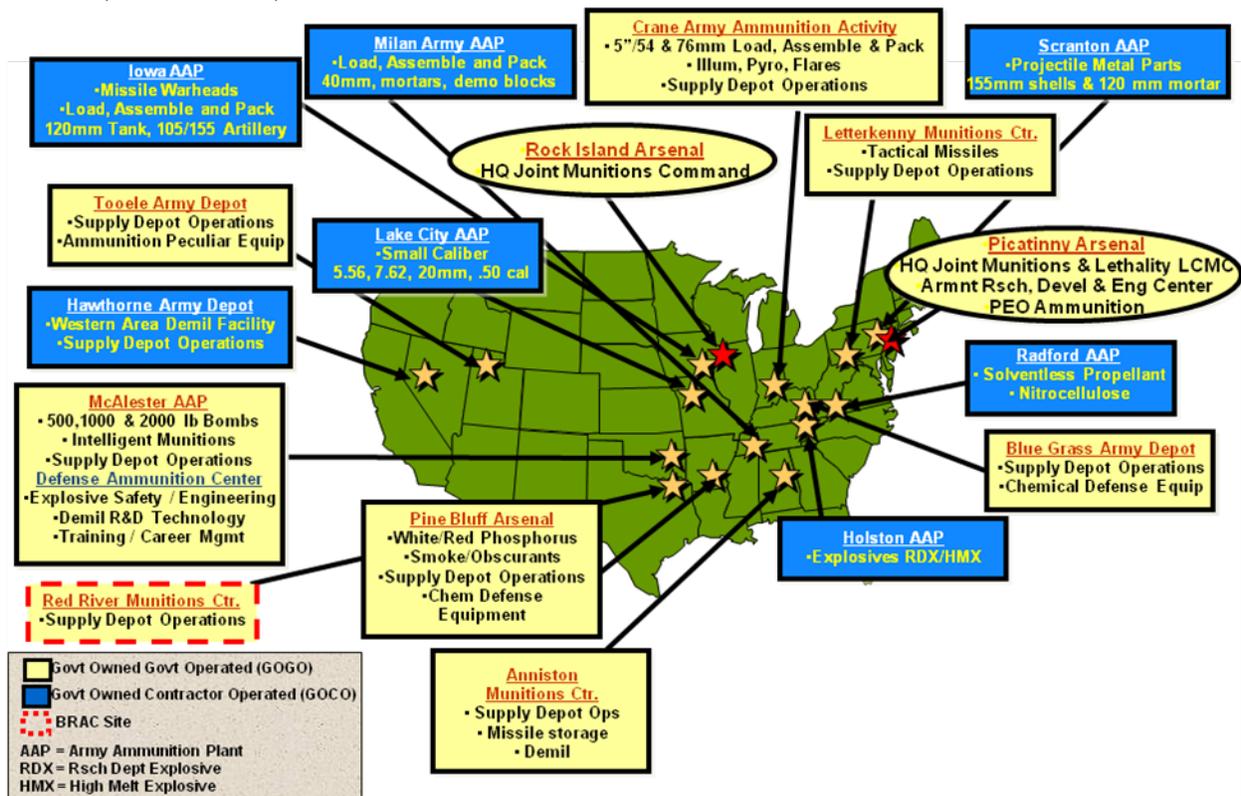


# THE U.S. ARMY JOINT MUNITIONS AND LETHALITY LIFE CYCLE MANAGEMENT COMMAND FY 2010 ANNUAL COMMAND HISTORY - EXECUTIVE SUMMARY

The Joint Munitions and Lethality Life Cycle Management Command (JM&L LCMC) mission is to develop, acquire, field, and sustain 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 is responsible for conventional ammunition valued at over \$34 billion.

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.



## ***JM&L LCMC Leadership***

Brigadier General Larry Wyche commanded the JM&L LCMC from February 2009 to 30 July 2010. Mr. Jyuji Hewitt, Senior Executive Service member and Deputy to the Commanding General, HQ Joint Munitions Command, accepted assignment as Acting Director of the JM&L LCMC and JMC through the end of FY10. Mr. James Sutton relinquished command of PEO Ammo to Brigadier General Jonathon Maddux in September 2009. BG Maddux commanded the PEO Ammo throughout FY10. Dr. Joseph Lannon relinquished command of ARDEC to Dr. Gerardo Melendez on 2 July 2010.



