## JOINT MUNITIONS COMMAND HISTORY

## The Joint Munitions Command - A Concise History

Accumulating, storing and issuing supplies and equipment through Army Depots has been an integral part of the U.S. Army operations since its inception in 1775. In November 1775, Colonel Henry Knox selected Carlisle, Pennsylvania, as the site for the first Continental Army Depot Arsenal. Carlisle, along with approximately 27 other depots and arsenals, stored and maintained supplies for the Continental Army during the Revolutionary War. After the Revolutionary War the Army fell victim to dramatic cuts in military expenditures, reducing the number of supply depots. Thus, during the War of 1812, the Army experienced military reverses, in part, because of a lack of supplies.

By the Civil War, the Army applied the lessons of the War of 1812, and large, permanent depots in cities such as Boston, New York and Philadelphia, supported the Nation's first Army of one million soldiers. Many of the Army's 105 Civil War depots would remain active well into the 20th century and provide the basis for an expanded Army in the Spanish-American War and World War I(WWI).

The history of the U.S. ammunition base mirrors that of the U.S. as a nation. As the U.S. found itself transformed from a regional power into a world power with its entry in World War I, it required an expanded war-fighting capability and armaments industry. Prior to this time, the military needs of the U.S. were minimal as it enjoyed peaceful relations with its two neighbors Canada and Mexico. Whatever ammunition requirements the Army, Navy and the Marine Corps had could be fulfilled by a combination of U.S. Ordnance arsenals, private suppliers, and foreign companies. The U.S. entered World War I unprepared and having to build an ammunition base because its principle foreign suppliers were already engaged in combat with each other. The existing U.S. arsenal and commercial structure was unable to meet the huge increase in requirements. A War Industries Board was established which brought order to procurement process and presided over the hasty construction of several plants for the manufacture of explosives and powder as well as the facilities to load ammunition. The Old Hickory TNT plant was built in less than a year and was the largest TNT plant in the world. As soon as WWI, the "War to End All Wars" ended, the newly constructed ammunition base was dismantled or sold. There were many "lessons learned" which were discarded once the war was over and this base was dismantled.

At the end of World War I commercial industry abandoned any munitions support as the U.S. peace movement branded them "merchants of death" and accused the industry of reaping great profit. Throughout the 1920s and 1930s research and modernization lagged. There were only three or four civilian manufacturers of ammunition. The DuPont Company was, we now see, visionary, in that they operated the nation's sole TNT plant at a low level in order to maintain the process and expertise. As supplies were expended, there was no major resupply or modernization effort. At the same time, developments in weapons and doctrine, primarily abroad, rendered much of the ammunition obsolete. Poor storage conditions led to the deterioration of much of the still "modern" stock. Budgets from Congress were at a starvation rate.

History repeated itself as war loomed in Europe and the Pacific. World War II began on September 1st, 1939 when Nazi Germany invaded Poland. The U.S. found itself the key supplier to Great Britain and, later, the Soviet Union as well as to our own armed forces. Over time, the Roosevelt Administration pushed Congress to authorize funding for the construction of a network of munitions plants. By the time the U.S. entered the war in December 1941, many of the plants were already operational.

The reason the U.S. had plants in operation prior to U.S. entry into the war was due to the foresight of the Ordnance Department. In 1937, before the war had started in Europe, the Ordnance Department established joint military-commercial planning offices for explosives and propellants. These offices were charged with developing plans for the construction of plants for explosive, propellants, and required chemicals. Similar offices were established to focus on artillery, bomb, fuze, and small arms component assembly. The offices were assisted by planners from DuPont and Hercules Powder as well as other experts from the limited commercial ammunition base. They considered all aspects of plant layout to include relationships with suppliers, transportation, safety distance, and line flexibility to respond to fluctuating requirements.

The Ordnance Department initiated these talks because they understood they would have to forge a special relationship between the War Department and commercial manufacturers to produce ammunition for a global war. While other Ordnance munitions and Quartermaster supply requirements, such as trucks, uniforms, rifles, airplanes, and even tanks, could be manufactured in commercial plants, there was no such commercial base for ammunition. Despite the lack of commercial demand or capacity, the government arsenals were never designed for large scale production. Ordnance planners estimated that the six arsenals could never produce more that 5% of projected requirements. The Ordnance Department realized that the government would have to build an ammunition base at government expense. They also realized that the new plants would be contractor operated.

