U.S. ARMY FIELD SUPPORT COMMAND
U.S. ARMY JOINT MUNITIONS COMMAND

U.S. ARMY FIELD SUPPORT COMMAND AND JOINT MUNITIONS COMMAND SUPPORT TO OPERATION IRAQI FREEDOM, PHASES I-III

March 2005

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Pictures Captions from Title Page identifying from left to right, top to Bottom:

1. Brigadier General Vincent E. Boles, the previous CFLCC-C4and CG AMC units in SWA consults with co-worker during Operation Iraqi Freedom.
2. Left to Right: Command Sergeant Major Ty Walker, Brigadier General Larry Newman, Colonel Carl Cartwright, Lieutenant Colonel Scott Fletcher, General Paul C. Kern, and Major General Wade H. McManus, Jr. pose in front of a line of equipment waiting to be repositioned in theater.
3. AFSC/JMC Command Historian, George Eaton at HQ AMC LSE – 1AD, Baghdad International Airport, Iraq.
4. Mr. Keith Brailsford, DA Civilian, inspects a box of ammunition at AMC-LSE-SWA.
5. Equipment waiting Reset in the desert at Camp Arifjan, Kuwait.
6. Equipment waiting Reset in the desert at Camp Arifjan, Kuwait.
7. Ammo offload operations; container being lifted off cargo ship in Kuwait.
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10. Download of ammunition containers overshore in Kuwait logistics operation.

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U.S. Army Field Support Command and U.S. Army Joint Munitions Command Support to Operation Iraqi Freedom, Phases I-III

Preface

The US Army Field Support Command (AFSC) and US Army Joint Munitions Command (JMC) were key players in logistics support to the warfighter during the Global War on Terrorism. Our support began within hours of the September 11, 2001 attacks on the United States. The Operations Center was on round-the-clock operations in minutes and ammunition was shipped to customers within 11 hours. AFSC and JMC have continued their critical support ever since to include work in Afghanistan, the Philippines, Uzbekistan, Kuwait, Iraq and other Middle Eastern countries. The commands have provided ammunition support, Army Prepositioned Stocks (APS), Logistics Support Elements (LSEs), Logistics Civil Augmentation Program (LOGCAP) contracting, and logistics horizontal integration within AMC and with the warfighters. That support continues to this day.

Major General Wade H. McManus, Jr., had been the Commander of AFSC and JMC since October 2000 and led the commands through the initial stages of the Global War on Terrorism (GWOT) and Phases I-III of Operation Iraqi Freedom. He guided the commands as they ramped up to support combat operations. The ramp-up periods are critical to the success experienced in combat. During the Korean War and Vietnam War it took the Army 18 to 24 months to get the ammunition production system on line at rates that met requirements. In those cases the ramp-up occurred after our Soldiers were already in combat. During Operation Iraqi Freedom most of the production increases were in place before our troops were in combat. During Desert Storm it took the Army almost six months to ship all its combat equipment to the desert. This time, AFSC was able to methodically prepare equipment already in Southwest Asia, reposition stocks in theater, and download prepositioned ships. The equipment was in place when the warfighters arrived and needed it. LOGCAP planners had gone through different scenarios and cut their teeth in Afghanistan and the Philippines. By the time services were needed in Kuwait and Iraq, the process was known and the people experienced.

In the middle of supporting combat operations, the AFSC and JMC under went a series of organizational changes. The name was changed from Operations Support Command to the Joint Munitions Command. This was done to reflect the command's joint mission in the supply of conventional munitions to all the Services. Then, as part of AMC and Army Transformation, the AFSC became a Major Subordinate Command (MSC) of AMC and JMC became a subordinate command of AFSC. This was done to reflect the evolving missions of the two commands and the increased importance of the AFSC missions to logistics transformation and the management of logistics to the warfighter.

Chapter 1: Intro and Command Overview

On September 11, 2001 employees of the US Army Operations Support Command (OSC) were as stunned as any American by the terrorist attacks on the World Trade Center and the Pentagon. People huddled around TVs and radios and searched the internet for information, updates, and answers. At that moment, Rock Island Illinois did not seem like the potential logistics heartbeat of a Global War on Terror (GWOT), but OSC leaders had already been positioning the command for that very role. They had recently instituted structural changes and were in the process of training and preparing the command for a new logistics leadership role.

As noted by COL (Ret) Redding Hobby, OSC Chief of Staff in September 2001: "The formative month of September changed our focus when we were attacked. Prior to that we were transforming ourselves anyway to more clearly focus on our responsibilities. The operation center was a good example. We initiated the operations center in the summer of 2001, well before September 11th… And then just coincidentally when September came we were already in a mode to be able to operate that way. So all we did was just increase the intensity and refine our processes to meet a war on terrorism instead of the global Army preposition mission that we had."[1]

In fact, on September 11, 2001 the OSC Operations Center was just standing down from 24/7 hour operations in support of Exercise Ulchi Focus Lens, an annual Reception, Staging, Onward-movement & Integration (RSO&I) exercise in Korea. On hand was a complement of Reservists from the 19th TAACOM out of Des Moines. The 19th TAACOM was a round out to OSC and had been working the operations center in support of Ulchi Focus Lens. They immediately resumed 24/7 hour operations, augmented the staff, and assumed a key role in managing OSC missions.[2]

An effective, continuing Operations Center was one of the keys to AFSC support to OIF. It is also key to understanding the kinds of transformation and new missions AFSC has developed and streamlined over the past several years. MG McManus recognized the need for a 24/7 operation as the command transformed as the Operations Support Command. He stated in his oral history interview, "The issue was if we're global, and we're operation support, we have to be prepared to take these phone calls. So we began with a 24/7 operation a big part of our continuing transformation efforts put us now into this operation center review, and redesign and buildup here so that we can be more effective in the global domain for corresponding with our forward deployed forces, processing their requirements for support, providing them a round-the-clock capability here to tie into for any issues they may have."[3]

AFSC has evolved from the old Industrial Operations Command (IOC) as the manager of the Army's industrial base and also responsible for War Reserve stocks, to a more complex command directly involved in the logistics readiness of every warfighting unit as well as a

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[1] AFSC/JMC History Office. *Colonel Redding C. Hobby, Chief of Staff, US Army Operations Support Command, End of Career Interview*, August 2002, pp. 21.
[2] FY01 OSC Annual Command History, pp. 1, 175.
[3] AFSC/JMC History Office, *Oral History Interview MG Wade H. McManus, Jr., AFSC and JMC Support to OIF Phases I-III*. February 2004, pp 1.

coordinator of support among the AMC MSCs. We got there through a series of steps that reveal the role of AFSC in Army logistics transformation. The command transitioned from IOC to OSC, and then from OSC to an OSC with a Munitions and Armaments Command (MAC) and Field Support Command (FSC) that included missions of Army Prepositioned Stocks (APS) and horizontal logistics integration. Later the command changed into the Joint Munitions Command with the FSC, and finally AFSC became the AMC Major Subordinate Command with the JMC as the subordinate. In these steps, AFSC has paralleled the transformation of Army and AMC logistics provide to faster, more responsive, predictive, and joint warfighter oriented support.

Today AFSC and JMC have four primary missions. These are Army Prepositioned Stocks, ammunition supply management for the joint force, the Logistics Civil Augmentation Program (LOGCAP), and horizontal logistics integration. The missions can be summarized as:

-- Army Prepositioned Stock (APS): The AFSC maintains the readiness and accountability of the Army's globally prepositioned equipment and materiel; this includes prepositioned sets, operational project stocks, and sustainment stocks. AFSC is responsible for transferring equipment and materiel to warfighters whenever and wherever required in support of the Army's global power projection mission. During training and combat operations, AFSC leverages the capabilities of the Army's prepositioned stocks located ashore and afloat to enhance rapid deployment and sustainment.[4]

-- Munitions: The JMC serves as the Department of Defense's field operating agency for the Single Manager for Conventional Ammunition (SMCA) mission. The JMC will manage the production, storage, issue and demilitarization of conventional ammunition for all U.S. military services. "Joint" is part of the JMC's name because the command supports all U.S. military services – the Army, Navy, Marine Corps, Air Force and Coast Guard. To meet the diverse needs of these customers, the command remains in close contact with leaders from the Army and the other services. JMC also acts in partnership with private industry when contracting for munitions production and shipment.[5]

-- Logistics Civilian Augmentation Program (LOGCAP): AFSC manages the Logistics Civil Augmentation Program (LOGCAP), which uses contractor assets to augment support to units in the field. AFSC contracting officers arrange for contractors to provide life support, logistics services such as transportation and warehouse management, and a variety of other services to support Soldiers in the field.[6]

-- Logistics Horizontal Integration: AFSC manages the Army's Logistics Assistance Program (LAP) that includes Logistics Assistance Offices (LAO) and Logistics Assistance Representatives (LAR) on every major Army installation and with all combat units. During deployments and exercises, elements of the LAP provide direct support to combat units deployed to the front lines, and operates sites such as Logistics Support Elements (LSEs) near forward areas. In addition, AFSC receives logistics information from the LSEs and ensures data, requests for solutions, and readiness reports are coordinated among the AMC MSCs and with other

[4] AFSC PAO, "Fact Sheet: US Army Field Support Command," September 2003.
[5] AFSC PAO, "Fact Sheet: US Army Joint Munitions Command," September 2003.
[6] AFSC PAO, "Fact Sheet: US Army Field Support Command," September 2003.

logistics support commands. This horizontal integration and coordination provides speedy and coordinated response to units in the field and ensures that AFSC and AMC maintain logistics information dominance.

While the continuing missions of ammunition and prepositioned stocks were critical to preparing the force for combat operations, LOGCAP and horizontal integration were the key drivers in the transformation of AFSC from its IOC and OSC roots. The Army needed faster, more integrated logistics support and a readiness focus to implement the Revolution in Military Logistics (RML). Information flow and a reduced uniformed logistics footprint were the elements provided by AFSC. AFSC's rapid growth into the LOGCAP and integration mission areas, coupled with its honed competency in ammunition and prepositioned stocks support, were critical drivers in the logistics success of combat operations in Iraq. The details of AFSC support to OIF are discussed below, and the story begins on September 11, 2001.

Operations Support Command's Immediate Response

As in most other commands, OSC leadership watched the events of 9/11 unfold on their TV sets. The initial plans at transformation were to be rapidly tested. In minutes the operations center was fully staffed. In eleven hours the first shipments of ammunition were on their way to customers, especially the Air Force.

Two days later, MG McManus was flown to Washington DC to brief the Chief of Staff of the Army on the readiness of the ammunition stockpile. It was not a good visit. For years the Army had tracked ammunition by the number of tons available and location. However, funding gaps since 1990 had reduced the amount of surveillance and maintenance required to keep stocks fully ready. The OSC and it predecessors had warned about the issue, but tightening budgets had made it impossible to keep up with slowly deteriorating ammunition. While on hand, many stocks required maintenance and the current reporting systems did not reflect that. We needed time and funds to keep shipping ammunition to the joint forces. This was an immediate problem. As COL Hobby noted:

> "The biggest change it showed for us is that as we plan war and as we plan military operations we think we'll have some 'getting ready' time. We'll have a time to build up and think about it. We'll have a phase that we go through, a planning phase and then an execution phase and during the execution we'll build up, we'll be ready and then we'll launch our operations. The terrorist attacks showed us that there was no thinking, no planning, we've got to be ready on a moment's notice with Air Force bombs and Marine small arms ammunition as well as Army ammunition. So for the ammunition for the joint services, all the services combined, showed us that we've got to be ready. So, ready today with the ability to provide ammunition immediately and ready tomorrow with the ability to surge or replenish what we use up today and again, a renewed awareness of it because it's real, it's not just a plan, it's a reality now."[7]

[7] AFSC/JMC History Office. *End of Career Oral History Interview, Colonel C. Redding Hobby*. November 2002, pp. 14-15.

OSC immediately began the development of the Munitions Readiness Report (MRR) as part of the Strategic Readiness System. The MRR has significantly altered how the command manages ammunition and how DA calculates ammunition readiness. While the program is explained in detail below, in brief, the MRR mirrors other Army readiness reporting. It calculates ammunition readiness, production, quality, and serviceability for each ammunition item and family and it projects readiness for 12 months into the future. In addition, the system highlights which ammunition items are used by the joint forces. The system can be used by DA to prioritize funding and effort. This should ensure DA is never again surprised by such difficult news as MG McManus gave them on 14 September 2001. Ammunition shipments proceeded at a rapid pace and OSC began to alter contracts in order to ensure ammunition production would meet warfighter requirements. AFSC/JMC ammunition operations in support of Phases I-III are discussed in Chapter 3.

The APS offices also rapidly reacted to events of 11 September 2001. The Army had been improving APS facilities and rounding out stocks in the Mid East since the mid-1990s. Modern bases had been built in Kuwait and Qatar. Stocks had been shifted out of Europe to populate the APS stocks at those locations. The Kuwaiti stocks were exercised on a regular basis through the Intrinsic Action exercises. However, funding had always lagged behind. Repair parts fill levels were low and sustainment stocks were not up to the required days of supply. Army-wide budget constraints impacted progress of filling out APS. However, the Army responded rapidly after September 11, 2001. On September 25, 2001 Combat Equipment Group-Europe (CEG-E) received over $30 million to execute what became known as "Version 6, Enduring Freedom-1".[8] APS commands immediately began preparing the equipment that would be used to execute OIF. In FY02 other APS funding streams were increased. By the end of FY02, repair parts and sustainment stocks were in the 85-90% fill range. Items short since FY95, such as steam cleaners, were procured and shipped to the in-theater storage points.[9] FY02 was spent preparing for contingency operations. APS operations are discussed in Chapter 2.

LOGCAP operations were a bit slower to spin up as other plans and initial deployments had to begin prior to executing contingency contracts for life support and logistics services. However, LOGCAP did react rapidly to provide life support services in support of Operation Noble Eagle, and then moved into operations in support of OEF. On 14 December 2001, after a lengthy and deliberate open competition, the LOGCAP contract was awarded to Kellogg, Brown and Root, Inc (KBR). LOGCAP and KBR rapidly shifted from deliberate planning to current event operations.[10]

Like LOGCAP, the push forward of the LSEs was slower to develop than ammunition and APS. However, OSC rapidly increased direct communications with the Logistics Assistance Offices and moved the Logistics Assistance Program (LAP) into high speed. The immediate response of the Operations Center is just one example. In addition OSC began to track all AMC personnel deployed around the world and served as the Deployment Coordinator for the command.[11] Part of the manpower for increased Operations Center mission was garnered

[8] OSC FY01 Annual Command History, p. 158.
[9] OSC FY02 Annual Command History, pp. 162-64.
[10] Ibid., pp. 171-74.
[11] OSC FY01 Annual Command History, p. 174.

through the near immediate activation of 53 Reserve officer and enlisted personnel. In addition, though less directly related to support of OEF and OIF, was management of the OSC portion of Operation Noble Eagle. In addition to deployment of active duty forces to our most sensitive installations, approximately 750 National Guard soldiers were called to active duty to provide force protection at various arsenals, depots and ammunition plants.[12]

The following chapters explain in detail the APS and ammunition support missions executed by AFSC during Phase I-III of OIF. As noted before, each story goes back to September 2001 as the preparation work and execution in support of GWOT and OEF were important to understanding the entire support story. As the short summaries above indicate, OSC was ready to go on 11 September 2001. The command reacted immediately. As COL Hobby noted: "We reacted from September the 12th for about 30 days until the middle of October. By the middle of October we knew exactly what we were doing. We had the operation center set up, we had reports coming in, we had daily briefings to the Commanding General…. It didn't take us a month to get ready; it took us a month to get in a rhythm and in a process. We were moving within hours or within minutes actually of things happening…. Our gathering of intelligence information and analyzing it was probably second to none, I've never seen it any better."[13]

[12] Ibid., p. 1.
[13] AFSC/JMC History Office. *End of Career Oral History Interview, Colonel C. Redding Hobby*. November 2002, pp.. 15, 16.

Chapter 2: Army Prepositioned Stock

On 11 September 2001 at about 0900, members of the OSC staff gathered around their TV sets and watched the US be attacked by terrorists. As noted by COL Redding Hobby, "within minutes, literally minutes, I think that was at 9:15 in the morning, within minutes we were reacting to what was going on…The terrorist attacks showed us that there was no thinking, no planning, we've got to be ready on a moment's notice with Air Force bombs and Marine small arms ammunition as well as Army ammunition. So for the ammunition for the joint services, all the services combined, showed us that we've got to be ready."[14] Even if the command was not ready, they reacted as if they were. OSC and the Field Support Command (FSC) immediately began to prepare the Army's war reserve stocks, prepositioned equipment, and Combat Equipment Groups for a rapid transition to contingency operations.

The Army Prepositioned Stock (APS) program is the military instrument that allows AFSC to meet a contingency immediately with the necessary equipment and supplies to support the warfighter requirements. APS creates readiness by positioning combat support equipment, operational project stocks, and sustainment stocks in theater so troops may draw equipment upon arrival versus bringing home-stationed equipment.[15] Stocks are managed by Combat Equipment Groups (CEG) and Combat Equipment Battalions (CEB). Prepositioning afloat on Military Sealift Command ships allows for forward placement of sustainment stocks, unit equipment, and port opening capability from seaward positions. Upon notice, the vessels sail to operation areas and begin downloading stocks into theater. Prepositioning ashore consists of land based storage sites near possible threats and conflict areas.

The following summary will discuss how AFSC accomplished the mission of providing fully operational prepositioned equipment to soldiers for combat in OIF. Content will emphasize how AFSC managed large increases in funding to fill out the prepo stocks in theater and handled challenges with the Class IX supply line. The summary will speak to the push of stocks to theater, movement of stocks from CEG-Afloat, CEG-Europe to CEB-Qatar, and then CEB-Qatar to CEB-Kuwait. The changes in process due to admin download with contractors will also be explained, along with significant accomplishments and issues that have to be evaluated and acted on before future crises.