Brigadier General Larry D. Wyche  
Commanding General, Joint Munitions and Lethality  
Life Cycle Management Command - Feb 09 – 30 July 2010

Joint Munitions Command Commanding General  
1 Aug 08 – 30 July 2010  
(Dual hatted as JM&L LCMC and JMC CG beginning in Feb 09)



Senior Executive Service Member, Mr. Jyuji D. Hewitt  
Acting Director, Joint Munitions and Lethality  
Life Cycle Management Command; Joint Munitions  
Command  
30 July 2010 – 16 Nov 2010



Brigadier General Jonathon A. Maddux  
Program Executive Officer for  
Ammunition  
18 Sept 09 - Present



Dr. Joseph A. Lannon  
Director, Armament Research  
Development and Engineering Center  
4 Sept 2005 – 2 July 2010



Dr. Gerardo J. Melendez  
Director, Armament Research  
Development and Engineering Center  
2 July 2010 - Present

## *Accomplishments*

During FY10, 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 as most critical throughout the year. The JM&L LCMC continued to support the Warfighter while focusing on the retrograde from theater, aligning funding priorities with Department of Army (DA) imperatives and Army Force Generation (ARFORGEN). Customers included all U.S. military services, foreign governments and federal, state, and local law enforcement agencies. By the close of FY10, the command had supported operations with 305,055 short tons equaling 27,000 containers over the course of the wars. The current readiness status has maintained 44 of 44 ammunition families rated as green or amber. In FY10, JMC continued its successful customer on-time delivery, reporting 99.7% for regular training and 100% for mobilization training.

JM&L LCMC supported the responsible draw down of ammunition and personnel in Iraq. PEO Ammunition established a liaison officer in theater. JMC Quality Assurance Specialists (Ammunition Surveillance) (QASAS) and Logistics Assistance Representatives (LARs) provided oversight to ammunition operations including inspections of all kinds, demilitarization and transportation oversight. They monitored turn-ins assuring only inert certified material was released from the ammunition storage areas. They conducted active reviews of Ammunition Stockpile Reports assuring ammunition has been suspended or restricted accurately. QASAS/LARs continued to serve as the honest brokers in assisting with closures of ammunition sites. The JMC team in Iraq recaptured and reused packing material reducing the time consuming and expensive demand on the supply system to deliver new packing materials. The LCMC stood ready to complete the ammunition mission and provide drawdown support in the final phase of OIF.

JMC deployed and maintained ammunition management staff to assist the AMC Responsible Reset Task Force (R2TF) in CONUS and Southwest Asia (SWA). JMC managed cumulative movement of munitions out of Iraq, while maintaining the required surge in Afghanistan. JMC's goal was to prioritize the movement of ammunition out of Iraq in a safe and directed order in conjunction with the phased drawdown of U.S. Forces. Ammunition tonnage was reduced in the Iraq theater. Disposition of the munitions has been accomplished by cross-leveling to Afghanistan, offering as Foreign Military Sales (FMS), demilitarization, or transport to Kuwait for reset and follow on retrograde to CONUS. The remainder of ammunition stock in theater will be reduced to support the six Advisory and Assist Brigades (AABs). In addition to the current manpower, JMC provided an Inventory Team in the Spring to assist the 1st Theater Sustainment Command (TSC) in Kuwait to inspect, classify, and repackage a backlog of returned munitions in the Theater Ammunition Reclamation Facility (TARF).

In support of urgent Warfighter requirements, the JM&L LCMC executed urgent materiel release and shipments for the: Self Protection Adaptive Roller Kit (SPARK) OEF System, SPARK Width OND System, Bloodhound IED (Improvised Explosive Device) Defeat System, Cyclone Debris Blower IED Defeat OND (Operation New Dawn) and OEF Systems, Ground Torch IED Defeat OND System, Rhino IED Defeat System v2.6, Sherlock Trace Explosives

Detector OEF Device, Husky Mounted Detection System, 40mm M992 Infrared Illumination Cartridge for 101<sup>st</sup> Airborne Division and the 155mm M1066 Infrared Illumination projectile.

JM&L LCMC executed full materiel releases for the 40mm M992 Infrared Illumination cartridge, M326 Mortar Quick Stowage System, and Mortar Fire Control System Software v 5.0.