While committed to building a government owned ammunition base, as early as 1939 the Ordnance Department realized that not all ammunition production would have to occur in Government Owned, Contractor Operated (GOCO) plants. Based on their analysis and the input of industry they were able to limit GOCO facilities to propellant and explosive production (to include required chemical manufacturing processes), while private industry could manufacture metal parts. It was this dichotomy of missions that led the Ordnance Department to the previously mentioned collaborative planning cells that developed plant blueprints and machinery requirements. DuPont, Hercules Powder, Winchester and the other handful of private ammunition and explosives manufacturing experts merged their knowledge of manufacturing with the Ordnance Department's ability to design components and forecast requirements.

The Ordnance Department eventually planned for the construction of over 110 plants to meet anticipated requirements. The fact that only 84 were eventually built is explained by increases in production efficiency. Ordnance and commercial planners had designed such modern plants that there were no operating facilities to use as a baseline. The addition of conveyors and mass production led to much higher output than they had estimated.

In addition to planning the number of plants required, the Ordnance Department also developed plans for other use of private industry. The Ordnance Corps conducted Industry Surveys of all major industrial plants. Not only did the survey record what theplants made, types of equipment and floor space, the Ordnance Department also investigated finances, resources, types of workers, transportation networks, etc. The Ordnance Department was interested in companies with good management and engineering. As one key planner stated: "It was not just the machines and floor space that counted. Of even greater importance were the men-skilled workers, the production engineers, the executives who understood the secret of high-quality mass production." Many companies then signed an agreement to make a certain type of Ordnance Department materiel.

When war broke out in December 1941 ammunition manufacturing was already moving forward. Advance planning of the War Department, Ordnance Department, and private firms sliced at least a year and probably two off the mobilization timetable. Despite the planning, it took until late 1942 and early 1943 for the munitions industry to catch up with Army requirements. Of 84 plants built by the Army, half began construction before

December1941 but only sixteen began operations before the attack on Pearl Harbor. It took an average of 9-11 months between contract and first operations.

Decentralization of Ordnance Corps procurement and administration during WWII led to the creation of the Field Director of Ammunition Plants (FDAP) at St. Louis, MO, and the Small Arms Ammunition Suboffice at Philadelphia, PA. The FDAP administered the Army Ammunition Plants (AAPs). The FDAP continued after WWII. In December 1945, it relocated to Joliet, IL, and absorbed the mission of the Small Arms Ammunition Suboffice. In 1950, the FDAP became the Ordnance Ammunition Center.

While procurement was decentralized, depot operations remained centralized throughout WWII. Ammunition requirements came in from overseas operations as well as the CONUS training base. An office in Washington DC managed the requirements and directed shipments. The entire system was manual. Initially, ammunition storage facilities were aligned with specific unit. However, as units moved to different training bases in CONUS and then overseas, ammunition shipments often criss-crossed the country. Requirements often exceeded the stockage levels at individual depots or, as was often the case with artillery ammunition, total Army requirements often exceeded total available assets. Eventually, the Ordnance Department instituted a new system that directed shipments from the closest available depot. They also would direct shipments straight from the ammunition plant to ports or training bases. This manual system operated on pencils and daily phone calls and became extremely efficient at supplying the ammunition requirements of the eight million soldiers serving all over the world.

As after World War I, the U.S. rapidly began to dismantle its ammunition industrial base and discard "lessons learned". Immediately after the defeat of Germany the Ordnance Department began closing down ammunition plants. After the defeat of Japan, the entire system was summarily shut down. Some 50 plants, known to be excess, were transferred to the operating contractor or sold on the open market. Fourteen plants remained in an active status, primarily engaged in demilitarization, renovation, and the production of fertilizer. The remaining plants not excessed were placed in inactive status, decontaminated, padlocked and left without maintenance money. The worsening relations between the U.S. and the Soviet Union, with the latter taking an aggressive stance in Eastern Europe forestalled complete disarmament, but did not drive significant funding to maintain the base. During both Korea and Vietnam, the ammunition base was reactivated to provide support to the war effort. The pattern remained the same as in WWII. Ammunition was supplied using a combination of civilian and government owned plants. However, in each case, there was not a ramp up period as the Army enjoyed in1939-1941. On average, it took over 20 months to fully activate the base and the Army experienced spot ammunition shortages.