Background

AFSC manages the complex APS mission that involves the cooperation of many organizations and contractors. This mission dramatically reduces time constraints during the critical "Early Entry" phase of war. When AFSC Commander, Major General Wade H. McManus, Jr., was asked how he managed the GWOT mission, he responded by saying: "It's

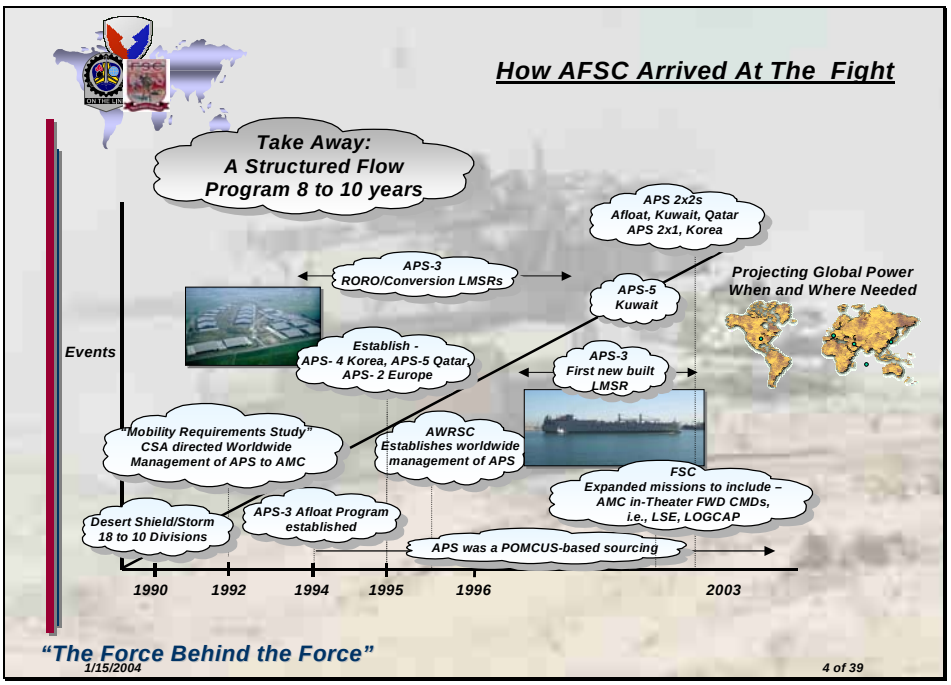
[14] AFSC/JMC History Office. *End of Career Oral History Interview, Colonel C. Redding Hobby*. November 2002, pp. 20-21.

[15] Note: APS stocks are located worldwide in CONUS, (APS-1), Europe (APS-2), Afloat (APS-3), Northeast Asia (APS-4), and in Southwest Asia (APS-5). Prepositioned stocks can be broken down into two categories which project military power: APS afloat (3) and APS ashore (2, 4, and 5). APS 1 is operation project stocks.

almost like we were thrust into the operation naturally," because of our initiatives to support such logistic missions rapidly and responsively. [16]

The build up and use of prepositioned equipment started increasing after Operation Desert Shield/Storm. After the Gulf War there was a pressing motivation to reduce the timeframe it takes to deploy and equip soldiers on the battlefield. The Army shifted to Force Projection and made the equipment available in probable hot spots to reduce the transportation requirements for rapid deployment. The Joint Chief of Staff's (JCS) answer was to place prepositioned stocks of heavy equipment and combat support units afloat at sea close to potential conflict areas. In October 1993 DA directed AMC to take the Third Army mission of the Army War Reserve Program (AWR) and provide central management for the war reserve stocks. There followed some organizational changes that resulted in the FY 1996 activation of the Army War Reserve Support Command (AWRSC) as a subordinate of the IOC at Rock Island, Illinois.

Since 1995, AWRSC has transitioned into a MSC and has been re-named the Army Field Support Command (AFSC). The management and use of APS has made great strides to meet the demands of the Army's global power projection mission. The chart below is a chronological graph representing how AFSC arrived at the fight for Iraqi democracy through the evolution of APS from 1990 to 2003.[17]



[16] AFSC History Office. *AFSC/JMC Support to OIF Phase I-III Oral History Interview with MG McManus,* December 2003, pp. 2.

[17] Morretta, Sal and Pagano, David (Logistics Management Institute). "AMC SWA Support of Operation Iraqi Freedom," 21 August 2003. AFSC Briefing, Chart 4. NOTE: APS is coded based on the storage location. APS-1 is in CONUS; APS-2 Europe; APS-3 Afloat; APS-4 Pacific; APS-5 SWA.

Overview of APS Phase I-III [18]

Several events and policy decisions moved the Army into action. On 11 September 2001 the attacks on American soil brought forth a true test of the Army's readied stance. The 24-hour Operations Center here at AFSC answered the call to prepare for defense right away. MG McManus stated that within hours we were shipping bombs which arrived at destination within 11 hours and Combat Equipment Group-Europe (CEG-E) began preparation to ship 6,500 items to CEB-Qatar. This immediate request and response revealed the start of what was to become an intense operation and the world's Global War on Terrorism (GWOT). MG McManus briefed the Chief of Staff of the Army only a few days after the attacks on AFSC/JMC capability to support our responsibilities to the Army, specifically the APS Program.[19]

With each political outcome, steps to move equipment into theater were taken by the APS program. On 29 Jan 2002 the State of the Union labeled Iraq part of the "axis of evil" group. At this point APS planners were sent to Southwest Asia (SWA) and APS Qatar started to ship a brigade set and division base to Kuwait. CEG-Europe also began realigning stocks to theater. On 14 May 2002, the UN Security Council approved more sanctions on trade with Iraq. With these sanctions Inland Petroleum Distribution System (IPDS) containers were shipped from Qatar to Kuwait. A few months later, on 5 July 2002, Iraq rejected the UN request for weapons inspections. In the same month preposition ship USNS Watkins was downloaded, the Qatar BDE was moved to Kuwait, and Exercise Vigilant Hammer began. President Bush signed a congressional resolution allowing the use of military force against Iraq and on 16 October 2002 APS-3 downloaded the USNS Watson. The 2nd Brigade Combat Team (BCT) was issued and the Combat Equipment Battalion-Arifjan (CEB-AJ) Provisional (P) was created.

On 8 November 2002 the UN Security Council approved the order to make Iraq disarm or face serious consequences. USNS Red Cloud and USNS Charlton downloaded two battalion task forces. Maintenance cycles were accelerated on APS hospitals during this timeframe. Elements of AMC LSE Europe/Korea/CONUS prepared and deployed to AMC LSE SWA. Further into the war additional downloads were completed and four APS hospitals were issued. On 20 March 2003 CEG-E issued their Immediate Reaction Force (IRF) to deploy with the 173rd Infantry Brigade (Airborne). The Northern Front opened with the airlift of the 173rd Brigade on 26 March 2003. In January 2003 momentum was really gaining and APS-3 downloaded several ships of equipment into theater. A few months later the world witnessed Saddam Hussein's regime fall to US coalition forces, 14 April 2003.

Increased Funding to Fill Stocks

Several things occurred at FSC that enhanced readiness at APS locations in theater before OIF Phase I began. In FY 2001 FSC had already made progress within DA to obtain adequate

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[18] Pagano, David & Morretta, Sal. "AMC-SWA Support Of Operation Iraqi Freedom." 19 August 2003, Charts 5-7.

[19] AFSC History Office. *AFSC/ JMC Support to OIF Phase I-III, Oral History Interview with MG McManus.* December 2003, pp. 3-4.

secondary item funding to increase readiness of force sustainment. ASL/PLL (Authorized Stockage List/Prescribed Load List) funding was allocated to buy-out 100% of requirements for all APS by the end of FY03. The operating budget in FY 01 for APS-Afloat was $128.3 M. APS-Land was obligated at $93.1M. In FY02 the operating budget for APS afloat was $104.8M afloat and $121.8M for APS - Ashore.

After 11 Sept. 2001, there was a more immediate need for increased funding to fill out the stocks. In support of the GWOT, the FSC Material Management and Readiness Integration (MMRI) section planned and coordinated a DA-mandated buyout of ASL/PLL for key brigades in APS-3 and APS-5. During OIF, funding levels rose to 250% over the original planned FY budget.[20] Because AFSC had already planned for fill by FY03, they knew what items from the ASL/PLL needed filled and they were able to immediately apply the additional money towards filling APS shortages. Fill rates for the units ASL/PLL improved to 85-95 percent. In addition, MMRI successfully developed operational plans to source equipment for the new APS-2 end state and redistribute equipment no longer needed in Europe to improve the readiness of units in APS-3 and APS-5.

MMRI planned and coordinated an HQDA-mandated buyout of the APS-5 Operational Projects for Special Operations Forces, Enemy Prisoner of War sets, and Mortuary Affairs. The equipment was consolidated at Defense Distribution Deport Susquehanna, PA. Fill rates improved to over 90 percent for the projects. MMRI was also responsible for execution of a $3.0M buy of key Petroleum and Water Supply items for APS-3 and APS-5. The Coalition Forces Land Component Command (CFLCC) declared critical shortages of petroleum and water and these items were immediately shipped to APS-5 for use. MMRI also executed a $1.0M buy of steam cleaners, a commodity considered short in supply in APS brigades since 1995.

The readiness rate and percent fills for APS-5 units and a variety of APS-3 unit uploads were improved in FY02. The APS Class II Brigade Set equipment inventory stored at Rock Island Arsenal was reduced by $4.5M to fill shortages. MMRI developed the requirements, coordinated testing and fielded a web site to provide visibility of APS assets, Radio Installation Kits requirements, and force modernization fielding schedules that impact APS equipment. MMRI also developed new processes for the Service Item Control Division to ensure that free issue and funded requisitions are truly “fill or kill” to eliminate excess resulting from late arrivals for APS ship uploads.

Push of Stocks to the Theater

Combat Equipment Group-Europe Contributions

As threats shift, APS stock position is re-evaluated and forward stationing areas are subject to movement. When our greatest threat was Russia in the 1980’s, most efforts at prepositioning equipment were focused in Europe. After the fall of the Berlin Wall and reduced threat from Russia, the Army began to reduce size of combat forces and supporting war reserve

[20] AFSC History Office. *AFSC/JMC Support to OIF Phase I-III, Oral History Interview with MG McManus.* December 2003, pp. 5.

stocks in Europe. CEG-E became a final resting home for excess equipment. Much equipment was sent to, and returned from Desert Storm. CEG-E was also responsible for equipping the forces throughout the Balkans deployments. With the draw down of the three brigade sets in Europe, CEG-E redistributed APS-2 Europe equipment to increase readiness of the other APS sets. The Commander of CEG-E, Colonel Robert D. Cox, confirmed that APS Europe was well into the redistribution mission prior to September 11, 2001. Since 1995 CEG-E has distributed between 250,000 and 300,000 pieces of equipment. Colonel Cox noted that the roots of today's APS-3, 4 and 5 were planted by equipment originally placed in Europe.[21]

Because of the large volume of equipment stored in Europe and the corresponding needs in SWA, Europe sent the majority of its remaining stock to APS-5 in support of OEF/OIF. The surge mission was the most complex, time-sensitive, and important redistribution effort ever undertaken by the command and over $50M of funding was allocated to support the mission. In FY02 CEG-E's operating budget was around $55M. That doubled in FY02 to $97M and $98M in FY03.[22] Soon after September 11th, CEG-E prepared and shipped around 9,000 items to Qatar. Between Oct 01 and Sep 02, CEG-E repaired an additional 18,948 pieces of equipment to TM 10/20 standards and shipped this equipment to APS-3 and APS-5 to fill the remaining shortages, as well as to support OEF and the Southern European Task Force (SETAF). Colonel Cox said, "Shortly after September 11th, we began planning here in CEG-E. The long and short of it was that basically we did 12 months worth of redistribution work in three months." The sudden influx of work required the employment of 520 contractors on top of the established workforce of 1300 personnel. Much of the equipment used to support SWA was in deployable condition. The best items had been used in the sustained redistribution effort since 1995. FSC and DA allowed CEG-E to spend what was required to get equipment back to fightable condition. Only the very worst items were passed over and sent to the disposal yards.

When the 173rd Brigade moved into Northern Iraq, CEG-E also issued the Immediate Reaction Force (IRF) as brigade reinforcement.[23] The 173rd Brigade is a light airborne infantry brigade with no heavy weapons. USAREUR requested issue of the IRF to support the 173rd with tanks, Bradleys, and artillery. The plan worked as smoothly as exercised with all equipment issued and ready to go long before transportation was available. What was not planned for was the continuing support to the IRF after it arrived in Iraq. The 173rd Brigade did not have mechanics or repair parts to support the equipment. Repair parts and technical assistance requests flowed into CEB-Rhine Ordnance Barracks (CEB-ROB) via email, fax and cell phone. They shipped parts and advised. Some CEG-E employees actually deployed to Iraq to support the force.[24]

While the shipment of the combat equipment out of CEB-ROB is fairly well known, the efforts of CEG-E's CEB-Livorno (CEB-LI) are less noted. In 2001 CEB-LI had issued wheeled vehicles to the 173rd Infantry Brigade (Airborne). During the intervening years the 173rd

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[21] AFSC History Office. *Oral history Interview with Colonel Robert D. Cox on CEG-E Contributions to OIF Phase I-III*. 7 January 2004.

[22] AFSC History Office. *Oral history Interview with Colonel Robert D. Cox on CEG-E Contributions to OIF Phase I-III*. 7 January 2004.

[23] AMC Pamphlet on APS.

[24] FY02 OSC Annual History, p. 176. See also oral history interviews between George Eaton and CPT Ted West and Mr. Dennis Monzingo, CEB-ROB, 10 September 2003, not yet transcribed.

Brigade's TOE had not caught up and wheeled vehicle mechanics were still not fully authorized in strength to meet the increased vehicle density. The 173rd Brigade's equipment was not ready for deployment to Northern Iraq. Based on the request of the SETAF CG, CEB-LI received the equipment at Livorno and brought every item back to 10/20 or Fully Mission Capable status. The effort took weeks of round-the-clock effort. The Italian workforce, at a time when Italy saw massive anti-war protests, focused on the equipment and the American soldiers who would soon be using it in combat. When the equipment was to be loaded onto ships the local stevedores were on strike to protest the potential war in Iraq. CEB-LI's Italian employees did not miss a beat. They convoyed the vehicles to the port and then loaded the ships themselves. Without the efforts of CEB-LI, the 173rd Brigade would not have made it to Iraq as a combat ready force.[25]

The rest of CEG-E's redistribution efforts were a combination of it's subordinate battalions significant roles in the redistribution process. In FY 02 Combat Equipment Battalion-Luxembourg (CEB-LU) repaired and distributed 1,145 pieces of equipment that were shipped to APS-3 and 5 in support of the surge mission. From October through November 2001, CEB-LU provided three Force Protection (FP) Modules and three Prime Power Kits (PPK) in support of OEF. Each module provides life support facilities for 550 soldiers. CEB-LU served as AMC's agent in coordinating the mission with Air Mobility Command, US European Command, and USAREUR. This mission required 90 trucks with 40-ft trailers and 37 C-17 aircraft to transport the equipment to Uzbekistan. Thirty-two days of 24-hour operations were needed to complete the mission. CEB-LU also repaired 14 light utility vehicles that were transported aboard an Air Force C-5 Galaxy from Luxembourg International Airport to support the global war on terrorism.[26]

CEB-Vriezenveen (VR) delivered over 1,800 pieces of equipment for redistribution to APS-3, APS-5, and OEF in combat-ready condition. Additionally, several hundred other pieces were prepared before mission changes or shipping delays. CEB-VR took dramatic steps to reduce excess CL IX inventories and return these parts to the supply and maintenance systems. Over 36,000 items were shipped to their supporting Supply Support Activity, US Army Forces Command (FORSCOM), and APS-3. Additionally, CEG-E brought all excess repair parts on site to Item Manager visibility in order to continue the excess reduction process. In all, over $6M worth of repair parts were returned to the supply system or to using units. CEG-E was the source of a vast majority of the additional vehicles required in SWA. With this push, which continued into 2004, CEG-E processed almost all of the remaining repairable stocks in Europe—the Cold War may finally be over.

Three Camps of Equipment

At the height of preparations for OIF AFSC maintained three sets of equipment positioned in the SWA theater -- CEBs - Qatar, Kuwait, and Arifjan. The APS–5 Qatar fleet was maintained by CEB-Qatar stationed at Camp As Saliyah in the outskirts of Doha, Qatar. The APS-5 Kuwait fleet was maintained by CEB-Kuwait located in Camp Doha, Kuwait. CEG-

[25] See AFN Livorno video recording "SETAF at CEB-LI: Interview with LTC Pogue and Mr. Chidini," 17 March 2003; see also oral history interviews George Eaton and various members of the CEB-LI staff, Sept 2003, not yet transcribed.
[26] FY02 OSC Annual History. p. 176.