*Systems Fielded in Support of OIF/OEF*

<i>Item</i>
M855A1 Enhanced Performance Round (EPR)
M95/M96 Mortar Fire Control System - Mounted
M150/M151 Mortar Fire Control System - Dismounted
M32 Lightweight Handheld Mortar Ballistic Computers
M120/M121 120mm Mortar Systems
M252 81mm Mortar Systems
M224 60mm Mortar Systems
M326 Mortar Storage Kits
Vehicle Optics Sensor System (VOSS)
Interrogation Arms
SPARK Kits
Excalibur projectile containers with Remote Readiness Asset Prognostic & Diagnostic (RRAPDS) health monitoring tags

Enhanced Entry Control Point (ECP) equipment and a new family of DDI (Dummy, Drilled, Inert) small caliber ammunition was also fielded in support of the wars.

*Production and Deliveries*

<i>Item</i>
Excalibur 1a-1 Rounds shipped to theater
Small Caliber Rounds produced
40mm Rounds produced
Medium Caliber Rounds
Large Caliber Rounds
MK80 (500lb, 1000lb, 2000lb) Series Bombs
BLU-109 2,000lb Penetrator Bombs
Mortar Rounds (60,81,120mm)
Artillery Rounds (75,105, 155mm)
Fuzes
Various Rounds of Non-Standard Ammunition (NSA)
Anti-Personnel Obstacle Breaching Systems (APOBS)
Spider XM7 Systems
M18A1 Claymore Mines
M81 Igniter Time Fuze and Shock Tubes
M700 Time Blast Fuzes

M980 Charge Demo Sheets
M14 NE Delay Blast Caps
M21 Blast Cap NE In-line Initiator 500ft MT
M23 Blasting Cap NE w/ 100ft Shock Tube Inert
M2A4 15LB Shaped Demo Charge
40lb Cratering Charge
M118 Demo Charge Black Petn 2lb
MK75 Ctg. Demo Kit Tubular
M136A1 AT4 CS-RS 84mm Launchers and Cartridges
M141 BDM 83mm Rockets and Launchers

### *Security Assistance - Foreign Military Sales (FMS)*

The total number of FMS cases increased by 9% with a total value growth of \$392M in FY10. At the end of FY10, 323 open cases with 52 countries with a value totaling \$3.0B were managed by JMC. The significance of the FMS program is evident when looking at total program (conventional standard ammunition and non-standard ammunition (NSA)) value: \$1,877.1M. During FY10, the top ten FMS countries included Afghanistan, Egypt, Australia, Kuwait, Iraq, Israel, Georgia, United Arab Emirates, United Kingdom, and Taiwan.

### *Demilitarization*

The Army's goal is to reduce the demilitarization stockpile by 6% annually. The stockpile was measured at 602,070 tons for the year. Throughout the FY, JM&L LCMC obligated \$122.9M in demilitarization funding.

### *Modernization*

During FY10, the command continued execution of approximately \$169M in Production Based Support (PBS) ammunition modernization projects. This initiated 24 critical modernization projects across 6 government-owned, contractor-operated (GOCO) plants. Principal achievements included the production of Research and Development Explosive/High Melt Explosive (RDX/HMX) at Holston Army Ammunition Plant (AAP); Small Caliber Modernization at Lake City AAP; 155mm, 105mm, 120mm Mortar, and 5-Inch Navy Projectiles at Scranton AAP; and production of missile warheads at Iowa AAP.

During a visit to Lake City Army Ammunition Plant in July 2010, General Peter W. Chiarelli, Vice Chief of Staff of the Army (VCSA), expressed concerns with deteriorating facilities and the quality of work environment (QWE) for employees. As a result, JMC and PEO Ammo coordinated with the Army Materiel Command (AMC) to identify QWE improvements, as well as infrastructure modernization projects and initiatives for sustainment and restoration of facilities and equipment across the industrial base. The team collected and prioritized requirements from all the government-owned, government operated (GOGO) ammunition installations and Hawthorne Army Depot. The GOGO initiatives totaled 268 projects/proposals with an estimated cost of over \$819M and highlighted the underfunding of the Military Construction, Army (MCA) program and lack of other direct capital investment resources that

historically has been available to the GOGOs. The team planned to collect further data and study the QWE issue in FY11.