In addition to production, storage, and maintenance of ammunition, throughout the years the Ordnance Department was also responsible for the research and development of ammunition products. The Ordnance Corps provided conventional armament and munitions beginning in May 1812. From WWII until 1973, the Army kept ammunition development and procurement separate from weapons development and procurement. After WWII, the arsenals retained responsibility for weapons development until the Ordnance Corps officially embraced the commodity command concept in 1954.Consequently, the Ordnance Ammunition Center became the U.S. Army Ordnance Ammunition Command (OAC). On 1 January 1954, the Corps established the Ordnance Weapons Command at RIA to complement the OAC and the U.S. Army Tank-automotive Command (TACOM), Warren, MI), which had been formed several months earlier. In 1959,Picatinny Arsenal, which conducted ammunition R&D, merged with the OAC to form the Ordnance Special Weapons Ammunition Command(OSWAC) with HQ at Dover, NJ. At the same time, the function at Joliet became a center again.

In 1962 the Army underwent a major reorganization. The old Technical Commands were disestablished and the U.S. Army Materiel Command was established. AMC consolidated the R&D, productions, storage, and sustainment functions from the Technical Commands. The creation of AMC caused a series of name changes. OSWAC became the U.S. Army Munitions Command (MUCOM) and soon absorbed the procurement and R&D mission of the old Chemical Corps. The procurement function at Joliet, IL, remained a subordinate to MUCOM and became the Ammunition Procurement & Supply Agency.

Over the course of the next 30 years organizational change in the management of ammunition reflected changing philosophies on the relationship between R&D, acquisition, and sustainment of munitions. The key question was always should R&D and acquisition/sustainment be in the same command structure or in separate organizations. Combining the functions created life-cycle management, but created a friction where R&D or acquisition and sustainment always felt slighted. Separating the functions created disconnects in coordination and fragmented the ammunition community.

In September 1973 MUCOM was merged with the U.S. Army Weapons Command to form the U.S. Army Armament Command (ARMCOM), headquartered at RIA. The Small Arms System Agency, created in1968 at Aberdeen, MD, was also in this consolidated command. ARMCOM combined the R&D, acquisition, and sustainment functions for both weapons and ammunition into one command. The intent was to have weapons and ammunition R&D work together from initial concept so the weapons could be supported with the proper ammunition.

ARMCOM only lasted four years before it was decided to separate the R&D and acquisition/sustainment functions. It was decided that both R&D and readiness needed their own commands to properly manage the processes. In 1977 U.S. Army Armament Research and Development Command (ARRADCOM) was formed as an R&D command to develop weapons and ammunition. ARRADCOM was headquartered at Picatinny Arsenal. Picatinny began as a powder depot in 1880 and became an arsenal in 1907 when it began to manufacture powder. In 1977, Picatinny lost its arsenal designation when it became HQ of ARRADCOM. At the same time the readiness side took the title U.S. Army Armament Materiel Readiness Command (ARRCOM) and retained its HQ at RIA.

Ammunition management saw another major change in 1976 with the establishment of the Single Manager for Conventional Ammunition (SMCA). The SMCA was created to consolidate management of ammunition across DoD. The SMCA procured, produced, stored, issues, and maintained conventional ammunition for DoD. This created some efficiencies across the Army, Air Force, Navy and Marines. The Navy transferred McAlester AAP, Hawthorne AAP and the ammunition activities located on the Crane Naval Weapons Support Center (Crane AAA) to the Army. ARRCOM began administering the SMCA field mission in October 1976.

The debate over separation or merger of R&D, acquisition, and sustainment was not finished. Six years later, in 1983, ARRCOM and ARRADCOM were merged to form the U.S. Army Armaments, Munitions and Chemical Command (AMCCOM). With HQ at RIA, AMCCOM consisted of a readiness mission located at RIA and two research, development and engineering (RD&E) centers. The new command gave increased emphasis to the chemical mission. It split the ARRADCOM mission into two R&D centers - one called the Armament Research & Development Center at Dover, NJ, and a second called the Chemical Research and Development Center at Aberdeen, MD. The centers became ARDEC and CRDEC, respectively, on 18 March1986.

AMCCOM also inherited several other organizations that contained more of the widespread Army ammunition mission. The Munitions Production Base Modernization Agency at Dover, NJ, originated as an effort by MUCOM to modernize the Army's ammunition production facilities beginning in 1968. The Secretary of the Army gave emphasis to the effort when he established the Project Manager (PM) - Munitions Production Base Modernization (MPBM) in June1973. The PM reported directly to AMC until 1 November 1979 when the organization became the Munitions Production Base Modernization Agency (MPBMA) within ARRCOM. It was renamed the Production Base Modernization Activity on 1 October 1984 as a subordinate of AMCCOM.

AMCCOM was also responsible for managing the ammunition plants and took over as the field operating agency for SMCA. In addition, AMCCOM was also responsible for the training of ammunition inspectors at Savanna, IL. The Ammunition School began at the Savanna Depot in 1950. In 1971, the AMC Ammunition Center was created and reported to HQ AMC. In 1975, the Ammunition Center was reassigned to ARMCOM and designated the Defense Ammunition Center and School (DACS). In 1983 AMCCOM gained responsibility for DACS.