Afloat (CEG-A) stocks were also pushed to the theater and received and maintained by CEB-Arifjan (Prov) at Camp Arifjan, Kuwait.[27] AMC Forward SWA in Doha Qatar coordinates, integrates and synchronizes all AMC activities in CENTCOM. It is the central point of command for CENTCOM and ARCENT commanders and directs the activities of CEB-Kuwait and CEB-Qatar. AMC Logistics Support Element SWA, manned with AMC FWD SWA and additional personnel, was activated at Camp Doha Kuwait 1 December 2001 and later moved to Camp Arifjan. From there, AMC LSE SWA managed AMC logistics efforts for OIF Phases I-III.[28]

CEB-Qatar [29]

In 1995 CENTCOM began work on the Qatar based location, named Camp As Saliyah. The camp was completed in 2000 with a price tag of $110M. It is the largest prepositioned site in the world and houses a large amount of equipment and support units that can be stood up quickly in response to conflict. Initial plans required units to fly into Qatar, draw equipment, road march it to the nearest port, load the ships, and sail to the area of operation. The plan was modified to send 90% of stocks to CEB-Kuwait via ship prior to issuing to Soldiers. This placed the equipment much closer to the area of operations and line of departure.[30]

Throughout FY 02, equipment and supplies moved into and out of CEB-QA at a constant pace. Early in FY 02, CEB-QA received 871 containers of Inland Petroleum Distribution Sets (IPDS) Operational Project stocks bringing the total containers at CEB-QA to 1035. In Mar 02, IPDS stocks were relocated from CEB-QA to CEB-KU. Fill of other Operational Projects authorized for APS-5 increased dramatically. CEB-QA received, inventoried, and stored stocks associated with Special Operations Forces, Water Support Systems, and Containerized Systems Operational Projects. In addition to IPDS, CEB-QA loaned, issued, or forward positioned nearly 1,000 pieces of equipment from Qatar to Al Udeid Air Base, CEB-KU, and elements in Afghanistan, Uzbekistan, and Qatar.

In Jan 02, CEB-QA was directed to clear the first of what would ultimately become eight Controlled Humidity Warehouses (CHWs) vacated over the course of FY 02. Three more CHWs were cleared in Mar 02 and four additional CHWs were cleared in Sep 02. Storage space was reconfigured as warehouses were emptied and turned over to US Army Forces, CENTCOM. In preparation for OIF, CENTCOM moved much of its operations staff to Qatar. They converted the warehouses to office space, quarters, and dining facilities.

Readiness within APS-5 was improved through redistribution of equipment from APS-2 (Europe). In FY 02, CEB-QA received significant influxes of equipment in two increments. The first increment consisted of 3,490 pieces of equipment that arrived in Mar 02 and was integrated into the APS-5 Qatar equipment sets. An additional 834 pieces of equipment arrived in the SWA

[27] CEB Arifjan was a temporary organization to assist in the receipt of equipment before combat operations. CEB-Arifjan has since been deactivated. CEB-KU has moved to Camp Arifjan and is the sole CEB in Kuwait.
[28] See the AMC LSE SWA Phase I-III History for details. Talbot, Randy ed. *AMC-LSE-SWA OIF Phase I-III History*. September 2003, Chapter 2.
[29] FY02 OSC Annual History. p. 180.
[30] Talbot, Randy ed. *AMC-LSE-SWA OIF Phase I-III History*. September 2003, Chapter 2.

area of operation (AOR) in Sep 02. CEB-QA prepared and moved the entire Class V stockpile, consisting of 119 20-foot containers each, from Qatar to Kuwait. The timeline below represents receptions from CEG-E and all shipments made into Kuwait through Phase III.

The CEB-QA 2x1 Brigade Set (1,550 pieces of equipment including tracks, wheels and trailers) was prepared and forward positioned in Kuwait. This equipment move required CEB-QA to load 24 Logistics Support Vessels, 5 High Speed Vessels and 1 Large Medium Speed Roll-On/Roll Off ship. In October 2002 the 2x1 Brigade was transformed into a 2x2 Brigade.

APS TIMELINE APS5 Qatar

Nov 02	Dec 02	Jan 03	Feb 03	Mar 03	Apr/May 03
•Watson II (APS 5Q U/L) 646 RS / 58 C • Equipment Download (Green Cove)- 221RS • Deployment of contract personnel & Equip ISO stand up of CEB-AR • Contract MOD completed ISO APS Ops at Arifjan • Provided Maint services ISO ISB Ops for MEF at Qatar • Configuration of PLLs/ASLs by UICs	• Shipment of MES (289) ISO OEF/OIF • Prep of the Sustainment Stock for shipment to Kuwait • Shipment of the Bde PLLs/ASL to Kuwait • Contract Spt (Maint/Supply Ops) for Deployed units at Qatar ISO OEF/OIF • Contract MOD completed for plant facility maint & custodian services completed for CEB-AR	• Deployment of SST/MST ISO FSH movement from Bahrain to Kuwait- 34 RS & 66 containers; 3 LSV missions • Prep/Shipment of Sustainment Stock ISO OEF • Shipment of the AOAP Lab/CDP equipment to Kuwait via LSV • Shipment of the APS3 ASL/PLL to Kuwait • Shipment of the Division Base PLLs/ASL to Kuwait • Prep of the SOF/CSSL OPROJ stock • Issued a LTP Contract MOD for DS maint spt CEB-AR	• Deployment of personnel to Kuwait ISO RSO&I • Download of Medical Theater Stock via LSVs (152 containers) • Handoff of the FSH to deployed Units • Deployment of the TMDE Van to Kuwait via LSV • Deployment of the WSS OPROJ Stock to Kuwait • Provided Arms Room support for tent units • Deployment of MST team ISO IPDS de-processing in Kuwait	• Deployment of the Laundry OPROJ Stock ISO OIF • Stand Up of the CEB-QA EOC ISO OIF • Deployment of Sustainment Stocks ISO OIF • Issue of APS assets to SOCCENT ISO OIF • Shipment of the LAMS ISO OIF • Contract MOD completed for DS Maint Spt CEB-AR • Contract MOD for the 4ID ship download completed	-Deployment of Susutainment stocks -Deployment of (SST/MST) personnel ISO APS turn in at Arifjan -Provided CL V storage support for SOCCENT - Provided maint services ISO ISB Ops -Re-deployment of the TMDE Van to Qatar - Shipment of the FSSP ISO OIF -Execution of Tire Assembly Initiative ISO OIF

APS TIMELINE APS5 Qatar

Feb /Mar 02	Apr 02	May/Jun 02	Jul 02	Sep 02	Oct 02
• APS Redistribution-Version 6 D/L (Green Cove- 250 RS) • Contract MOD ISO APS Equip deployment to Kuwait • Contract MOD for Version 6 (Incr 1&2) completed	• Deployment of the Bde Set (-) via HSV & LSV to Kuwait • Issued the LTP to the contractor for the reception of the version 8 - APS redistribution assets •APS Redistribution Version 8 (Green Cove 236 RS) •Contract Workshop ISO planning for CONOPS	•Deployment of the Bde Set (-) via LSV/HSV to Kuwait • Deployment of APS assets via TSV to Kuwait • Contract MOD for the SOF OPROJ Stock completed • Contract MOD for CSSL OPROJ Stock completed	• WATKIN Upload (250 RS) • Installation of Radio Kit (Vic1 vs Vic 2) • Continue shipment of the Bde Set (-) of Equipment • Contract MOD for WSS OPROJ Stock completed	•Ammunition Prep for shipment to Kuwait • Reception of the MOADS Platoon ISO CL V outload support • QASAS inspection of all CL V ISO outload Ops & OEF • Contract MOD for deployment of personnel ISO CEB-AR stand up • Contract MOD completed for Surge Battle Roster • Contract MOD for Version 8 assets redistribution completed	- WATSON Upload (approx 460 RS - Shipment of CL V to Kuwait (66 DODICs/4 million Rds) -Issued letter of Intent (LOI) for OY3 contract -Receipt of Division Base PLLs/ASL - Deployment of Contract personnel to Arifjan ISO CEB-AR stand up ISO OEF

CEB-Kuwait [31]

When units were flown into APS-5, CEB-Kuwait, equipment sets were already operationalized on the concrete storage lots at Camp Doha. Unlike APS stored at other locations equipment at Camp Doha was being used steadily during exercises commanded by the CFLCC/ARCENT. Every six months the equipment had been issued to units rotating in and out of desert camps to show U.S. presence in defense of Kuwait. While issuing and receiving to support the continuing Exercise Intrinsic Action rotations, CEB-KU managed the dramatic increase of equipment and supplies brought into Camp Doha for OIF.

During FY 02, fill of the Mortuary Affairs Operational Project authorized for APS-5 increased significantly. In addition, CEB-KU received and configured for storage stocks associated with the Enemy Prisoner of War Op Project as they were forward positioned in Kuwait. In May 02, CEB-KU issued 165 miles of IPDS, which had been forward positioned from CEB-QA, to US Army Central Command (ARCENT)-KU. The 2x1 Brigade Combat Team (BCT) garrisoned to CEB - Kuwait was transformed into a 2x2 BCT in October 2002. Kuwait also stored a Combat Support hospital, an MLRS battalion, a newly formed Cargo Transfer Company, (CTC) and several operational stocks.

APS TIMELINE APS5 Kuwait

May 02	Jun 02	Jul 02	Aug 02	Sep 02	Oct 02
• Receipt of Qatar 2x2 Bde Set • LSV Download • Operation Desert Spring 02	•Receipt of Qatar 2x2 Bde Set • LSV Download • Operation Desert Spring 02	• VIGILANT HAMMER – • Watkins Download 250 items • Receipt Equipment Camp Doha • LTC Snead Change of Command • Receipt of Qatar 2x2 Bde Set	• Medea Download 400 pieces of equipment •Watkins Download 250 items • Receipt of Strong American 1800 items • Watson Download 250 items • Receipt of Qatar 2x2 Bde Set	• Medea Download 400 pieces of equipment • Receipt of Strong American 1800 items • Watson Download 250 items • Receipt of Qatar 2x2 Bde Set	• 2 BCT (3ID) 1-64 Ar 4-64 Ar 3-15 In 1-9 FA 1-10 En 26th FSB • Receipt of Qatar 2x2 Bde Set • LSV Download

[31] FY02 OSC Annual History. p. 180.

APS TIMELINE APS5 Kuwait

Nov 02	Dec 02	Jan 03	Feb 03	Mar 03	Apr 03
• Green Cove Download 400 pieces of equipment • Receipt of EPW Op Projects • Receipt of Div Base equipment • Receipt of Div Cav Sqdn 221 pieces on 8 LSV • Receipt of Qatar 2x2 Bde Set	•Receipt of Qatar 2x2 Bde Set •Red Cloud D/L • Receipt Div Base equipment • Charlton D/L • Receipt of 289 MES sets • Receipt of EPW Op Projects • LSV Download from Qatar • Receipt of Div Cav Sqdn 221 pieces on 8 LSV	• Dahl Download 1469 RS / 218 C • Sisler Download 1030 RS / 216 C • 3 BCT (3ID) 1-30 In 1-15 In 2-69 Ar 1-39 MLRS • 1 BCT (3ID) 3-7 In 2-7 In 3-69 Ar 11 Eng 3-7 Cav 1-41 FA • Div Base Issue DISCOM DIVARTY ENG BDE FSB, MSB, SIG	• Supplemental Issue 3ID • Sustainment Issue 3ID • Sustainment Issue Various Units • TSV Download • LSV Download • Containazation of EPW Op Projects Stocks • Issue EPW Op Projects Stocks • Receipt of Transfer Cases	• TSV Download • HSV Download • LSV Download • 114 UIC to units in support of Operation Iraqi Freedom • Sustainment Issue to Various Units (40 Units) • Receipt of Transfer Cases • Issue Mortuary Affairs Op Projects Stocks • Issue of Transfer Cases	• Operation Iraqi Freedom • Plan for APS • Redeployment / Reconstitution • Sustainment Issue to Various Units (20 Units) • Plan transition of CEB-KU to Arifjan • Phase I of CEB-KU transition to Arifjan

Brigade Set readiness improved with receipt of equipment redistributed from APS-2 (1,175 total pieces of equipment -- 186 pieces rolling stock, 989 pieces non rolling stock), and equipment transferred from Qatar to Kuwait. Other AMC MSCs also contributed to improved APS-5K readiness by expediting shipment of equipment to fill specific APS-5K shortages. The charts above are a timeline of actions taken by APS 5 Kuwait May 2002 to May 2003.[32]

CEG-Afloat/APS-3 and Camp Arifjan

The other prepositioned set of equipment is known as CEG-Afloat (APS-3). When the threat of wartime operation is low, the fleet of APS-3 ships is positioned with equipment at sea near possible areas of threat. The ship locations are carefully planned. For example, ships were placed in the Indian Ocean, where they could travel equal amount of days to either Iraq or North Korea where opposition has surmounted. Upon notice the vessels can move anywhere in the world to download equipment in support of an operation. APS-3 also has the ability to open ports in the absence of existing structures. Below are some pictures of download operations and the afloat vessels.


[32] Talbot, Randy, ed. *AMC LSE SWA Operation Iraqi Freedom Phases I-III*. September 2003. p. 36.

From the spring of 2002 until January 2003 JCS, DA and CENTCOM directed APS-3 stocks to begin downloading into Camp Doha. Operation Vigilant Hammer I conducted in July 2002, was the first mission to begin download of APS stock into Kuwait. The download of USNS Watkins was intended to be a clear signal to Saddam Hussein of our seriousness. In retrospect, increasing the stockpiles was a clear signal of the approaching conflict. Operation Vigilant Hammer II followed shortly afterwards taking up the remaining storage space at Camp Doha. Future downloads of equipment were transported to and stored in Camp Arifjan, a provisionally established location in Kuwait created to compensate for storage areas at Camp Doha being used to full capacity. Therefore, the plan to immediately prepare unit sets and hand off was not plausible in this case.

In the AMC-LSE-SWA OIF I-III History, Randy Talbot states "the plan for APS-3 was simple in concept. Sail the vessel to the location where the contingency exists, download it, configure the equipment to unit sets and hand the equipment off to a deploying unit." [33] In original plans of APS-3 operation it was thought that when APS was utilized, equipment would be downloaded, prepared, and handed off to units immediately near the port. However, units arrived later than plans anticipated and storage for equipment was needed. Camp Arifjan was established in October 2002. Camp Arifjan stored and prepared equipment for issue for six of the seven Large Medium Speed Roll On/Roll Off Vessels (LMSRs), two CL V ships, and two sustainment vessels that downloaded into theater. Camp Arifjan, Zone 2 is pictured below.

Using Contractors to Download APS

The AFSC History Office has conducted many oral history interviews with key personnel at CEG-Europe to capture their experiences and expertise with APS push to the theater. Staff

[33] Talbot, Randy, ed. *AMC LSE SWA Operation Iraqi Freedom Phases I-III.*. September 2003. p. 38-39. Information from this section also comes from the FY 2002 OSC Annual History.

Sergeant Anthony Magiera, QA officer at CEB-Brunssom, worked to make sure the contractors were performing their jobs to standards. Contractors come in with their own employees and quality control. SSG Magiera was essentially overseeing the contractor's work to make sure they met Army standards. When asked how he coordinated with the contractors performing maintenance, SSG Magiera stated, " It's a lot harder. In a regular unit, soldiers are doing the work and it's a lot easier to say I don't care what you say, you're going to fix it, whereas working with a host nation contractor, you can't say that. It takes a lot more charisma, I guess, to achieve your goals and to basically lead people who don't have to listen to you."[34] One of the contractors he worked with at CEB-Brunssom is ITT. ITT is responsible for fixing any deadline functions on the vehicle. They are not required to meet the 10/20 standard, this is accomplished later. But SSG Magiera recognized their work on the ground and said they produced high quality equipment.

APS was designed with some specific assumptions. Planning implied equipment would be downloaded/uploaded in benign environments. It was also assumed maintenance capabilities and time to complete the maintenance would account for an essential element to the program. The assumptions motivated several of the policies enacted today. However, it is apparent that these preliminary assumptions do not align with the types of operations we fight today. As the program evolved, realization of the time limitations that a wartime endeavor could bring meant improvisation and finding ways to complete on the ground maintenance before issuing equipment to combat units. AWRSC began looking at ways of completing maintenance on the ships by taking vehicle doors off or creating enough space between vehicles to be able to get at them. SSG Magiera went into detail on what happens to some of the heavy equipment placed on ships for lengthy periods of time:

> "Stuff's parked too close. They start the vehicles, but because they're in a ship and they have the ventilation system, it may not work to the capacity of the carbon monoxide that's building up, so they're not allowed to rev the engines. For example, with a deuce-and-a-half, you have a problem that entails if you start it up and let it idle, in any diesel. It's called wax-stacking, and what happens is oil leaks past the rings and valve seals and it builds up in the head and it comes out through the exhaust. Well, if oil's leaking class three from an engine, that's a deadline. When it comes off the boat, you have an inherent problem with stuff that's been on a boat for two years, wax stacking. Any diesel engine is going to wax-stack if all you can do is idle it. So you have an inherent problem, that's number one. Two, this stuff can't move, so seals dry-rot. So you get axle leaks and you get wheel seal leaks. You get, for hydraulic braking systems you get massive cylinder leaks. All this stuff needs to be fixed prior to giving it to the war fighter." [35]

When stocks were downloaded into SWA for OIF, receiving units were not present. This required contracting companies to perform the download and movement of equipment. This element came as a sort of surprise, although AFSC was able to adapt to the circumstances. In an oral history interview MG McManus, CG of the AFSC and JMC during OIF, and in 1996-1998

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[34] Oral History Interview, George Eaton and SSG Anthony Magiera, September 2003, not yet transcribed.
[35] Ibid

CG of Army War Reserve Support Command, gave a more detailed explanation of the offload procedures, how they were different from what was envisioned, and how this may change future plans. This excerpt is long, but summarizes the issues.

MCMANUS: When the prepo program was initially envisioned, there were two key assumptions, and that drove how we structured the program at the time. The first is that it was envisioned that we'd only offload the equipment in what was termed a relatively benign environment, and two, there would be some maintenance time required and would be built from the plan. So we combined the benign environment here and the maintenance requirement. That drove several different policy decisions, not the least of which was the stow factor because we were going back -- I think at the time the number was 17 LMSRs to support the afloat program here that was based on an 80% stow factor. It wasn't built in. When I got here in the War Reserve Support Command, that's when we began looking at the issue of onboard maintenance crews, and we began parking vehicles with doors open or doors removed to facilitate the crawl space to go through to do checks and things like that. Even then it was limited. And the objective there was to gain as much maintenance visibility as possible so you could plan your download work still working against those initial planning assumptions. The fact is in the program today and the program of the future, those two assumptions no longer can apply.

