.

Hawthorne Army Depot (HWAD)

In October 2008, Secretary of the Army Pete Geren announced that Hawthorne AD was chosen as the site for a major geothermal project with the capability of producing 30 megawatts of clean power. Drilling of geothermal test holes has provided promising results with further drilling anticipated in FY10. This is one of several pilot projects initiated by the Senior Energy Council, established by Secretary of the Army, which will focus on Army energy policy, programs, and funding to leverage the Army's nationwide energy-conservation efforts. In addition, the depot completed demil and renovation for various items. Hawthorne continued to provide a high desert training environment to train units for deployment in support of the Global War on Terrorism (GWOT).

Tooele Army Depot (TEAD)

Tooele Army Depot (TEAD) received a state operating permit for its Base Hydrolysis Demil Facility which allowed demilitarization of Cartridge Activated Devices & Propellant Activated Devices (CAD/PADs) to free up critical storage space. Despite a very lean year for depot workload, TEAD ended FY09 \$16.2M in excess of plan in new orders, \$4.9M in excess of plan in revenue, \$1.3M less than planned in depot expenses, and was better than planned for depot Net Operating Results (NOR) by \$6.3M. Tooele continued its safety record and worked 575 consecutive days and more than 1.5M direct labor hours (DLH) without a lost day accident in FY09. Tooele shipped and issued ammunition while completing numerous renovation and demilitarization projects.

Letterkenny Munitions Center (LEMC)

Letterkenny Munition Center (LEMC) issued and received ammunition and performed maintenance missiles and other ammunition items. Of significance beyond typical mission, LEMC became the official Organic Maintenance Depot for the repair of the GMLRS missile system.

Red River Munitions Center (RRMC)

Red River Munitions Center (RRMC) stored ammunition for the various branches of service during FY09 and demilitarized missiles and munitions. RRMC team members trained one Ordnance Army Reserve Unit deploying to Iraq. The plan comprised of training in surveillance and inspection operations, shipping, receiving, storage, rewarehousing lot segregation, and palletizing. RRMC efforts focused on transitioning towards closure in FY11.

SUMMARY

As the Nation continued to support contingency operations in Iraq and Afghanistan the JM&L LCMC enterprise improved the life cycle process to provide lethal, cost effective and reliable munitions to all Services and Warfighters now and for the future. Ammunition leaders embraced the LCMC implementation and continued emphasis on continuous improvement for the future of munitions using tools like Lean Six Sigma and the Strategic Analysis and Execution matrix. Modernization of processes and facilities began at critical single point failure production sites like Radford and Lake City AAP. The JM&L LCMC addressed funding shortfalls for conventional ammunition products, industrial base, modernization, demilitarization and manpower as it planned future budget POMs. JMC ammunition installations and depots provided constant support to production, maintenance, shipping, and receiving operations in support of current operations. Many employees from the organizations deployed to support and solve ammunition issues in the field. ARDEC continued its path of excellence as it improved and invented munitions and armaments relevant for current and future operations. Each JM&L LCMC organization describes challenges and accomplishments individually within the body of this report.