One goal for the SMCA had been to centralize all aspects of the ammunition life-cycle under one command. While the R&D, procurement, and production functions were all under AMCCOM, storage and maintenance were not. AMCCOM, as the SCMA field operating agency, coordinated the ammunition stockpile, but another command actually operated the depots.

Since WWII, the number of depots has decreased dramatically. However, their mission of providing support to the soldiers of the Army remained. The lessons of WWII and the Korean War suggested the need for centralized management of depot operations in peace as well as war. Therefore, on 25 February 1954, the Army created the Major Item Supply Management Agency (MISMA) at Letterkenny Army Depot (LEAD), Chambersburg, PA. The mission of the agency was to perform supply control functions for major items of general supplies and ammunition for the Ordnance Corps. By 1962, the Army had outgrown the capabilities of MISMA and created the Major Item Data Agency (MIDA) at LEAD under the command of the newly formed U.S. Army Materiel Command (AMC).New lessons learned by the Army during the Vietnam War further supported the need to find a better way to manage Army depots. AMC undertook a study called Project Delta to answer that need. The results of that study led to the establishment of the U.S. Army Depot System Command (DESCOM) in September 1976 at Chambersburg, PA. DESCOM worked in conjunction with AMCCOM and the SMCA to manage the sustainment and readiness aspects of the ammunition life cycle.

The 1991 Base Realignment and Closure (BRAC) Commission made recommendations that again broke up the ammunition R&D, acquisition and sustainment functions. In October 1995 the Army disestablished AMCCOM and DESCOM and established the U.S.

Army Industrial Operations Command (IOC) headquartered at RIA. The IOC consisted of the HQ, DESCOM mission, with the ammunition and industrial base management portions of HQ, AMCCOM. The armament and chemical defense portions of AMCCOM became the Armaments and Chemical Acquisition and Logistics Activity (ACALA). The ACALA and ARDEC transferred in-place to TACOM. The CRDEC became The U.S. Army Chemical and Biological Defense Command (CBDCOM).

At the same time, the ammunition depot functions were united with the ammunition plans and procurement. However, the IOC had a multi-focus mission beyond ammunition. The IOC managed the Army's industrial base and executed the SMCA mission for the DoD. The IOC was in charge of organic Army depots, depot activities, arsenals, active/inactive ammunition plants and other AMC active industrial activities. The Army's entire industrial base was consolidated under one command. In addition, IOC was responsible for the Army War Reserve program that was consolidating under central management after Desert Storm. The U.S. Army War Reserve Support Command (AWRSPTCMD) was created as an IOC subordinate to manage the war reserve stocks, later called Army Prepositioned Stocks (APS). IOC was an integrated complex of 53 subordinate installations, activities and other entities, which included 10depots/depot activities, 3 arsenals, 2 ammunition production facilities, 6 active Government-owned, contractor-operated (GOCO)ammunition plants and 32 other facilities/activities.

While some unity had been achieved on the sustainment side, the ammunition life cycle was again split between several commands. TACOM controlled the ammunition R&D functions. Missiles were managed by another command. Procurement became increasing controlled by weapons systems Program Managers (PMs). Further changes had not united all aspects of ammunition life cycle management.

In September 1999, General Eric Shinseki, Chief of Staff of the Army (CSA), announced his intent to change the way the Army does business or what has been termed a Revolution in Military Logistics. The AMC approached this transformation by focusing on readiness and support to the warfighter from factory to foxhole, by becoming the premier provider of technology, acquisition, logistics, projection and sustainment of materiel, and planning, coordinating, integration, synchronizing and controlling all logistics support above the division level for the Army. This revolution in military logistics transformed The U.S. Army Industrial Operations Command (IOC) to the U.S. Army Operations Support Command (OSC) on 1 October 2000. IOC was disestablished on the same date.

The OSC retained all IOC mission responsibilities, except that the maintenance depots

transferred to the commodity commands who work-loaded them. In addition, OSC assumed greater responsibility for field readiness by becoming the "single point of entry" and "one face to the field" for AMC. OSC was the logistics horizontal integrator for AMC. The command pulled information and logistics intelligence from Logistics Assistance Representatives (LARs) and other forward deployed assets in order to create a broader based, more holistic view of Army readiness.