EATON: I thought that the doctrine had always been though that the ship would pull up, benign environment, like it was in Kuwait. However, the using unit would be there on the docks basically helping to pull the stuff off.

MCMANUS: That's exactly right.

EATON: When I was asking about admin download, I was thinking of the fact that the troops weren't even there for most of this. And was that a real surprise to us that suddenly we had to bring in contractors to process a bunch of [equipment], and that's what I was trying to get at when I mentioned the word admin download.

MCMANUS: The whole planning scenario has changed because, when you look at the benign environment here -- I always envisioned at some point in time, we thought this would be part of RSO&I. We had these elaborate plan-o-graphs, unit parking areas, and so forth. You still had to require that when you had your supercargo and you had your hand-off team, all you had were enough people to work with the port authority to download the stuff, get the stuff parked, and then you began the hand-off piece. But we had not envisioned this large contractor operation and actually replacing units because of the RSO piece. The RSO piece is the piece we had to go back and refigure how prepo will play in RSO.

EATON: Do you see that sort of contractor download as the future, or, if we're going to go into less benign environments, do you think we're going to have to adjust back to the troops again?

MCMANUS: Where I see this thing going here is almost like [considering] ambiguous versus unambiguous warning times. I think we may have to find that as we look to the future to structure prepo, we need to take into account that your load is going to define your offload and your employment. So, in this regard, if we take a look at some scenario, some lesser contingencies where there will be ambiguous warning times, I would configure that ship for rapid offload-rapid employment. You may only take maybe a battalion task force and do it that way here. I think the bulk is going to be based upon the model we saw unfold here with OIF which is a large contractor presence was required to facilitate that. Because as you get into it, [there's] one thing that we will never control, and that's the trigger point for crossing the line of departure, and we saw that in fault here

within this last operation. The trigger point actually was delayed versus where I think the National Command Authority wanted it to be. In this whole process the issue becomes the generation of combat power, and that combat power is manned equipment and units to be able to go forth and do the mission. So, in this case, we can take a look at the 3ID, which is primarily prepo, and some home-stationed equipment here. We have to be flexible to go on both dimensions. And if we are going to a future scenario like SWA, I think we can tend to plan for a larger contractor requirement here. For example, we didn't do Liberia, but if we go and we looked at Liberia, I'd see they're a battalion task force with a loose stow. You can drive off the ramp.

EATON: Over the shore.

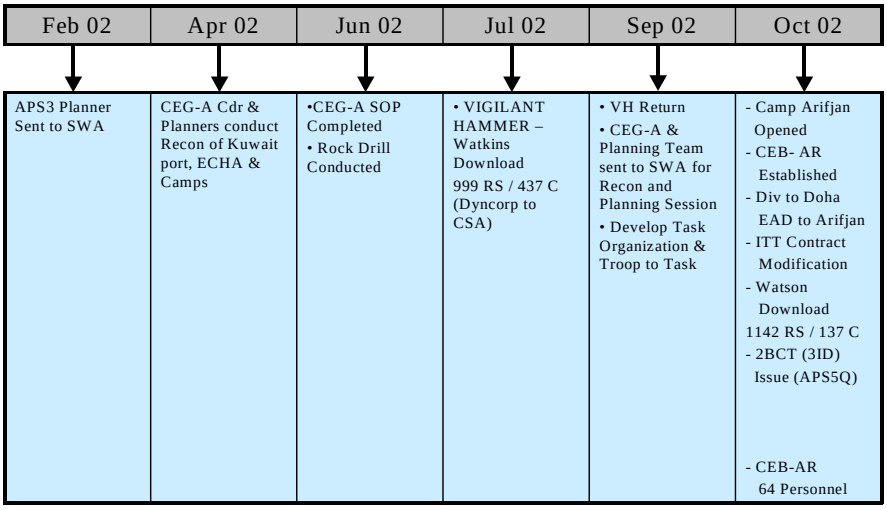
MCMANUS: Over the shore. Exactly right. And, you know what we got into when we actually went through some of the test on this when I had the War Reserve Support Command. We actually went through one cycle, and we had actually loaded fuel tankers. I mean, we put those in there to see how that was going to work too. Because the issue was having some sustainment when you got there you need to rapidly employ. Because even then, back in the '97, '98 time frame when I was here, we began to see the employment scenarios changing versus the planning scenarios against which the program was developed.[36]

In the future MG McManus sees AFSC re-examining APS download and reception. The structure of APS will have to be flexible and able to adapt to different dimensions. If we run into another situation like SWA, it is likely a large contractor presence would be needed for download and maintenance. There may be other downloads where combat units are on the ground, the battalion is fully capable, and the soldiers can "drive off the ramp and over the shore" with prepositioned equipment. McManus's view expresses the fact that the issue comes down to the generation of combat power. That power is manned equipment being able to cross the line of departure to complete their mission. AFSC completed the mission of providing very well maintained equipment to the warfighters and that represents a logistical achievement.[37] Because missions of wartime operations will never be truly identical it is necessary to see this type of flexibility and reaction built into the program.

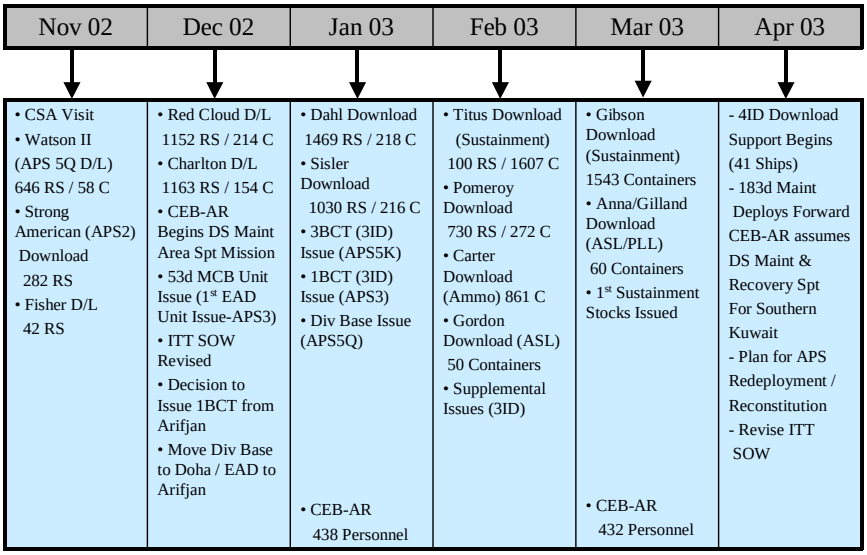
The LMSRs discussed above, contained a 2x2 BCT and over 100 echelons above division UICs. The CL V ships had 5,000 containers of ammunition and the sustainment vessels had 15 days of supply for a Corps, equaling 3000 containers of CL I, II, IIIp, IV, IX, an VIII supplies. The charts represent the workload completed in Phase I-III at APS-3 Afloat and at Camp Arifjan. APS-3 downloaded the USNS Watson in October of 2002 and then several more vessels in December 2002 through February 2003.

[36] AFSC History Office. *Oral History Interview MG Wade H. McManus, Jr., AFSC/ JMC and Support to OIF Phases I-III*, February 2004, pp 17-18.
[37] AFSC History Office. *Oral History Interview MG Wade H. McManus, Jr., AFSC/ JMC and Support to OIF Phases I-III*, February 2004, pp 16-18.

APS TIMELINE APS3



APS TIMELINE APS3



CEG-A successfully conducted the first download of a 2x1 Armored Battalion Task Force consisting of 150 tracked items, 511 wheeled items, and 240 trailers from a Large Medium-Speed, Roll-on/Roll-off (LMSR) vessel as part of Vigilant Hammer 02 in the SWA AOR. Ninety-nine percent of the equipment disembarked from the ship under its own power. Ninety-six percent of the equipment convoyed to the Equipment Configuration Holding Area (ECHA) with less than .5 percent requiring recovery enroute. Ship download operations and

equipment hand-offs occurred within the preplanned allotted timeframes. The preceding charts provide another representation of APS-3 actions during Phase I-III.

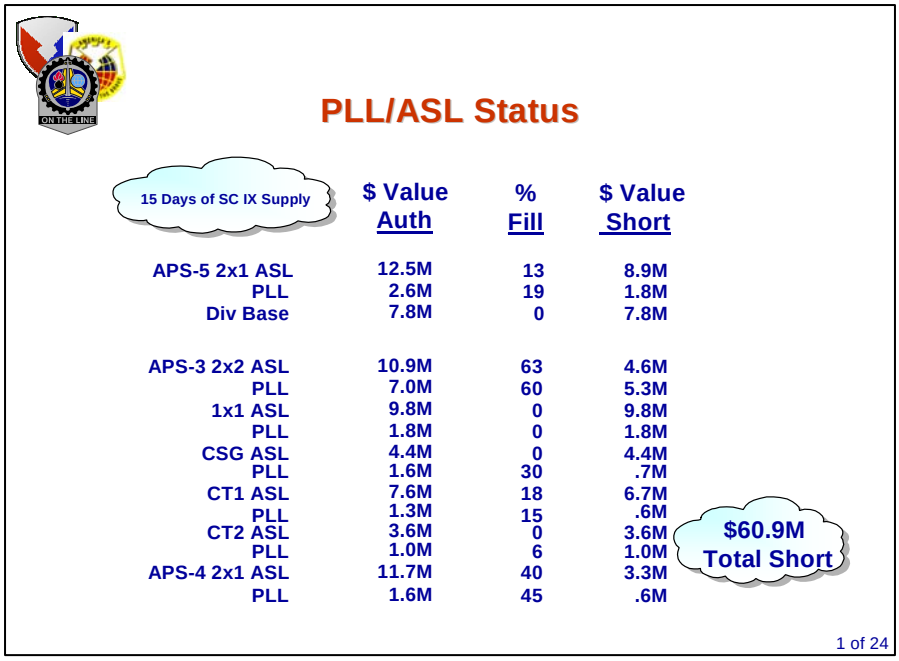
Class IX Supply Shortages (ASL/PLL) [38]

Class IX stockage[39] had been an APS issue ever since the program was established in AMC. Funding priorities had not included the purchase of Class IX. There was both a lack of funding and when funding was received it came late. As the road to OIF progressed, several of these challenges resurfaced with Class IX supply shortages. AFSC re-identified to AMC and DA requirements and order shortage deficiencies needed to fill ASL/PLLs (Authorized Stockage Lists/Prescribed Load Lists). Some problems contributing to the complexity of repair part shortages were a lack of early resourcing of ASL/PLLs and that units were maintaining readiness by using PLLs on hand. In addition, because of the mixed fleet within the APS system, repair parts were required for a far larger number of equipment types than in any active Army unit. The variety of parts needed to support the assortment of equipment models stored in the APS made the need for more parts a very involved process. Reviews conducted by DA, AMC and 3ID identified required changes to Class IX ASL/PLL. As the phases of the operation unfolded, improvements were made to the ASL/PLLs for Class IX.

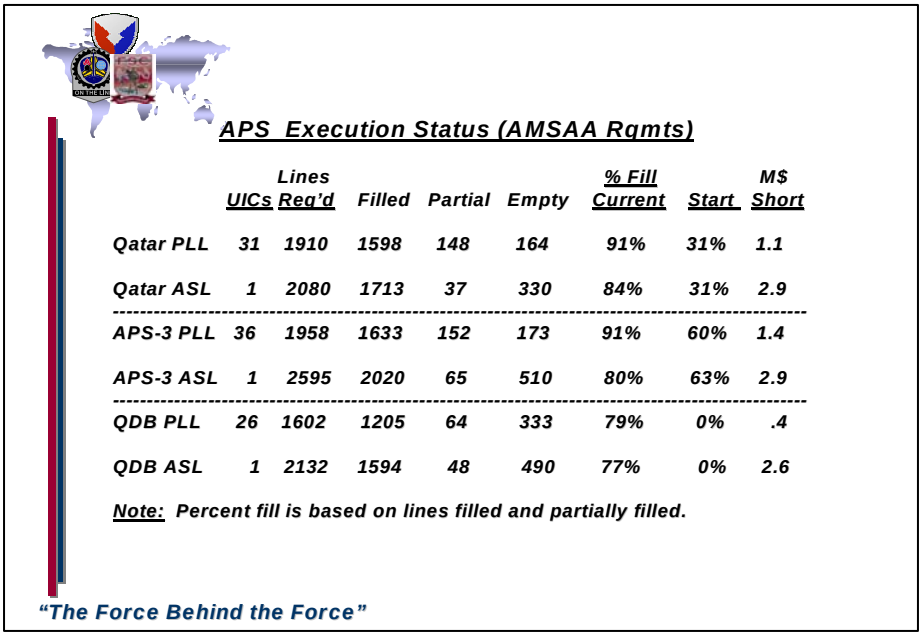
The Army Material Systems Analysis Activity, Optimum Stock Requirements Analysis Program (AMSAA OSRAP) was used to determine the CL IX requirements. Using generated outputs based on actual equipment on hand data, AFSC and the Integrated Materiel Management Center (IMMC) directed the redistribution of APS-2 internal assets of Class IX to fill shortages. Items were procured by the IMMC using War Reserve Secondary Item Money. APS-3 parts were shipped to Charleston to be loaded onto ships and APS-5 parts were shipped to Qatar for storage. The percent fills and dollars completed after this fill are indicated in the below chart titled "PLL/ASL Status."

The responsibility to make the necessary improvements was a large undertaking with five ASLs and over 250 PLLs needing immediate attention. In December 2002 CFLCC allocated funding for the Class IX supply fill with $28M of preparatory money at the AMC level. During Phase I, AMSAA OSRAP generated the using equipment on hand requirement, limited to line replaceable units only (APS-3 2x2, Qatar 2x2, QDB Armor). Funding for this fill came from HQ DA. Parts were shipped to the Distribution Depot Susquehanna, PA (DDSP) for consolidation and forwarding to theater. The chart below reflects fill requirements by location. During Phase I the PLL and ASL lists were closer to being filled but still lacked appropriate funding to bring fill levels to 100%.

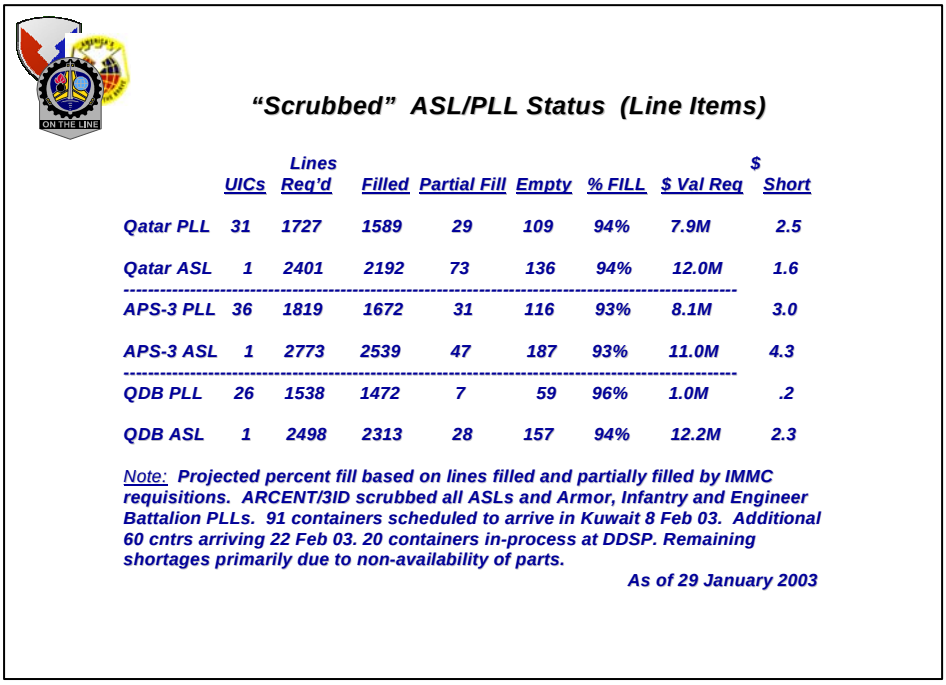
[38] Information for this section derived from AMC LSE SWA OIF Phase I-III History and ASL/PLL History.
[39] Class IX consists of repair parts.



In OIF Phase II HQ DA ordered the ARCENT/3ID review Phase I requirements for additional sourcing. ARCENT 3ID reviewed the earlier AMSAA OSRAP LRU findings. The review resulted in elimination of hundreds of lines already packed into containers and they were able to ship added new NSNs and thousands of eaches that needed to be packed into boxes at DDSP and then be shipped to theater in 20 foot containers. Empty Quadcons were sent to house the additional parts, although the parts were not repacked. The final percent fills of Phase II (see chart below) were the combination of parts loaded on ships and stored in Qatar sustainment



before Phase I, parts shipped to theater during Phase I, and Phase II additions. Because of a lack of manpower and time, all lines were in theater but were not combined into transportable load and most of the material (including PLLs) was placed in theater stocks.



"Scrubbed" ASL/PLL Status (Line Items)

	UICs	Lines Req'd	Filled	Partial Fill	Empty	% FILL	$ Val Req	$ Short
Qatar PLL	31	1727	1589	29	109	94%	7.9M	2.5
Qatar ASL	1	2401	2192	73	136	94%	12.0M	1.6
APS-3 PLL	36	1819	1672	31	116	93%	8.1M	3.0
APS-3 ASL	1	2773	2539	47	187	93%	11.0M	4.3
QDB PLL	26	1538	1472	7	59	96%	1.0M	.2
QDB ASL	1	2498	2313	28	157	94%	12.2M	2.3

Note: Projected percent fill based on lines filled and partially filled by IMMC requisitions. ARCENT/3ID scrubbed all ASLs and Armor, Infantry and Engineer Battalion PLLs. 91 containers scheduled to arrive in Kuwait 8 Feb 03. Additional 60 cntrs arriving 22 Feb 03. 20 containers in-process at DDSP. Remaining shortages primarily due to non-availability of parts.