### *Continuous Improvement*

JM&L LCMC achieved \$92M in validated Lean Six Sigma (LSS) cost avoidance. The command achieved \$20M in validated Value Engineering cost avoidance. Over the FY, 100 green belt and 11 black belt projects were completed. In addition, 55 non-gated projects were also completed.

### *Significant Events*

Logistics Modernization Program (LMP) deployment occurred on 21 October 2010. LMP transforms logistics operations in six core processes: order fulfillment, demand and supply planning, procurement, asset management, material management, and financial management. LMP replaced the two AMC materiel management systems, the Commodity Command Standard System (CCSS) at the headquarters, and Standard Depot System (SDS) at the plants. These systems had been in operation for more than 30 years. Data was tested and migrated from legacy systems to LMP. The Ammo Solution functionality was identified, developed and converted to change requests for system application.

The Industrial Base Assessment Tool (IBAT) capabilities expanded with the addition of a dashboard feature, which summarizes information contained in its database and provides leadership with high-level status indicators at a glance. This capability will enhance user access to industrial base data for improved decision support to leadership. IBAT was used extensively in FY10 to assess production base viability because of projected downturns in ammunition requirements. Industrial planners used this information to plan on workload decreases for our ammunition producers, and to retain critical capabilities for current and future requirements.

JMC and several ammunition installations successfully executed Exercise Golden Cargo 2010. The Reserve Component transported approximately ammunition in support of the Integrated Logistics Strategy (ILS). Units logged a total of 27,544 miles, moving 6,123 tons of Class V. The exercise resulted in a \$1M transportation savings. JMC also supported United States Marine Corps (USMC) Javelin Thrust at Hawthorne Army Depot and an exercise associated with the Turbo Containerized Ammunition Distribution System (CADS).

During FY10, JMC supported the humanitarian efforts in Haiti. The 2010 Haiti earthquake was a magnitude 7.0 earthquake, with an epicenter near the town of Léogâne, approximately 16 miles west of Haiti's capital, Port-au-Prince. The earthquake occurred on 12 January and JMC received emergency requisitions on 14 January with an RDD (Required Delivery Date) of 16 January. Items shipped include: Cartridge (CTG) 12 gage; 40mm nonlethal crowd dispersal; 40mm tactical, hand grenade nonlethal; 40mm Illum Grenade, hand, riot hand grenade Riot CS (Chemical Substance) M7 series; Munitions, crowd control, modular, nonlethal; and signal Illum. JMC received a call from Ft. Lee as one unit deployed for relief efforts. They requested our assistance with To Accompany Troops (TAT) ammunition, although the exact number of Soldier or weapons being deployed was unknown. On 21 January, JMC supported

further requisitions for non-lethal ammunition to support units from Ft. Eustis and Ft. Polk. On 25 January, JMC processed additional munitions requirements for airlift operations for staging at Guantanamo Bay. In addition to supporting Class V requisitions, JMC worked with Logistics Support Activity's (LOGSA) Army Intermodal Distribution Platform Management Office (AIDPMO) and Anniston Munitions Center (ANMC) to ship flatracks to Haiti. ANMC prepped 50 each flatracks for shipment to Jacksonville, FL and onward movement to Haiti. Flatracks were used as platforms to position supplies in country.

ARDEC was awarded three of the Top 10 Army's Greatest Inventions for the M320 40mm Grenade Launcher, 40mm Pivoting Coupling and the Objective Weapon Elevation Kit. ARDEC received numerous other awards to include the Federal Laboratory Consortium Award for Technology Transfer; U.S. Army Superior Unit Award for 2007; Top Five Department of Defense Program Award for 120mm Dismounted Mortar Fire Control System Development; 8 Army Research and Development Achievement Awards and the National Federal Laboratory Consortium Award for Excellence in Technology Transfer. ARDEC was also recognized by Time magazine for the XM25 Combat Rifle as a Top 50 Best Invention of 2009.

PEO Ammo and ARDEC received the Army Research and Development Achievement Awards for insensitive munitions (IM), IMX-101 and IMX-104. PEO Ammo received the DOD Outstanding Achievement through Value Engineering for 40mm mixed belt ammunition.