At the same time that OSC was established, the AWRSPTCMD became the U.S. Army Field Support Command (FSC). The FSC was assigned the mission to integrate all AMC support services forward. In order to assume and perform the AMC field interface mission, FSC was given the mission and resources from the U.S. Army Logistics Support Activity (LOGSA), Logistics Support Elements (CONUS, Europe and Far East) and two support divisions (Logistics Assistance Program Management and LES Planning). All of the APS structure was retained by FSC to include the Combat Equipment Groups in Europe, Southwest Asia, and Afloat and the APS battalion in Korea. In addition the Logistics Civil Augmentation Program (LOGCAP) transferred to the FSC. These new assets, coupled with the APS structure created a global logistics system with pre-existing infrastructure.

At the same time FSC was created, OSC also established the U.S. Army Munitions and Armaments Command (MAC) as the sub-MSC level command responsible for the SMCA mission of production, procurement, ammunition stockpile and installation management. The SMCA mission also encompassed National Inventory Control Point and National Maintenance Point for the commodity of convention ammunition. The MAC disestablished and reintegrated into the OSC structure in 2001.

The OSC had integrated its new missions and had just upgraded communications systems and the Logistics Operations Center when terrorists attacked the United States on 11 September 2001. The concept behind the FSC was quickly proven out in a wartime test. Within 18 hours of the attacks, ammunition was being shipped to activating units in the Army and Air Force. Soon after, ammunition was being shipped directly to Southwest Asia (SWA).In early 2003, in reflection of the truly joint nature of the ammunition mission, the OSC was renamed the U.S. Army Joint Munitions Command (JMC). The command remained at Rock Island and included the FSC as a subordinate.

Soon after the renaming of OSC to JMC, the Army realized that the missions assigned to FSC were growing larger than the ammunition mission and needed greater emphasis across the Army and DoD. In July 2003 the FSC was elevated to become a Major Subordinate Command of AMC. To illustrate the change the acronym was changed from

FSC to AFSC. At the same time, the ammunition structure was grouped into the Joint Munitions Command (JMC), which became a subordinate command of AFSC. Prior to the command restructuring several other efforts to consolidate ammunition management in the Army led to the October 2001 creation of the Program Executive Office-Ammunition (PEO-Ammo). PEO-Ammo was expected to provide oversight of the entire ammunition function by consolidating funding that could manage all aspects of ammunition life cycle. In January 2003 the Secretary of the Army shifted SMCA responsibility from the CG AMC to the Assistant Secretary of the Army, Acquisition, Logistics and Technology (ASA(ALT)).Responsibility was further delegated to PEO-Ammo. JMC remained the Field Operating Agency with responsibility for sustainment to include contracting, the plants, ammunition depots, maintenance, and demilitarization.

Army transformation and the continuing campaigns in Iraq and Afghanistan caused the Army to develop new concepts on how to prepare the Army to fight and sustain them once deployed. The Army Force Generation Model (ARFORGEN) was developed as a way to more systematically prepare and train units for deployment, sustain them while deployed and RESET them upon return to home station. AMC had to become a major part of the ARFORGEN. They already had a basis of support in the AFSC, but more missions were to be assumed by AMC. In response to that requirement AFSC transformed once again to become the US Army Sustainment Command (ASC) effective 1 October 2006. On the same date, the JMC was made into a separate AMC major subordinate command.

In November 2006, JMC was aligned under the newly formed Joint Munitions and Lethality Life Cycle Management Command (JM&L LCMC) headquartered at Picatinny in Dover, New Jersey. The formation of the JM&L LCMC creates and emphasizes the Ammunition Enterprise by aligning JMC, JPEO Armaments & Ammunition, and the Armament Research and Development Center (ARDEC) as partners. The 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; performing demilitarization and disposal of unserviceable stocks; conducting industrial base management and executing transformation; providing real time munitions readiness reporting; maintaining worldwide asset visibility; centralized ammunition management and providing integrated lethality solutions. Though part of the JM&L LCMC, JMC remains a MSC and is the key command in ensuring ammunition is handed off to the fighting forces wherever and whenever needed and works the first time to provide lethality to our warfighters. Today the JMC is responsible for the management of the ammunition production base, storage, receipt, issue, maintenance, and demilitarization of ammunition stocks. The mission of JMC is to execute acquisition support, readiness, and logistics sustainment to provide effective, available, and value added munitions for the joint Warfighter. Through careful coordination with the JM&L LCMC entities, JMC ensures that DoD Soldiers, Sailors, Airmen, and Marines receive the highest quality ammunition, on time and where needed. The JMC motto of "Ready – Reliable - Lethal" summarizes the command's support to the field.

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