As of 29 January 2003

APS-3 non-divisional unit CL IX fills were much more organized because they were sourced after the ARCENT/3ID review. The main problem that manifested here was the calculations for current fill levels were based on valid, active requisitions. It was later discovered that DLA cancelled hundreds of these requisitions and material was still coming into DDSP or the projects. In sum, while the new calculations deleted some items and added others, the calculations and changes could not keep up with requisitions from the using units. To date analysis is not complete on the non-divisional PLLs to determine if repair parts ordered by the units were not in the requirement; or were in their requirements but in short in supply.

Once the fill made it across the ocean to the SWA theater, there were additional obstacles. Equipment models had changed during the draw process and mismatches were created between PLL and organizational sets. Because of the variety of equipment in each UIC, it doubled or tripled the sizes of ASLs and PLLs. In many cases, units had not been issued equipment, and parts were pushed out to their desert camp. In these situations the ASL/PLLs were issued as part of subsequent prepositioned draws. A Single Stock Fund (SSF) blackout affected requisitioning ability of 2nd BCTs ASL/PLL build. False cancellations occurred, and resulted in poor reconciliation and generating reorders. ARCENT-DOL had used the APS Department of Defense Activity Address Codes (DODAACs) for daily peacetime and exercise operations versus the DA directed APS DODAAC codes for contingency operations. With incorrect DODAACs loaded in the parameter files of the supporting Supply Support Activity (SSA), many repair parts never reached the intended unit. This further increased a repair parts

bottleneck in the theater as the receiving units could not deliver the parts and using units would reorder parts they did not receive. Finally, at the time of draw, Standard Army Automation Management System (STAMIS) equipment was not available for handoff to the using units. This further complicated the timely order of required parts and the tracking of parts inbound.

Problems with CL IX during Phases I and II were unfixable in Phase III. Units jumped off into the attack with what they could carry in their vehicles. Many CL IX stocks were left behind because units did not have enough transport. This may have been due to a variety of circumstances such as lack of drivers or desire to move faster, but a common problem was the simple number of PLL and ASL lines. As mentioned earlier, due to the larger than normal number of types of vehicles, the PLL and ASLs had to be larger. However, DA never matched this increased number of parts to be moved with more vehicles to move them. That would have created a plethora of other issues, not the least of which was more drivers.

Once on the move, logistics systems could not keep up with the attack. The speed and distances covered precluded the types of logistics resupply operations the using units had expected. Combat units never stopped long enough to send back daily situation reports. Logistics units were fielding high priority requests through any means available but, until forces reached Baghdad, they did not have the time to set up their communications systems back to the logistics base. CL IX resupply was done on the fly or by stripping other broken vehicles. This problem was touched on during an interview with MG McManus:

> **EATON**: Does AMC have a mission to the combat troops when the combat's going on and it only lasts for five weeks? And the reason I say this is, on day five of the combat operation, 3ID could call back and ask for a widget for a tank, and we could never get it to him on time. So, does AMC really have a role in a short duration, high-intensity combat, or is our role to be looking forward into the next phase?
>
> **MCMANUS:** That's the issue. When you take a look at the tactical, operational, strategic realms of operations, there is very little that AMC can do to influence the tactical fight. About the only thing it can do is, through either assemblies or repair parts provisioning, is being a pull through something in the clutch. It's almost like using the NTC model. When you cross the line of departure, I mean, how much can you have in the fight? Now, where AMC does have a role to play your tactical realm here is making sure we keep things moving, or at least making available those things that need to be made available to support the force.[40]

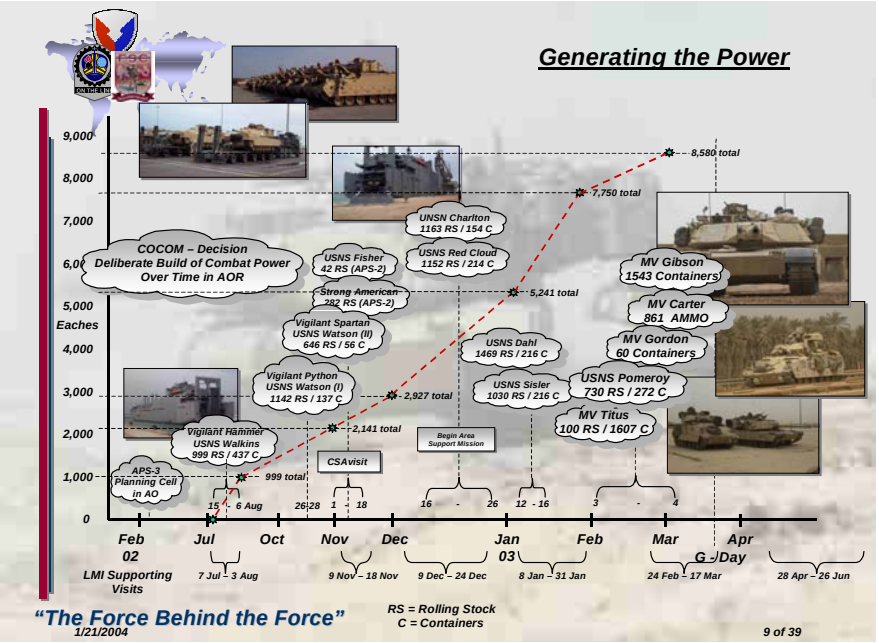
APS Issue

Issue from Kuwait began with previously planned defense operations in support of Kuwait to display a show of force. These missions were designed as BCT operations. The BCT was sourced from 3 ID and rotated through the field on a two-year cycle. In August 2002, the 1st BCT was relieved by the 2nd BCT who began RSO&I in August 2002. The last 1st BCT task force rotated back to CONUS in December 2002. Simultaneously, APS-5 (Q) continued to ship their equipment from Qatar to Kuwait through Spring 2003. The final Qatar LSV load was

[40] AFSC History Office. *AFSC/JMC Support to OIF Phase I-III, Oral History Interview with MG McManus.* December 2003, pp. 18.

shipped to Kuwait in May 2003. After the final issue to the 2nd BCT task force in December 2002, CEB-Q experienced a break in their issue responsibility.

January 6, 2003 the 3rd Infantry Division (ID) began deploying their Division. Camps Doha and Arifjan continued issuing stocks to the 3ID through the first week of February. They accomplished the issue of a complete brigade and some specialty equipment, consisting mostly of signal Air and Defense assets. At the same time, Camp Arijfan was issuing Echelon Above Division (EAD) and Echelon Above Corps (EAC) units. At the end of this period 218 of 259 available UICs were issued. [41] The following chart provides a picture of how many rolling stock and containers were downloaded into theater. [42]



The story of APS in OIF is not one simply of numbers. The stocks issued were also of high quality and ready to fight. The impact of numbers is set in context by the comments of the Soldiers using the equipment. The fact that most commanders wanted to take this equipment home with them to replace home-stationed equipment clearly shows the efforts taken to keep the equipment properly maintained. Soldiers have commended the shape, quality, and performance of the equipment over and over again.[43]

Issues/Concerns [44]

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[41] Talbot, Randy, ed. *AMC LSE SWA Operation Iraqi Freedom Phases I-III*. September 2003. p. 37.

[42] Morretta, Sal and Pagano, David. "AMC SWA Support of Operation Iraqi Freedom," 21 August 2003. AFSC Briefing Chart 9.

[43] See AMC LSE SWA OIF Phase I-III History, Appendices 2 and 3 for comments on the quality of APS stocks from the using units.

[44] Lessons Learned derived from AMC-LSE-SWA OIF Phases I-III History and Morretta, Sal and Pagano, David. "AMC SWA Support of Operation Iraqi Freedom," 21 August 2003. AFSC Briefing Chart 34.

There are several opportunities to use the lessons this war is providing to better APS for future contingencies. There were no shortcomings that weren't suspected or anticipated because APS managers immediately saw where we had experienced problems in Operation Desert Storm and because in previous years we had been planning to fill the stocks. LOGCAP has made our Army fully capable of using contractors to augment capabilities and we were able to pull contractor resources to respond to fast shipment, download, and maintenance of stocks. The major problem was the surge of resources, which arrived too soon before the fight to allow sufficient time to integrate them into the assets into combat loads.

Completely filling units will make APS even more viable. Through 2002 there was an influx of fill for APS 3/5 units which allowed units to cross the line of departure at S1 for ERC P/A LINs. However, this fill was not sufficient and units had to bring home stationed equipment to fill their MTOEs.

Electronic Technical Manuals (ETM) must be included in APS. Adding TM libraries to APS could prevent future mismatches in information. Mismatches occurred because of the differences in age of the equipment brought from home station and the equipment issued by APS. Although deploying ETMs may save money, APS is not authorized funding for the hardware to utilize ETMs.

STAMIS automation found in the APS fleet was old, and dated versions of software were used to run it. In the Fall of 2002 CFLCC decided to buy 500+ systems to update the APS set. This should have been an APS responsibility and future efforts to make equipment/units 10/20 should ensure new automation and current software is available for the STAMIS system. Efforts should also be taken to standardize STAMIS systems. One type of system should be administered to feed readiness reporting to combatant commanders.

As the Army resets stocks, the notion of theater opening package needs to be addressed. We need to have a more rapid method of sustaining the theater. APS can provide this if a theater opening package is added and resourced.

Maintaining equipment on board vessels remains to be a struggle. Shorter shipboard cycles need to be considered. The longer an APS-3 ship is at sea, the longer it will take for maintenance efforts to achieve operational readiness once it is downloaded. Another option would be to add a download exercise into its rotations at sea.

In order to be ready, stocks should be reset with fully funded sets (sustainment ships, OPS, ASL/PLL). Equipment must be modernized to the deploying force. In many instances when the equipment was issued to soldiers, mini-lessons were needed in order to "dumb down" their skill sets. The equipment is in great condition and in excellent repair with fewer miles than home-stationed equipment. However, it is older, and soldiers are not trained to drive manual transmissions. It should be a prioritized goal to build complete sets of equipment to be stored at the forward locations. In future cases we should strive to use minimal airlift and zero sealift to fill in sets of equipment.

Creating a single maintenance contactor for flexibility and speed will improve readiness upon entrance of the next war. APS needs to be balanced for independent combat operations.

Accomplishments

The APS program worked very well in this mission and, despite problems incurred, accomplished the goal of supplying the warfighter with his equipment needs quickly. The 3rd ID was above 90% supplied when they attacked into Baghdad. Soldiers were very pleased with the condition of the equipment they were issued and were jokingly more than willing to take it off the theater's hands and send it to their home stations. By the time the conflict began, over 9,000 personnel powered AMC LSE SWA, the majority of them civilians and contractors who volunteer to take part and support the soldiers. One of the most significant accomplishments for APS was the provisional establishment of Camp Arifjan to handle the influx of equipment placed in theater. Although initial planning wasn't fully executable, AMC LSE SWA troops on the ground worked with home commands to make the APS program work. Looking at the roll up numbers of issue you can see the success of APS.[45] APS issued:

218 APS UIC sets
17,655 Pieces of Rolling Stock
124,400 sets, Kits and Outfits (SKO)
119,194 medical Supply class VIII items
482,993 Repair Parts Supply Class IX items
5,986 containers
1,911 Supplemental and Sustaining Issues
Operational Projects, IPDS, WPS,
EPW TWSS, Mortuary Affairs, Special Operations,
Airfield Matting, LAMS, Bridging

The numbers are magnified by the comments of the soldiers using the equipment. Soldiers have commended the shape, quality, and performance of the equipment over and over again.

Conclusion

The way ahead for APS involves ongoing support of Phase IV and OIF 2, OIF 3, and future rotations. AFSC continues to support by preparing equipment using APS infrastructure, contracts, and equipment. Phase IV will prove to be challenging as long lines of equipment currently wait for attention in the middle of desert.

[45] Morretta, Sal and Pagano, David. "AMC SWA Support of Operation Iraqi Freedom," 21 August 2003. AFSC Briefing Chart 12.

Chapter 3: Ammunition Management

At about 0900 hours on 11 September 2001, members of the OSC staff gathered around their TV sets and watched the US be attacked by terrorists. As noted by COL Redding Hobby, "within minutes, literally minutes, I think that was at 9:15 in the morning, within minutes we were reacting to what was going on….The terrorist attacks showed us that there was no thinking, no planning, we've got to be ready on a moment's notice with Air Force bombs and Marine small arms ammunition as well as Army ammunition. So for the ammunition for the joint services, all the services combined, it showed us that we've got to be ready."[46] Even if the command was not ready, they reacted as if they were. Within 11 hours ammunition was being shipped from our depots to our joint Service customers. That pace of support continued through the end of Operation Iraqi Freedom Phase III and beyond. OSC, now AFSC and JMC, made many significant changes in ammunition management to include the Munitions Readiness Report (MRR) and Centralized Ammunition Management (CAM). The story below traces those major changes and the support OSC and JMC made to Operations Enduring Freedom and Iraqi Freedom.

Evolution of the Munitions Readiness Report

Two days after the 9/11 attacks, MG McManus was called to Washington, DC to report to the Chief of Staff of the Army on the state of the ammunition stockpile. His news was not good and revealed longstanding issues in the funding and reporting of the stockpile. In the past DA tracked the stockpile based primarily on the number of tons. However, this metric did not accurately reflect the amount of ammunition that was not in a readily issuable condition. Much of the ammunition stockpile in 2001 was either in poor or unknown condition because funding shortfalls throughout the 1990s had precluded surveillance inspections and maintenance. Reporting systems assumed that if items were in the stockpile, and not coded for demilitarization, they could be issued. OSC and its predecessor commands had been warning about the condition of the stockpile for many years. However, when prioritization decisions were made, in an environment of constrained DA budgets, ammunition had generally been the loser.

A surveillance backlog grew in the 1980s and then became significantly larger with the return of stocks from SWA after Operations Desert Shield/Desert Storm. Most of the stocks returned from SWA were not given final inspections. Temporary Desert Storm condition codes, which were slated to be changed to standard codes after the ammunition had been inspected, were still in the database in 2001. The following excerpt from the Industrial Operations Command FY1998 Annual History indicated that the command recognized the problem:

> "The backlog of surveillance inspections over the last three years was due to shortfall in operations and maintenance funding for ammunition. At the end of

[46] History Office, Joint Munitions Command (Prov), Eaton, George, ed , *Colonel Redding C. Hobby, Chief of Staff, US Army Operations Support Command, End of Career Interview*. August 2002, pp. 20-21

> the Cold War the ammunition budget was approximately $400 million annually. Today, the ammunition program is funded at $230 to $260 million annually. The SMCA had to allocate their reduced resources for ammunition stockpile based on priorities. Surveillance was not a top priority. It was a conscious business decision to assume a level of risk and not to fund ammunition surveillance at 100% percent. The IOC was willing to temporarily risk not knowing the condition of our total ammunition stockpile."[47]

The situation did not significantly improve from 1998-2000, but senior Army leadership did not seem to understand the implications. All they saw was that there was a lot of ammunition in the system and they believed it could be rapidly prepared for issue.

In addition to surveillance issues, ammunition maintenance was chronically under funded in the 1990s. This condition continued even after the World Trade Center attacks. The following excerpt from the OSC FY2002 Annual Historical Report illustrates the point:

> "In FY 02, there was an established Army Ammunition Maintenance requirement of $48M. We received $4.78M in OMA budgeting, and $10.26M in Defense Emergency Response Fund (DERF) funding. At year-end, we received $12.1M in OMA funding, for a total of $27.13M. This funded the renovation of 40mm Grenades, 105mm Howitzer, 120mm Tank, 84mm AT4, APERS Mines, Comp C4 Demo Blocks. The funded rounds have a replacement value of $254.98M, and a total tonnage of 12.3K. All rounds renovated were on CSA shortfall list, and supported the Global War on Terrorism."[48]

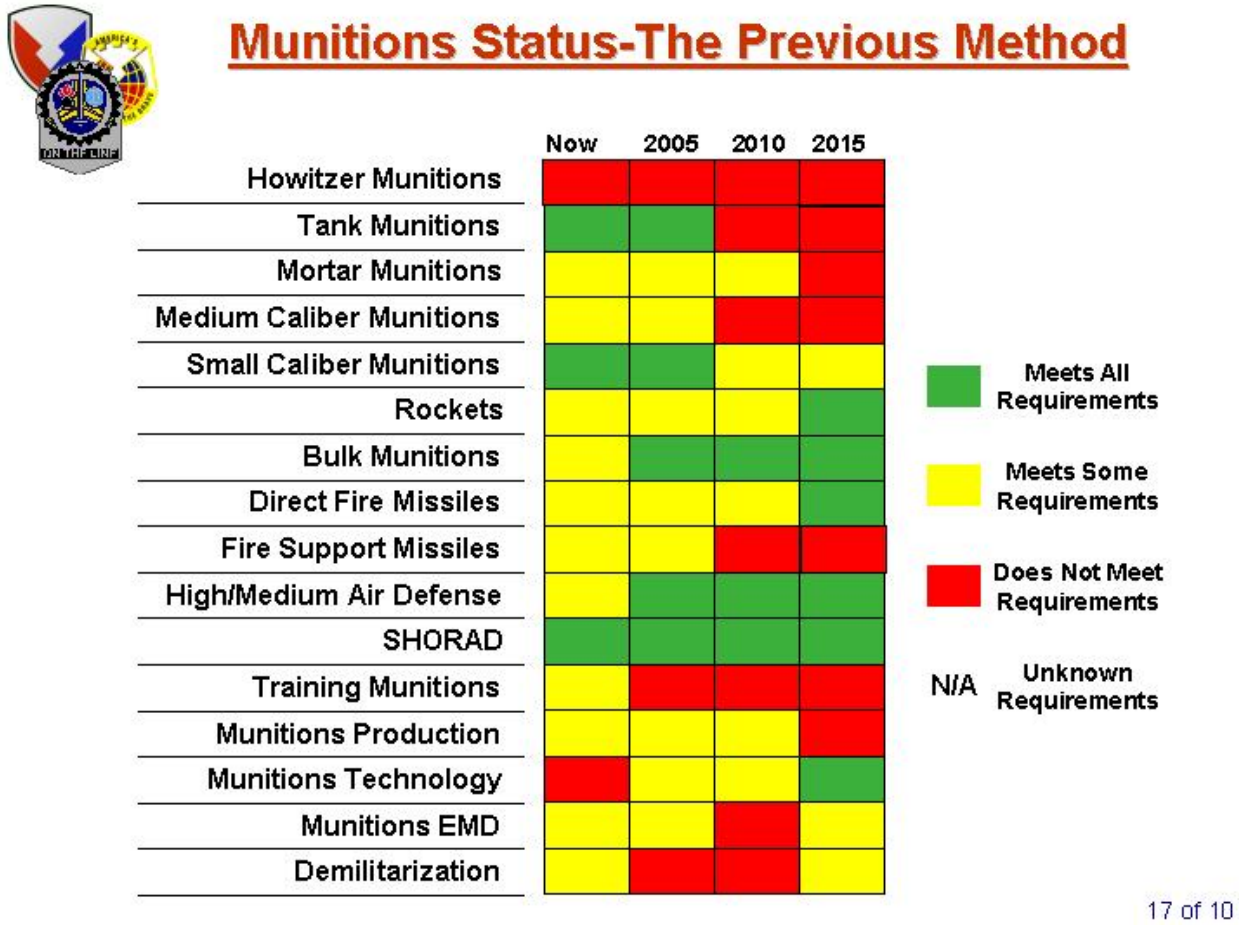
FY2002 funding was in place prior to the September 11, 2001 attack and the numbers above may appear to be overly critical in the face of extreme pressure and competition for funding ongoing combat operations in Afghanistan. However, the trend is clear. Maintenance was under funded. Late year plus ups are difficult to implement. In the GOGO installations last minute funding may come after it is too late to execute man-years in the FY. For GOCO operations, it takes time to modify contracts, but the work can be executed the following year. However, most of the Army's depot maintenance is executed in GOGO operations.