JMC was awarded the Assistant Secretary of the Army Outstanding Resource Management Organization Award. JMC received the Best Subordinate Level Organizational Deployment of Lean Six Sigma Award. JMC also received the DA Division Level Award for Excellence in Explosive Safety. Blue Grass Army Depot received the DA Small Fire Department of the Year Award. Pine Bluff Arsenal received the DoD Garrison Level Industrial Operations Safety Award. Tooele Army Depot received the AMC Force Protection-Small Unit Award.

#### *Defense Ammunition Center (DAC)*

The Defense Ammunition Center held a strong presence in support of OEF/OIF and deployed personnel with the best available expertise and training in the QASAS, Ammunition Management, Explosives Safety, and other needed fields. DAC trained 275 students in support of LMP deployment. DAC trained over 65K military and civilian personnel in ammunition-related subjects for mandated certification and special skills development. DAC achieved International Organization for Standardization (ISO) 9001:2008 certification in October 2009.

#### *Crane Army Ammunition Activity (CAAA)*

Crane Army Ammunition Activity earned the Star Status designation in the Occupational Safety and Health Administration's (OSHA) Voluntary Protection Program (VPP) and was the first JMC organization to earn this recognition. CAAA also reached the safety milestone of more than 2.5 million hours worked without a lost workday accident in FY10. CAAA shipped Materiel Release Orders (MROs) of various ammunition items in support of OEF/OIF.

### *Holston Army Ammunition Plant (HSAAP)*

Holston Army Ammunition Plant meets our nation's energetic needs. Holston plays a key role as the provider of explosives for almost all conventional munitions for the military services, and NATO forces. Holston produced explosives and related products in FY10. HSAAP was selected as the FY10 runner up for the Secretary of the Army Environmental Award in Environmental Quality. HSAAP implemented many controls to reduce impacts from its mission work, including replacing its coal-fire steam plant to comply with new NESHAP regulations, developing a program with stakeholders to reduce trace amounts of RDX in its wastewater by 90%, and incorporating environmental incentives into key modernization initiatives to ensure future sustainability. Insensitive Munition (IM), IMX-101, developed at Holston, was selected by Time Magazine as one of the top 50 inventions of 2010.

### *Iowa Army Ammunition Plant (IAAAP)*

Iowa Army Ammunition Plant completed Modular Artillery Charge System (MACS) M232A1 production goals in December 2010. Limited production of Javelin K-Charge, Sidewinder, and XM982 Excalibur missile warheads continued as programmed. All base Realignment and Closure (BRAC) actions were completed on time, including the transfer of the lead azide stockpile from Lone Star AAP to IAAAP.

### *Lake City Army Ammunition Plant (LCAAP)*

Lake City Army Ammunition Plant continued in its role to produce the highest quality small arms ammunition to meet the critical combat needs of the Warfighter. During FY09, LCAAP government staff accepted small arms ammunition from prime contractor, Alliance Technical (ATK), to include 20mm ammunition. ATK produced this ammunition on schedule while executing the two major initiatives of modernization and development and production of the Enhanced Performance Round (EPR). The government began preparation for a full and open bid competition for LCAAP production and facilities contracts in 2012.

### *McAlester Army Ammunition Plant (MCAAP)*

McAlester Army Ammunition Plant 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 active. MCAAP began loading a wide variety of bombs with the new insensitive munitions. MCAAP started renovation of Anti Personnel Obstacle Breaching Systems (APOBS) in July 2010.

### *Milan Army Ammunition Plant (MLAAP)*

Milan Army Ammunition Plant production continued on 40mm rounds; 60 and 81mm mortar components; Spider grenades; C4 extrusion; and ignition charges in FY10. Production of 40mm was steady during the year, but declined 11% from FY09. M112 demolition chargers were produced on the newly upgraded production line. Production of propelling charges decreased 33% from last year due to a decline in requirements.

In October 2008, the Army awarded a contract to American Ordnance to operate Iowa and Milan AAPs. Part of American Ordnance's proposal, which was accepted by the government, is to optimize operations within the production capability and capacity presented by the combined Iowa-Milan complex. AO will focus its efforts at Milan on commercial storage and acquiring additional ARMS tenants. This will mean a significant reduction in production jobs at Milan as the production capabilities are transferred to Iowa AAP in upcoming years.