On 13 September 2001 MG McManus briefed the senior army leadership on the readiness of the ammunition stockpile. The old reporting method had shown the entire stockpile. However, as the briefing was refined to focus specifically on events in SWA, it became clear that the data was indicating shortfalls in the available stocks. The stockpile was intended to support two major regional contingencies (MRC). However, it was questionable if the inspected and maintained stockpile could support even one MRC plus multiple small scale contingencies. In addition, with the negligence of the Time Phased Force Deployment system in the 1990's, ammunition managers did not have visibility of the full requirements. Many unforecast or undocumented requirements were not included. Theater OPLANS, Presidential drawdowns, special Congressional interests, etc left a void in the requirements and budget

[47] Industrial Operations Command, Annual Historical Report, FY 1998, p. 240.
[48] Operations Support Command, Annual Historical Report, FY2002, p. 268.

process. What was not readily apparent prior to focusing specifically on SWA operations was that the wartime stocks for SWA were approximately 25% short of requirements. The ammunition base was unable to ramp up in a short period of time to make up those shortfalls. Finally, approximately 45% of the wartime stocks were stored in the Pacific, not in SWA or CONUS. [49]

In addition to not clearly indicating that many stocks had competing demands, the old methods of reporting the stockpile focused on funding and training ammunition rather than



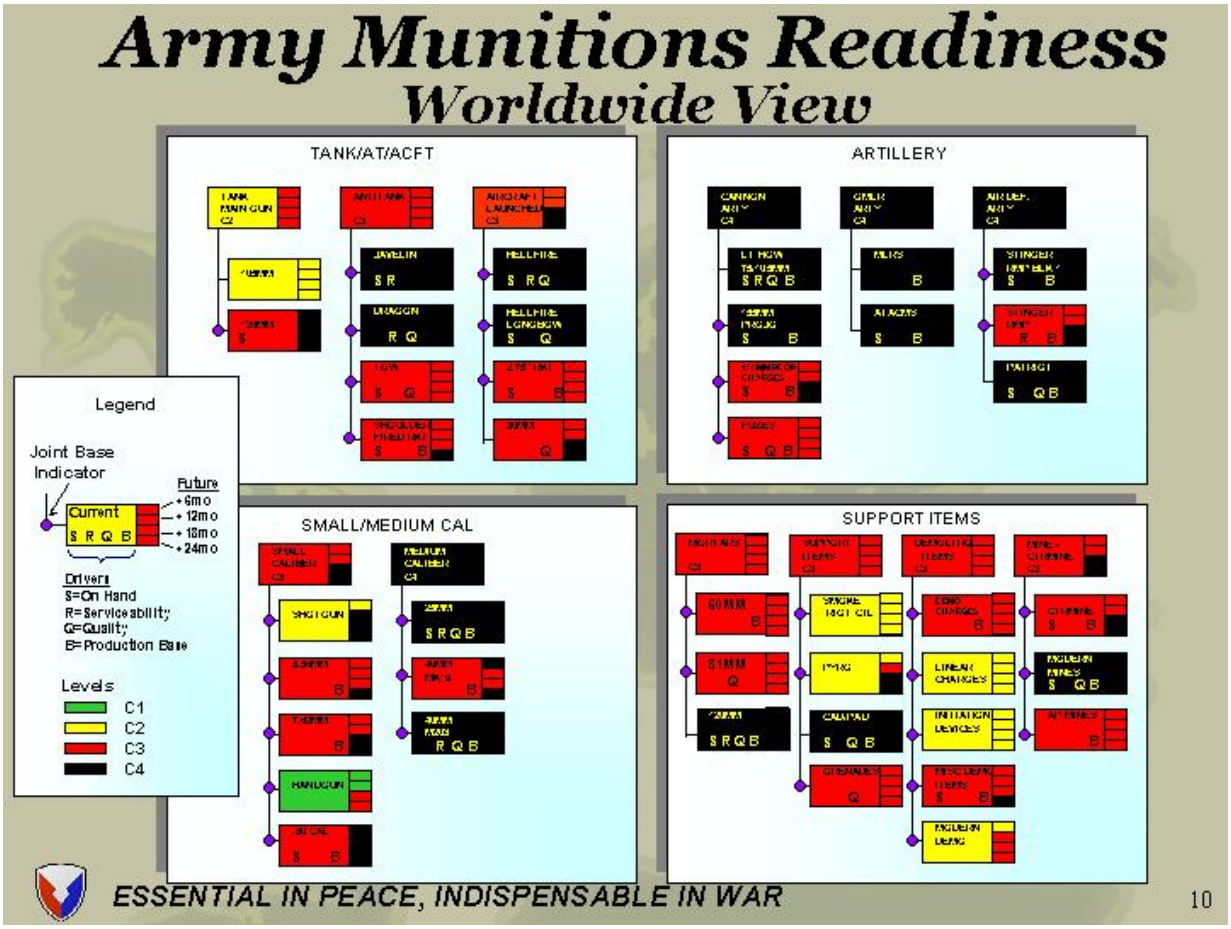
Old System of Reporting the Ammunition Stockpile[50]

actual readiness of the stockpile or the relationship between stockpile and the warfighter. We knew that each year the POM did not make up shortfalls. However, the POM did meet most training needs, so the combat commanders did not broadly feel the potential warfighting impact. In a period where budgets were being cut and ammunition was a lower priority issue, the stockpile never improved. Decision makers never were forced to make hard, painful decisions

[49] Briefing, MG McManus, "Ammunition Support Issues and Challenges" (also listed as AtlantaXXVIII Briefing.ppt), undated, but ca May 02, slides3-4.
[50] Ibid, slide 18.

about ammunition like they did about training, or personnel costs, or the procurement of new weapons systems.

Suddenly, immediately after 11 September 2001, DA decision makers did have to contend with potential ammunition shortages. The true impact of Condition Codes E, F, K, and N was that ammunition the DA leadership thought was available could not be used for combat



Sample of MRR Reports[51]

without inspection and maintenance.[52] Resources in the POM could buy about 45% of the shortfall items. Due to the atrophying of the ammunition base in the 1880s and 1990s, surge operations could affect only 10% of the go-to-war shortfalls. To activate laid-away plants would take between seven and thirteen months.[53] Army decision makers would make hard decisions

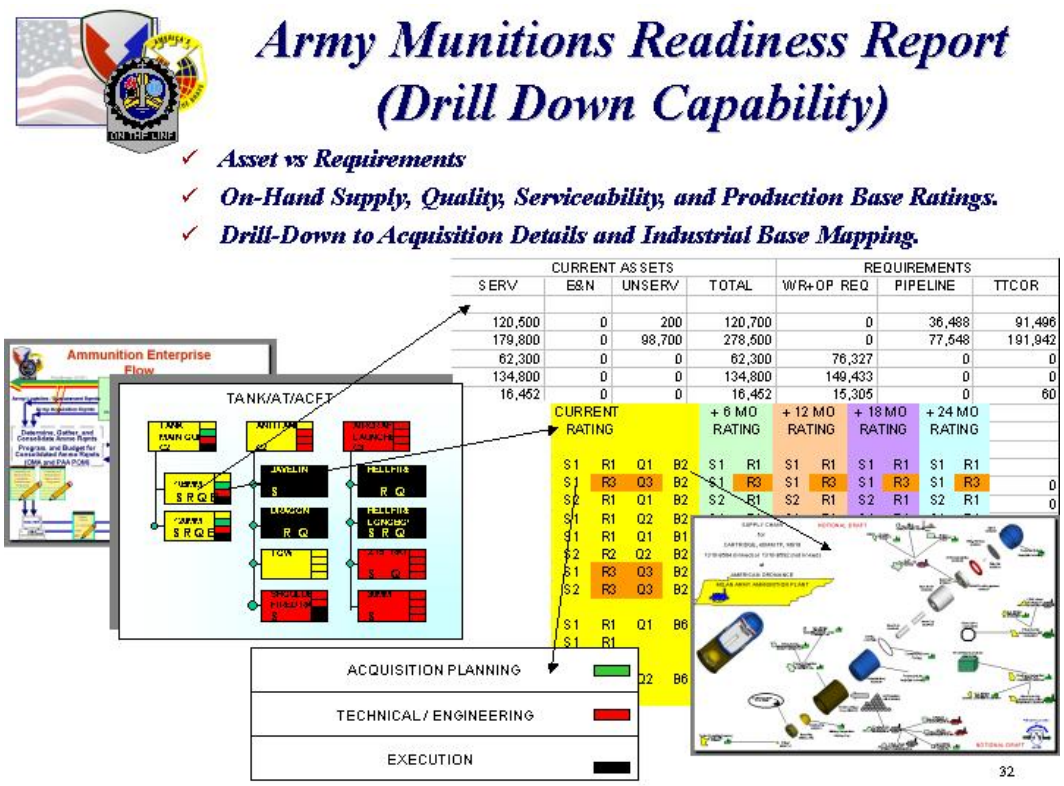
[51] Briefing, MGMcManus, "AFSC/JMC Overview Brief VCSA," December 2003, slide 10.
[52] Condition Codes represent the availability of stock for issue, not just on hand. CC A, B, and C can be issued. However, CCs E and F need light or extensive maintenance; CC J is suspended either due to a known problem or simply because two or more scheduled inspections have been missed; CC K means that items have been returned but never inspected to determine serviceability (many Desert Storm returns remain in this category); and CC N means items can be issued for emergency combat use only. See FM 4-30.13 Ammunition Handbook: Techniques, Tactics and Procedures for Munitions Handlers. Appendix E
[53] Op cit, slides 4 and 16.

now, but they needed to never again be in the position of being ignorant to the true status of the ammunition stockpile.

MG McManus returned from that meeting with the idea of creating a munitions reporting system that focused on readiness and the warfighter, not the POM and budget. He wanted a system that would show decision makers their options and choices framed in a familiar looking system. From this meeting came the Munitions Readiness Report (MRR). Within six months ammunition managers at the Operations Support Command were able to develop new system that presented ammunition readiness in terms all Army decision makers understand.[54] The Army is now measuring munitions readiness using the standard methodology for measuring unit readiness. AR 220-1 measures readiness of Army units and defines four resource areas for Unit Status Reporting—Personnel, Training, Equipment On-Hand, and Equipment Serviceability. These resource areas have been modified to fit munitions readiness reporting. The MRR uses On-Hand, Serviceability, Quality, and Production Base to quantify the status of the stockpile and the ammunition base. Readiness ratings are assigned based on the worst readiness rating among these four areas after using standardized computations.

The MRR measures Army worldwide capability in specific munitions categories, such as Small Arms, Mortars, Tank Main Gun, or Cannon Artillery. In each category each specific ammunition item is tracked. For example, in the Small Arms category the MRR tracks 5.56mm, 7.52mm, .50 cal, etc in every configuration. Finally, the MRR ratings are projected out to predict the ratings in six, twelve, eighteen, and twenty-four months. Rather than applying the ratings to a particular Army unit, worldwide requirements and assets as well as the entire industrial base are considered. The data in the Munitions Readiness Report includes both missiles and conventional ammunition. Newer items of munitions, not yet transitioned to National Inventory Control Point (NICP) Management, are included as well. The data included is the result of a collaboration involving input from many agencies. All of the MRR data resides in a secure database that uses calculations patterned after those found in AR 220-1. The on-line database provides the ability to "drill down" to individual munitions categories to explore the key issues driving readiness.[55]

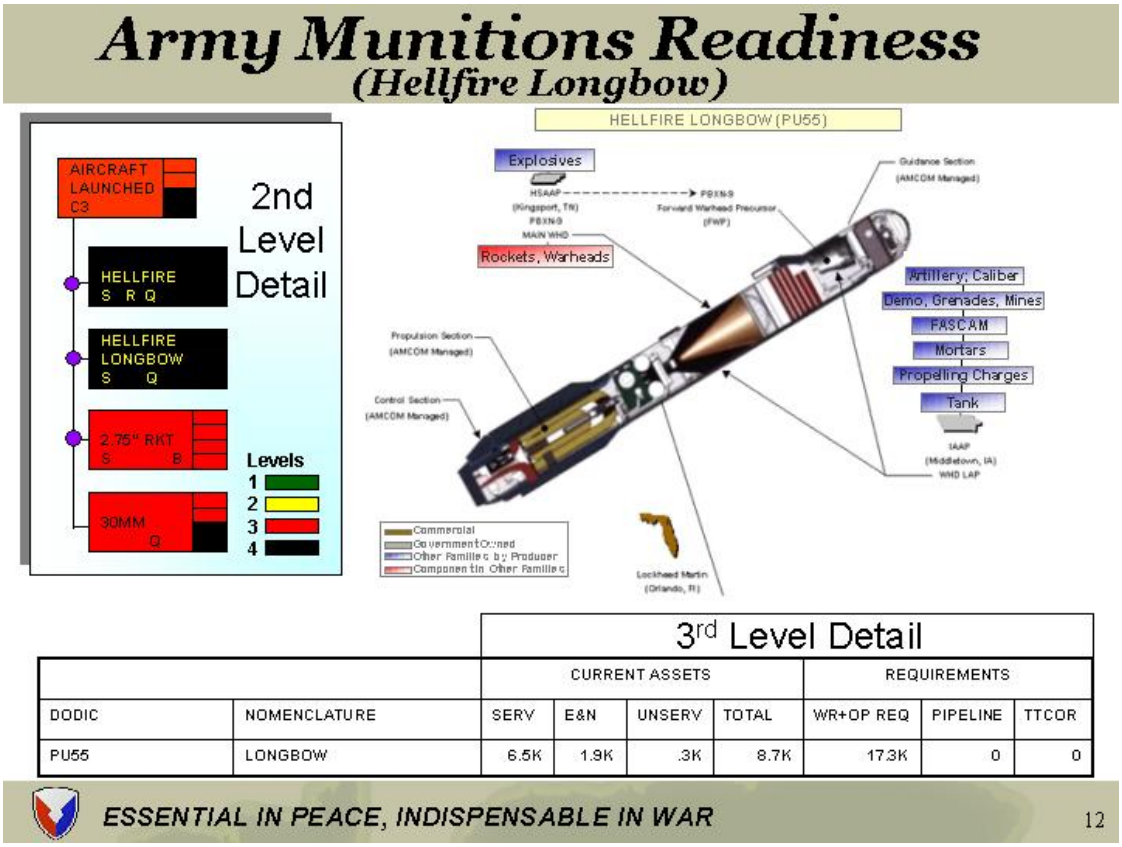
[54] See MG McManus Oral History Interview for more details.
[55] OSC, "Annual Historical Report, FY2002," pp. 4, 262. See also Jamieson, Edward, OSC briefing, "Army Munitions Readiness," 9 August 2002.



Drill Down Concept in Current MRR[56]

While the immediate impact of the MRR on OIF may not be readily apparent, the system is helping highlight and prioritize funding for specific ammunition pacing items and other shortages. The ability to project ratings into the future has already assisted the OSC/JMC in funding maintenance programs to get more on-hand stocks into issuable condition codes. In addition, visibility from the MRR allows decisions on shifting of stock from one theater to another. MRR impacts far more than deployment and decisive operations phases of OIF. However, it took the pressures of the predeployment phase to force a major and significant improvement in munitions readiness reporting.

[56] Briefing, MG McManus, "State of Army Ammunition" (Presentation at OD Week, APG), 9 May 2003, slide 32.



Sample drilldown for specific item[57]

Centralized Ammunition Management (CAM)

Another significant accomplishment of the AFSC/JMC that directly led to success in OIF was development of the Centralized Ammunition Management (CAM) system. This system allowed for more efficient distribution of training ammunition to deploying and mobilizing units.

A 1993 study concluded that ammunition distribution needed to be revamped to provide for more efficient distribution of ammunition. A plan implemented in 1993 and 1994 divided the continental United States into east, central and west regions. Each region received a Tier I facility to reduce transportation costs for training ammunition. Due to the large number of military units in the eastern US, that region had two Tier I facilities. Factors considered in ranking the installations were: the capabilities to outload, inspect and test, ship, store, maintain and demilitarize ammunition; the costs of operations; and location relative to training sites and ports. The prime determinant on volume was training ammunition, as that was the primary peacetime use of conventional ammunition. However, Tiering was also expected to ensure that the more critical ammunition was stored in depots capable of providing the quickest response to mobilization.[58]

[57] "AFSC/JMC Overview Brief VCSA," slide 12.
[58] Tooele Army Depot, "Ammunition Tiering," http://www.tead.army.mil/tiering.htm.

Four Tier I depots mainly contained required items needed in the first 30 days of mobilization, items needed for training, and items needed beyond 30 days to augment Tier II and III depots' war reserve stocks. Tier I depots would receive all support necessary for storage, surveillance, inventories, maintenance, and disposal. Tier II depots would normally store war reserves needed more than 30 days after mobilization, production offset items, and some non-required stocks awaiting disposal. Tier III depots would be caretakers for items awaiting disposal or relocation.[59] The four Tier I, ammunition facilities were:

East - Blue Grass Army Depot, KY
East - Crane Army Ammunition Activity, IN
Central - McAlester Army Ammunition Plant, OK
West - Tooele Army Depot, UT

Into the late 1990s funding was funneled to the Tier I and Tier II locations to improve outload facilities. However, money still lagged for maintenance and surveillance. Additionally, the Golden Cargo series of exercises were a means of transferring ammunition into the Tier I and Tier II depots as required. The transfer process went on into 2000 and 2001.

Despite working into the new millennium, Tiering may have been obsolete before it began. Tiering worked well in the old style Time Phased Force Deployment planning process. When the combatant commands developed their war plan and specific units were identified to execute those plans, the ammunition community could place required stocks for those identified units into the Tier I depots. However, by the late 1990's the Army was deploying differently using call forwards and flexible plans. In the words of MG McManus:

> Probably the biggest area we learned on the ammunition side was we had stocks malpositioned. As we went from a time phased force deployment, data-based approach to a deployment order kind of structure, we had leveraged an arcane concept called Tiering. Tiering was not effective for what we had to do in today's warfare… [W]e went through and we realized what was going to be required of us, that we had to rethink how we could be responsive to our warfighter's requirements.[60]

The concept of stocks flowing to units from specific depots would, in a flexible deployment, lead to malpositioned stocks and additional time and transportation requirements to get items to required locations. Installations help unit basic loads while AMC held sustainment stock. Even within AMC different MSC managed different ammunition items. Thus, a central control agency for ammunition readiness did not exist. Some ammunition items were in shortage position against requirements. In addition, spot shortages often occurred because of systemic levels management and location issues.[61]

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[59] Government Accounting Office, GAO Report 96-129, "Defense Ammunition: Significant Problems if Left Unattended Will Get Worse," June 1996, p. 61.
[60] MG McManus interview, p. 9.
[61] DA G4, Logistics Transformation Task Force, "Logistics Transformation: The Findings and Recommendations of the Logistics Transformation Task Force," August 2002, pp. 48-49. See also Annex D, pp 238-240.

In July 2001 General Ellis, FORSCOM CG, challenged MG McManus to develop a plan to manage all FORSCOM ammunition stocks. He wanted OSC to leverage its ammunition management expertise and automation to control all training ammunition stocks as well as deployment and mobilization stocks. This would eventually lead to OSC management of unit ammunition basic loads (ABL). Part of the intent was to reduce the level of ammunition held in installation ASPs and increase visibility of the entire ammunition stockpile. Prior to this, OSC lost visibility of ammunition once it was issued to the installation level.[62]

The events leading up to OIF highlighted the concerns noted above and the limitations of the Tiering concept. As OSC began to distribute sustainment stocks, deploying units were also requesting items to complete their ABLs. Because OSC had no visibility over the retail ammunition supply system, each request was unexpected. Within a short period of time, Army Reserve and Army National Guard units were also mobilizing. In addition to their UBL, they also required additional training ammunition. Finally, because OSC did not have visibility over the ammunition requirements of the other Services, they had not been able to adequately plan the automation and infrastructure at the Tier I depots to handle simultaneous Army, Marine, Navy, and Air Force outloads. In particular, Crane Army Ammunition Activity failed to meet some shipments deadlines when Army and Marine units required ammunition at the same time.[63]

While extremely painful at the time, these issues were an important catalyst to create CAM and accelerate implementation. CAM is today fully deployed in CONUS for FORSCOM ASPs and is managing ABL as well as training ammunition. CAM allowed for more effective and cost efficient distribution of stocks by shipping in more complete loads, shipping from the most efficient source instead of just the assigned regional depot, and shipping direct from the plants when needed. Management of the installation-based stocks is done from Rock Island and has resulted in better inventory and quality control. The fact that such a change has been made while the Army was at war cannot be downplayed. This amounted to trust, cooperation, and integration between FORSCOM, IMA, ACSIM, and JMC. CAM is Chief of Staff Army Critical Logistics Transformation Task Force Initiative #22, Class V Ammo Management. JMC has visibility of all ammunition stocks in CONUS. On hand stocks at the installation ASPs have been significantly reduced. JMC is planning the inclusion of OCONUS stocks.[64]

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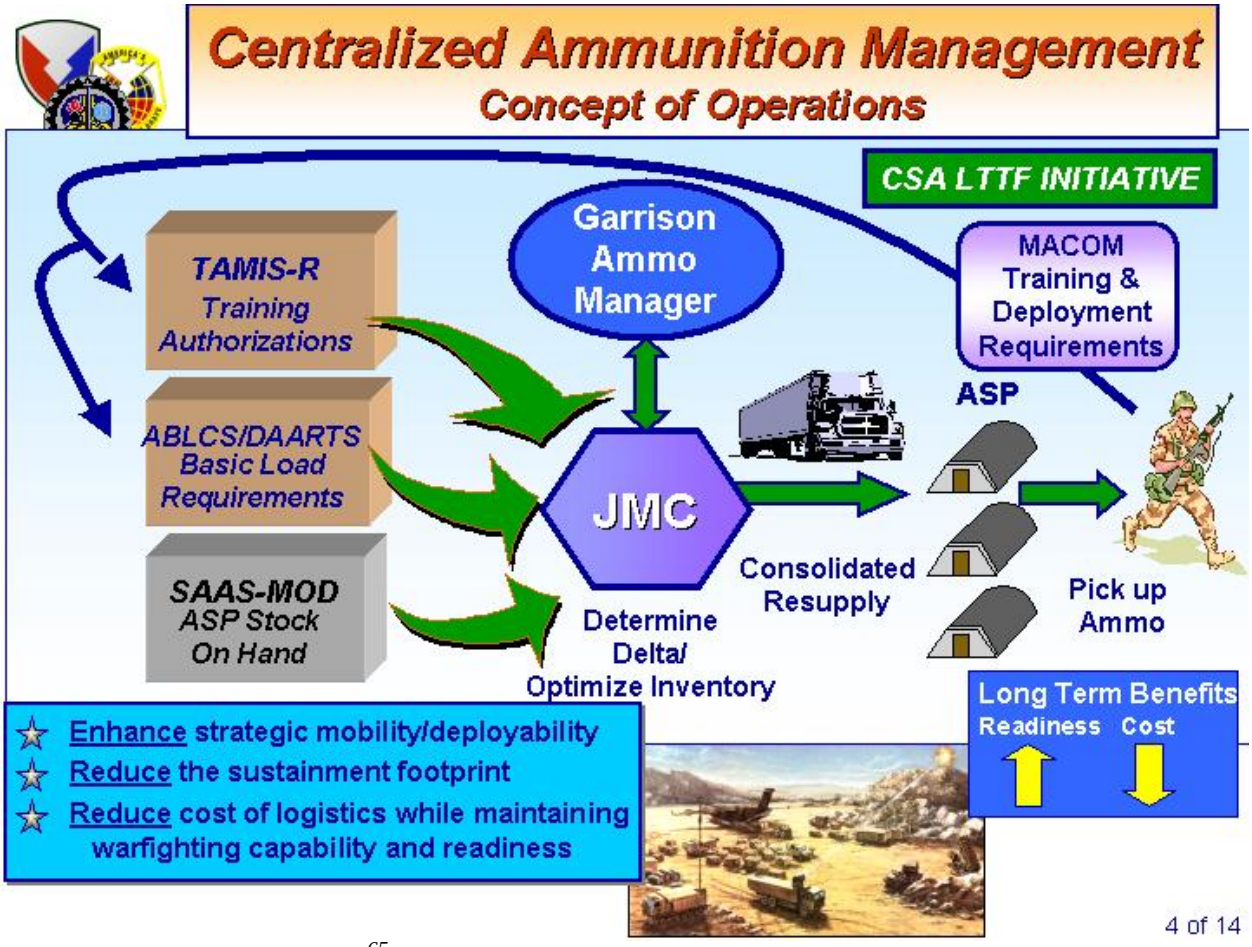
[62] Briefing, MG McManus, "Ammo Laydown for CG FORSCOM, 10 July 2001." See also Memo, LTG McNeill, DCG FORSCOM, Subject: Centralized Ammunition Management (CAM), ca 15 Oct 2003. The LTG McNeill memo says that GEN Ellis challenged OSC/JMC in March 2001, but the briefing is dated July 2001 and makes no mention of OSC taking on the ASP mission. The July 2001 briefing would be the correct venue for GEN Ellis to ask OSC to take on the mission. Complicating the issue was the creation of the Installation Management Agency and their ownership of posts, camps, and stations.

[63] Email from MG McManus, Subject: Supporting Our Customers—Why We Exist, 22 April 2003.

[64] Briefing, Jane White, "Centralized Ammunition Management (CAM)," 12 February 2004, slide 3.



CAM Concept of Operations[65]

During OIF Phases I-III, CAM assisted in the rapid and efficient deployment of ammunition to active, reserve and National Guard, and joint forces. Over 99% of all shipments were on time. Specifically, CAM supported the mobilization of over 150,000 people on 30 different sites. Even as Phase III was ongoing, the CAM system was already planning the retrograde of ammunition to ensure that stocks returning from theater went to the best location, not just the old Tier I depots. In one example, CAM met unforecast requirements from the 2nd Armored Cavalry Regiment (ACR) Task Force and delivered all stocks in just 48 hours.[66]

[65] Ibid, Slide 4.
[66] Briefing, Cindy Lenger, "Centralized Ammunition Management (CAM) Update to COL (P) Radin," 11 September 2003, slide 8.

CAM Accomplishments as of late-2003.[67]

Other Ammunition Contributions

Throughout Operations Noble Eagle, Enduring Freedom, and Iraqi Freedom, AMC's Joint Munitions Command (JMC) shipped a total of 115,250 short tons of conventional ammunition, including 51,000 tons that was shipped directly to Southwest Asia between December 2002 and March 2003. Of the remainder, most went to units that later deployed to Southwest Asia, sometimes in response to "short fuse" requirements. For example, JMC arranged for the shipment of 33 tons of ammunition from eight different storage sites to Fort Polk, Louisiana, in less than two days, after receiving an urgent request from 2nd Armored Cavalry Regiment Task Force.[68]

The JMC supported all Services. By January 2002, the command shipped over 18,000 tons of ammunition to support Operation Noble Eagle/Enduring Freedom and met all required delivery dates. During this time, we were able to support critical needs such as the 105mm artillery rounds used on the AC-130U gunship for the Air Force Special Operations Command.[69] From 11 September 2001 to April 2003 JMC shipped 40,400 Air Force General Purpose bombs

[67] Jane White briefing, slide 8.
[68] JMC PAO Office, Input to Army Green Book, 15 May 2003.
[69] OSC FY2002 ACH, p. 253

and penetrators. During the same time frame the command shipped 13,847 Navy bombs and penetrators.[70]

JMC managed mobilization training ammunition at the same time as they were pushing ammunition overseas and downloading ammunition in theater. While units were requesting and OSC was supporting the issue of basic loads, training ammunition remained a high priority. Mobilization of National Guard and Reserve units requires significant amounts of training. Lisa Swanson, an ammunition manager, stated: "I think one of the things that I've learned from being in [the Commodities Management structure] is that, so many times people think in terms of what ammunition is required strictly for what it takes to go to war. But there's a tremendous amount of ammunition that's needed to train the troops before they go over there and go to war."[71] In CONUS mobilization training ammunition alone for the period December 2002 – April 2003 was 1,900 tons of small arms and 40mm. [72]

In both CONUS and SWA JMC ammunition managers and QASAS played critical roles. In CONUS, JMC was short personnel and rapidly recalled retired QASAS. The command believes that this was the first time we had ever taken such a step—it did not happen during Desert Shield/Desert Storm. In SWA, ammunition safety managers were critical to the download of APS ammunition ships. In Kuwait, ammunition managers also assisted in the development of new ammunition storage areas. The operating ASP in Kuwait was not large enough to handle the download of ammunition ships. JMC QASAS developed a site plan and supervised the creation of berms and gravel areas to download containers.[73] QASAS assisted the warfighter in their assembly areas and some moved forward in Iraq as the war started and continued to advise and support the warfighters. Most QASAS considered this effort "all in a days work."[74]

In addition to QASAS, the OSC/JMC Ammunition Support Team (AST) deployed four times to SWA in support of OEF and OIF. The team, comprised of military and QASAS personnel, provided Class V ammunition management and explosive safety support to Army Prepositioned Stocks-Set 3 (APS-3) LMSR (light medium speed roll-in roll-out) and sustainment vessels. All six LMSRs were downloaded in Kuwait with accountability of assets transferred from AMC to theater ammunition units for further distribution to the Warfighter. Similar download operations were supported during peacetime maintenance cycle operations, where soldiers perform an array of functions to include ammunition management, inventory, surveillance inspections, and some limited maintenance. The AST was a key player in the APS-3 conversion from October 2000 to August 2001, when 60,000 short tons of ammunitions were reconfigured from breakbulk to containerized strategic configured loads. This logistical enhancement proved invaluable during the download of the MV Carter during OIF. This was the team's most visible work since it's creation following the 1991 Gulf War. A total of 861 of 2,500 containers were expeditiously downloaded from Kuwaiti waters and processed for line-

[70] Adrienne Johnson, Email to Dan Carlson, Subject: Re: MSC Input f/Article for Army Green Book (2003-2004), 12 May 2003.
[71] Lisa Swanson, Oral History Interview, 28 August 2003, pp 1-2.
[72] Mark Schneider, Email to Andrew Lute, Subject: Ammo Stockpile Review to MG Bond, 25 April 2003.
[73] Dan Brown, Oral History Interview, 7 October, 2003, p. 5.
[74] For a more detailed explanation of ammunition support in theater see Randy Talbot, "AMC LSE SWA OIF Phase I-III" September 2003. All backup files for the AMC LSE SWA history are archived at the AFSC History Office.

haul movement to receiving ammunition storage areas. The MV Carter was anchored two miles off shore, and containers were transferred onto small watercraft for transfer to shore. Following offloading at pier side, the containers were loaded onto trailers for line-haul movement to a container holding area. AST planners aided the CFLCC staff in identifying the least number of containers that could be downloaded to sustain land forces through combat. The AST was critical in ensuring that the combat forces had the right ammunition on hand when combat operations commenced.

Additionally, Ammunition Logistics Assistance Representatives (Ammo LARs) were deployed to SWA in support of Operation Iraqi Freedom/Enduring Freedom. The Ammo LAR program expanded greatly between 2000 and 2003, growing from only two Ammo LARs to an authorized strength of twenty. Ammo LARs provide JMC support to the warfighter and are assigned to Logistics Assistance Offices throughout the world. Since 11 September 2001, 22 Ammo LARs deployed to Kuwait, Qatar, Iraq and Afghanistan in direct support of deployed combat units. Several LARs have deployed three times each. The Ammo LARs worked closely with supported units on a wide range of ammunition logistics issues to include requirements determination, storage, transportation, explosives safety, ammunition functioning characteristics, and quality assurance.

A final critical contribution of AFSC/JMC to the war effort was in the management of ammunition production. Several contracts had to be accelerated and production numbers increased. This required coordination across many members of the OSC/JMC staff. During FY 02 the services increased our workload by 25%. The FY02 budget was programmed for $520 million, but after the 9/11 attack this was increased by over $120 Million, primarily through the addition of Defense Emergency Relief Funds. During this timeframe the stockpile management section processed over 889 basic customer orders with 261 amendments to orders. This was up from FY01 by 100 orders.[75]

As a result of the Operation Enduring Freedom, JMC received a plus-up requirement for Air Force BLU-109 Penetrator bombs. The command reacted quickly and awarded additional quantities to the current producer, National Forge Company. This expedient effort was appreciated by the Air Force and prepared the command for more accelerated production in support of OIF. In other examples JMC entered into an incentive arrangement with American Ordnance (AO) to increase M107 High Explosive Projectile production capacity to meet Army training needs, USMC orders, and FMS orders. AO opened Line 3 at Iowa AAP to increase M107 capacity and provide dedicated capacity for Comp B fill for out year requirements. AO opened a Comp B M107 facility at Milan AAP, providing a second source for Comp B M107 rounds. In a final example, the command also expedited production of CXM-7 (the explosive used for bombs).[76]

[75] OSC FY2002 ACH, p. 263.
[76] OSC FY2002 ACH, pp. 253, 270, 277.

Operation Noble Eagle and the Resulting National Guard and Army Reserve Deployments[77]

Ammunition operations in support of OIF did not include just the production and shipping of rounds. Due to the terrorist threat the ammunition plants had to increase force protection. As most protection at the plants is tied to the facilities use contracts or other funding streams, increasing security was not a routine matter. The issue was resolved through the assignment of National Guard and Reserve units to protect our plant structure. The paragraphs below explain the process, results, and some lessons learned.