#### *Radford Army Ammunition Plant (RFAAP)*

Radford Army Ammunition Plant continued to produce quality propellants, energetics, and munitions for our Nation. RFAAP was awarded the AMC Award for Explosive Safety, Battalion Level. RFAAP was certified to the environmental ISO:14001 standard which signifies that RFAAP has developed a system capable of assuring environmental compliance. Two major challenges involved the facility competition and modernization program. The RFAAP Army staff teamed with JMC and other agencies to provide support for the on-going facility competition. Work was completed on the new Nitric Acid Concentrator/Sulfuric Acid Concentrator (NAC/SAC) and the Acid Area Tank Farm. A new drinking water plant was also completed. Work continued on significant modernization projects.

#### *Scranton Army Ammunition Plant (SCAAP)*

Scranton Army Ammunition Plant continued manufacture of large caliber ammunition metal parts. SCAAP trimmed its budget by 16%, while maintaining the ability to adequately perform required functions. SCAAP government personnel worked in excess of 13,000 hours without a reportable safety mishap.

#### *Riverbank Army Ammunition Plant (RBAAP)*

Riverbank Army Ammunition Plant was closed on 31 March 2010 due to Base Realignment and Closure initiatives. The BRAC-D lease with the Local Reuse Authority (LRA) began on 1 April 2010 to provide support to tenants. The operating contractor, Norris Industries (NI), supported BRAC equipment relocation and a holdback area. Relocation of the mission essential equipment to Rock Island Arsenal, into the Quad City Cartridge Case Facility, began in April 2010.

#### *Pine Bluff Arsenal (PBA)*

Pine Bluff Arsenal 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 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 successfully implemented an ISO 14001:2004 Environmental Management System (EMS). PBA planned \$90M in major construction for FY10.

### *Blue Grass Army Depot (BGAD)*

During FY10, Blue Grass Army Depot executed a variety of ammunition projects. BGAD demilitarized ammunition and explosives. BGAD continued numerous fabrication projects in coordination with ARDEC, TACOM and other Army entities for HMMWVs, MRAPS and other wheeled track vehicles. BGAD shipped Chemical Defense Equipment (CDE) MROs in support of sustainment and contingency operations. BGAD deployed personnel in support of OEF/OIF.

### *Hawthorne Army Depot (HWAD)*

The Hawthorne Army Depot operating contract expired 31 December 2009. Two continuations were approved extending the contract through 31 December 2010. As new mission, pilot shipments of elemental mercury began arriving at HWAD in August 2010. In FY10, Hawthorne shipped and received ammunition. 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 contingency operations.

### *Tooele Army Depot (TEAD)*

Tooele Army Depot was officially designated by the Secretary of the Army as a Center of Industrial and Technical Excellence (CITE) for Ammunition Peculiar Equipment (APE) Maintenance in March 2010. The first wind turbine at an Army installation was constructed and completed at the depot in June 2010. Tooele shipped and received ammunition, while completing numerous maintenance projects and demilitarizing ammunition.

### *Letterkenny Munitions Center (LEMC)*

Letterkenny Munitions Center issued and received ammunition. LEMC performed maintenance on missiles and other ammunition items. LEMC demilitarized ammunition and missile items.

### *Anniston Munitions Center (ANMC)*

Anniston Munitions Center continued missile recycling operations, successfully recycling TOW missiles. Construction of the Army's first DoD-owned Multiple Launch Rocket System demilitarization facility neared completion with construction to be completed in 2011. ANMC was awarded the Industrial Operations Battalion Sized Element Safety Award and the Secretary of the Army 2010 Army Industrial Operations Battalion Sized Element Safety Award. ANMC supported an urgent shipment of flat rack containers in support of Haiti relief operations.

### *Red River Munitions Center (RRMC)*

Red River Munitions Center stored approximately \$1B worth of ammunition for the various branches of service. As mission began to decrease IAW BRAC actions, RRMC shipped and received munitions. RRMC demilitarized various missiles and munitions. RRMC

transferred the missile mission to McAlester AAP and reassigned missile personnel to support conventional demil and storage operations throughout FY10.

### *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. The command successfully deployed LMP, working through specific solutions that addressed the ammunition mission. The JM&L LCMC addressed funding shortfalls for conventional ammunition products, industrial base, modernization, demilitarization and manpower as it planned future budget POMs. 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. Each JM&L LCMC organization describes challenges and accomplishments individually within the body of this report.