After the Sept. 11, 2001, terrorist attacks, the President established a new office of Homeland Security within the Executive Office of the President. This new agency is intended to coordinate efforts across multiple functions to accomplish tasks such as upgrading intelligence and security to protect Americans on U.S. soil, providing recovery assistance to disaster sites, helping victims' families, increasing number of law enforcement personnel, and providing health care for displaced citizens. The President and Congress moved to implement tough new airline security measures that tightened background checks for airline screeners and workers, dramatically expanded the Federal Air Marshall Program, created strict new baggage security requirements, and tightened security in all airport areas. The President also established an advisory committee for cyber security to ensure that America's key infrastructures are protected. During a Pentagon press briefing on 25 Sept. 2001, Secretary of Defense Donald H. Rumsfeld announced that the war against terrorism would be known as Operation Noble Eagle. Operation Noble Eagle refers to U.S. military operations in homeland defense and civil support to U.S. federal, state and local agencies. Veterans say that in the modern military world, names such as this evoke a confident, predatory force overhead, and are selected with great calculation. The name for the operation initially referred to the air patrols launched by the Air Force after the attacks but was expanded to cover all defensive measures. A computer produced several names that hadn't been used before, and the director of operations for the Joint Chiefs of Staff selected the official name of the operations.

One of the first actions taken by Operation Noble Eagle activated Air National Guard and Air Force Reserve Units to patrol U.S. airspace. These forces were prepared to shoot down any airliner that terrorists might hijack and use as flying bombs, as was done on Sept. 11, 2001. By mid-January, 2002, more than 13,000 fighter-jet patrols had flown round-the-clock, at a cost of more than $324 million to taxpayers. The majority of these missions were over New York and Washington, D.C., but some other cities also received air cover. It was the first time since the Cuban Missile Crisis in 1962 that constant combat air patrols protected the skies over the United States.

Under Operation Noble Eagle, more that 35,000 service men and women were quickly called up to serve in homeland defense and civil service. National Guard troops were called in to assist in the New York City recovery effort on that very same day that the two jetliners crashed into the twin towers of the World Trade Center. National Guard support teams were among the first on the scene to check for chemical, biological, and radiological hazards. Secretary Rumsfeld requested and President Bush approved an order to call more than 50,000

[77] This section is taken from the OSC FY2002 Annual Command History, pp 15-20.

Reservists to active duty. Each service reviewed it's mission and identified personnel requirements up to 35,000 reservists as follows: Army, 10,000; Air Force, 10,000; Navy, 3,000; Marines, 7,500; and Coast Guard, 2,000.

Within hours of the terrorist attacks, several National Guard units were called to state active duty (SAD). Shortly after being released from two weeks of SAD, several of these units were federally mobilized in support of Operation Noble Eagle and Operation Enduring Freedom. The President has the authority to mobilize up to one million reservists (units and individuals from all branches) for a period of up to two years. There are multiple levels of mobilization. Mobilizations of this scope are referred to as 'partial.' The President's authority under a partial mobilization includes the resources needed for their support to meet the requirements of war or other national emergencies involving a threat to national security. Congress must declare a state of emergency in order for there to be a 'full mobilization.' Once a state of national emergency exists, Congress can extend full mobilization to 'total mobilization' by activating and organizing additional units beyond the currently approved force structure. Total mobilization brings the industrial base up to full capacity. Due to the nature of the emergency of September 11, these units had virtually no notice before being ordered to provide immediate support to civil authorities and then federal mobilization.

Mobilizing National Guard troops also has a strong symbolic value. Just after Sept. 11, President Bush was quoted as saying, "You understand what I'm facing. I have to alert the American people to the ongoing dangers without creating alarm and irrational fear." President Bush decided to send National Guard troops to assist with security at airports, bus stations, bridges, and the U.S. borders with Canada and Mexico, in addition to flying combat air patrols. In reference to these deployments, Craig W. Duehring, Principle Deputy Assistant Secretary for Reserve Affairs, stated, "No other single action more clearly demonstrates the national resolve than to mobilize the National Guard and Reserve Forces of America." In a statement before the Military Personnel Subcommittee of the Senate Committee on Armed Services, Mr. Duehring stated, "Because the Reserve Components now comprise almost 50 percent of the Total Force, they are a key part of America's Total Force Defense and an essential partner in military operations ranging from homeland defense, peacekeeping, humanitarian relief, and small-scale contingencies to major theater war."

The Pentagon refused to say how many aircraft, ships, and troops are defending U.S. territory or where they were, even after TV cameras showed the carrier U.S.S. George Washington off the coast of New York. Only the Coast Guard, which in peacetime fell under the authority of the Department of Transportation (now the Coast Guard is under the authority of the Department of Homeland Defense), has released detailed information about the number and location of its ships and personnel involved in port security across the nation. Total Reserve Force strength was disclosed once the call-ups were complete and the numbers were as follows: Army National Guard, 350,000; Army Reserve, 205,000; Naval Reserve, 87,800; Marine Corps Reserve, 39,558; Air National Guard, 106,600; and Air Force Reserve, 75,600. The Total Ready Reserve, which also includes the Coast Guard Reserve, Individual Ready Reserve, and Inactive National Guard consists of 1,240,008 personnel. In order to maintain the numbers at these levels, a number of stop-loss measures have been implemented.

Mr. Duehring also refers to the readiness of the Reserve Force in his statement to the subcommittee. He said, in part, "By noon on Sept.12th, more than 6,000 Guard and Reservists were providing medical and technical assistance, patrolling streets, flying combat air patrols, and providing security at numerous critical sites across the country. By the end of the week, the Coast Guard was engaged in its largest mobilization since World War II. On Sept. 14th, three days after the attacks, when President Bush authorized a partial mobilization of up to 50,000 Guard and Reserve members, there were already 10,331 National Guard and Reserve filling critical positions in a voluntary status. A review of events show that Reservists were among the first on the scene in New York, Washington, D.C., and Pennsylvania, in addition to the large numbers of civilians who were already serving as police, firefighters, or EMTs."

The National Guard, under Operation Noble Eagle, will also play a prominent role supporting local and state authorities in terrorism consequence management. At its core is the establishment of 32 Weapons of Mass Destruction Civil Support Teams (WMD CSTs) comprised of 22 highly skilled full time, well-trained and equipped Army and Air National Guard Personnel. The WMD CSTs will deploy to support civil authorities at domestic chemical, biological, radiological, nuclear, and high yield explosive sites. These strategically placed teams will support our nation's first responders as a state response in dealing with domestic WMD incidents.

Potential terrorist targets that get the most attention are national landmarks like the Statue of Liberty and the Golden Gate Bridge, and high-profile events such as the Olympics and the Super Bowl. However, military installations are equally considered as potential terrorist targets. In light of this, the Operations Support Command (OSC) Command Group visited its installations to review and access the status of force protection and security programs. Installation commanders were asked to address their implementation of, and compliance with policies governing such measures as verification of the identity of all personnel entering U.S. installations, vehicle inspections, and inspection of identification cards and security badges, etc. Each installation was accessed on such matters as mission(s), numbers of civilian and military personnel, current size of security staff, and number of mission essential vulnerable areas (MEVAs).

These assessments were necessary for the Command Group to determine how to allot National Guard troops assigned to augment security at OSC installations. Another important issue that needed to be assessed was the accommodations and quality of life issues such as housing, food, laundry, and bathing facilities, and materiel concerns such as maintenance support and petroleum, oil, and lubricant (POL) support for deployed troops. If these facilities and services were not available internally, the availability of commercial sources had to be assessed. There were also safety issues to be addressed such as fire protection and medical emergency response. Each installation had its potential strengths as well as challenges.

The OSC directed the formation of the Homeland Defense Office (HDO) as part of the Emergency Operations Center. Teams were created to better address matters of concern and to initiate corrective action when needed. These installation team advocates would attend meetings, teleconferences, etc. when force protection issues were discussed. They served as points of contact (POCs) when concerns were raised. Also, they disseminated security related information

to leadership and the workforce. For particular security and deployment subjects, some team members were assigned as subject matter experts.

Among those units of distinction assigned to augment security at OSC installations under Operation Noble Eagle was the 1st Battalion – 185th Infantry Regiment of the California National Guard. This unit was originally constituted on July 22, 1885, as the 6th Infantry Battalion of the California National Guard with its headquarters in Stockton. In the following years, the unit has gone through many changes including expansions, consolidations, reorganizations, redesignations, and physical moves of its HQ. They have been activated and inducted into Federal service during most of our major conflicts. During Operation Noble Eagle, they augmented security at Hawthorne Army Depot and Sierra Army Depot.

Company A, 268th Military Police Company of the Tennessee National Guard, based in Ripley, Tennessee, helped to secure the Milan AAP along side the existing Ordnance Ground Force. They also augmented security at Holston AAP. Since being deployed, the soldiers proudly refer to themselves as Team Milan.

3/268th Military Police Company based in Ripley, Tennessee
Assigned to Holston AAP 23 November 2001 – 22 August 2002
37 members

The 181st (Light) Infantry Regiment of the Massachusetts National Guard helped secure Watervliet Arsenal. An element of Company A, based in Worcester, was mobilized to help secure Natick Lab's Installation Defense Force. The 1st Battalion of the 181st has also been deployed to Bosnia-Herzegovina as part of the command Task Force in support of the ongoing rotation of active Army and Guard divisions in support of Operation Joint Forge. The 181st is one of the oldest unit in the U.S. military with roots tracing back to 1632.

The 88th Military Police Company of the U.S. Army Reserve, based in Newport News, Virginia, was tasked to provide additional security at the Devens Reserve Forces Training Center about 40 miles outside Boston. They have also augmented security at the Barnes Federal Building in Boston. Prior to this latest deployment, they had served for eight months in Germany.

The 1st Battalion of the 148th Infantry Regiment (Mechanized) of the Ohio National Guard, also known as the "VooDoo" Battalion, was assigned to protect Ravenna AAP and Rock Island Arsenal. The State Mission of the battalion is to provide units trained and equipped for immediate deployment in support of natural disasters and civil disturbances and to aid to civil authorities for domestic disaster preparedness and emergency response. The unit was designated in 1846 at Camp Washington, OH. The battalion has participated in many military actions including the Mexican War, the Civil War, the Spanish-American War and both World Wars. Eight individuals in the 148th have been distinguished with the Congressional Medal of Honor.

The 1st Battalion of the 141st Infantry Regiment (Mechanized) of the Texas National Guard, based in San Antonio was tasked to augment security at Lone Star AAP and McAlester AAP. The origins of segments of the battalion can be traced back to the Texas Revolution, such as Company A, First Texas in 1836, and other infantry companies formed in the 1870s and 1880s. The unit also served in Europe during World War II. Other units serving with distinction include the 363rd Military Police Company of the Pennsylvania/West Virginia National Guard which protected Scranton AAP, and 268th Military Police Company of the Missouri National Guard which protected Iowa AAP, Kansas AAP, and Lake City AAP.

A team of force protection planners from OSC conducted an extensive mission analysis of these sites. Recommendations were made on how to enhance security. Recommendations were first made based on ideal conditions and then on the availability of assets and funds. Among the suggestions made were for installation of better barriers, improved lighting, and videotaping for surveillance. Each site's force protection plan was put on CD for use in possible future missions. This evaluation concluded that, overall, the deployments went very well. This can be attributed to several factors. These types of missions are often part of the state's Emergency Operations Plan (EROP). Also, 31 percent of the MPs are civilian law enforcement officers. This made their transition to MPs especially smooth.

Important lessons were learned by conducting this mission analysis. One of these lessons was "deploy units, not numbers." By calling entire units to active duty, the soldiers have the support they need in areas such as personnel, communications, operations, supply, etc. This is cited as "essential" in environments like AMC sites where there is no life-sustaining infrastructure. Another lesson learned was to "activate and establish the chain of command." In these missions, the individual AMC sites operationally controlled each platoon. Although this worked, it was cumbersome. It was suggested that the typical battalion and brigade structure be implemented to support company-level units.

One example of the success of the deployments under Operation Noble Eagle was the welcome and hospitality received by the members of Charlie Company of the 1-148th Infantry of the Ohio National Guard. They were sent to augment security at Rock Island Arsenal, where HQ, OSC is located. Upon their arrival, employees at the Arsenal felt much more secure and the appreciation showed. Employees, local businesses, and radio stations donated items in an effort to boost the soldiers' morale. They were also given free tickets to sporting events. The Guard members were very pleased with their treatment, food, and facilities. To show the Arsenal's appreciation, the soldiers were given an Operation Noble Eagle coin, a commander's coin, and nicely framed aerial photos of the Arsenal. To show their appreciation, they gave the Arsenal a

flag from their home city of Delaware, Ohio.

Conclusions

Whatever its name—OSC or JMC—the ammunition command responded to events in SWA in a coordinated variety of roles. Despite some initial glitches in our ability to present stockpile readiness information to DA, the command was uniformly successful in supporting the warfighter. Through the downloading of APS ammunition ships, creation of in-theater ammunition storage areas, issue of both training and UBL ammunition, and the management of increased demands on the production base, JMC supported the ammunition requirements of DoD. The command continues to do so in Phase IV of OIF and has added on more missions. That story remains to be told.

EPILOGUE

As OIF shifted out of decisive combat operations and into Phase IV, AFSC continued its support. The Army leadership, who had expected a relatively light force would remain in Iraq after Phase III, did not forecast the extent and length of Phase IV. AFSC took the changes in stride. LOGCAP has continued to grow and support forces throughout the theater. APS units have prepared significant amounts of materiel for continuing operations. Meanwhile, the reset mission and preparing equipment for return to long-term storage has lagged. Ammunition managers have been retrograding stocks to CONUS, but have also continued to support combat in Iraq. The AMC LSE-SWA remains in place and AMC LSE-Iraq was formed to facilitate command and control of the unit Logistics Support Elements in Iraq. We have continued to mobilize installation and unit Logistics Assistance Offices to form LSEs and deploy. In addition, we have used many individuals from the LAOs and the commodity command LAR programs to sustain support to the Soldiers and units in theater. In addition a large number of Army civilians have volunteered to deploy to SWA to serve in a wide variety of other support functions.

The long-term nature of Phase IV illustrates a point made by MG McManus about the use of Phases to frame combat operations. The use of Phases assumes a sense of linear operations, which was not the case in OIF. This was non-linear and non-contiguous operations. AFSC was supporting several phases simultaneously.

EATON: As we already mentioned everyone wants to see clean phases, we prepped, we did this, we fought, then we did that. But AMC was continuous. We were pushing the 4th ID forward, arming them, while the fight was going on up forward. So, it was...

MCMANUS: That's exactly right. [O]ne thing you could say, you've got a Phase III for this 3ID, a Phase III for the 4th Division, a Phase III from a different thing. All of the guys that are out watching the combat plan, the theater campaign plan, but each with its own scope because of the non-linearity of the battlefield….[78]

AFSC/JMC remains in support of ongoing predeploying, deploying, and redeploying forces. We provide the sustainment support we can to the forces deployed and executing continuing operations. While we are focused on that support, the command looks forward to the future. As MG McManus noted when discussing support in Phase III, Decisive Combat Operations:

"When you take a look at the tactical, operational, strategic realms of operations, there is very little that AMC can do to influence the tactical fight. About the only thing it can do is, through either assemblies or repair parts provisioning, is being a pull through something in the clutch…. But the bigger mission for AMC is looking at the next phase because now, as you go

[78] MG McManus Interview, pp. 22-23.

from Phase III to Phase IV it's like all the operations we've trained for. Once you complete your Phase III, now you've got to consolidate, redistribute ammunitions, regroup, reconstitute. All these things we should be thinking about in terms of how are we marshaling and prepositioning the capability here so we can help reset the force in theater for the next big operation."[79]

AFSC/JMC is currently preparing the force for the "next big operation."

AFSC/JMC "On the Line"

[79] Ibid, p. 23.

ACRONYMS

AFSC	US Army Field Support Command
AMC	US Army Materiel Command
AMSAA	Army Material Systems Analysis Activity
AO	American Ordnance, Inc
APS	Army Prepositioned Stocks
ASL/PLL	Authorized Stockage List/Prescribed Load List
AST	Ammunition Support Team
AWR	Army War Reserve
AWRSC	Army War Reserve Support Command
BCT	Brigade Combat Team
CEB	Combat Equipment Battalion
CEB-ROB	CEB-Rhine Ordnance Barracks
CEG	Combat Equipment Group
CFLCC	Coalition Forces Land Component Command
CHW	Controlled Humidity Warehouse
DDSP	Distribution Depot Susquehanna, PA
DODAAC	Department of Defense Activity Address Code
EAC	Echelon Above Corps
EAD	Echelon Above Division
GOCO	Government Owned-Contractor Operated
GOGO	Government Owned-Government Operated
GWOT	Global War on Terrorism
IMMC	Integrated Materiel Management Center
IPDS	Inland Petroleum Distribution System
IRF	Immediate Reaction Force
JMC	US Army Joint Munitions Command
LOGCAP	Logistics Civil Augmentation Program
LSE	Logistics Support Element
LSV	Landing Ship, Vehicle
MMRI	Material Management and Readiness Integration
MRC	Major Regional Contingency
MRR	Munitions Readiness Report
MSC	Major Subordinate Command
NICP	National Inventory Control Point
OIF	Operation Iraqi Freedom
OSC	US Army Operations Support Command (Later became AFSC)
OSRAP	Optimum Stock Requirements Analysis Program
RSOI	Reception, Staging, Onward Movement, and Integration
SAD	State Active Duty
SSA	Supply Support Activity
SSF	Single Stock Fund
STAMIS	Standard Army Automation Management System
SWA	Southwest Asia
TAACOM	Theater Army Area Support Command
USAREUR	United States Army Europe