

**ANNUAL COMMAND HISTORY, FY99**  
**U.S. ARMY INDUSTRIAL OPERATIONS COMMAND**

**COMMAND OVERVIEW**

In Fiscal Year 1999, the U.S. Army Industrial Operations Command (IOC) demonstrated its flexibility in transferring personnel from nearby installations and diverting Army Reservists on training exercise. This was done to bolster the workforce of certain Tier I and II ammunition storage installations. By placing the workers where they were temporarily needed those IOC installations were able to complete an Air Force high priority requirement for 750 lb. and 500 lb. bombs and ship them to their point of embarkation within the scheduled timeframe. Although the Operation Noble Anvil was no Korean War, nor Operation Desert Storm, it was a good indicator how the Command will outload ammunition in the future in support of contingency operations. Today's Tier I and II installations operate with lean peacetime workforces especially when compared to past wartime periods. During the spring of 1999, the IOC demonstrated creative movement of manpower within their ammunition community to outload a high priority ammunition requirement in support of Operation Noble Anvil in the Balkan region of Southeastern Europe.

During FY 1999, Headquarters, IOC planned the transfer of Pine Bluff Arsenal (PBA) from the IOC to the U.S. Army Soldiers and Biological Chemical Command (SBCCOM). Operations Control of PBA occurred after the fiscal year on 3 December 1999. One of the command controls of PBA is transferred to SBCCOM on 1 October 2000, Rock Island Arsenal and Watervliet Arsenal, will be this command's remaining two arsenals and oldest installations, respectively established in 1862 and 1813. The two arsenals basically comprise the Armament portion of the Ammunition and Armament mission of the IOC and its successor Operations Support Command (PROV), which was established on 31 March 2000. Both arsenals were engaged in a struggle for increased workload in FY 99. Major General Joseph W. Arbuckle initiated action to assist the arsenals by challenging his staff to develop plans to improve the arsenals' workload situation. Headquarters, IOC devoted strategic planning efforts toward such issues as the Arsenal Act, Arsenal Summit and Arsenal workload in FY 1999. The goal of this initiative was to draw the attention of higher headquarters to the unique infrastructure and capabilities at the arsenals. The arsenals tried to persuade higher headquarters to look at them in new light, focusing on the potential of their currently unused infrastructure and versatility of their capabilities.

The Commanding General and his staff were deeply engrossed in Strategic Planning during FY 1999 as the IOC continued to transition to its end state. To insure a solid foundation for the transition, Major General Arbuckle directed that Total Army Quality Program be established throughout his command. FY 1999 came to a close with HQ, IOC finalizing plans to transform the IOC into the new Operations Support Command (PROV), which will assume responsibilities focused primarily on ammunition and ammunition logistics after its stand up. A key component of this plan was IOC's transfer of the non-ammunition portions of Anniston Army Depot, Letterkenny Army Depot, and Red River Army Depot to other AMC major subordinate commands on 1 October 1999. Also, the operational control of Pine Bluff Arsenal was transferred from the IOC to the Soldiers Biological and Chemical Command (SBCCOM) on December 3, 1999. Its chemical related commodities were a better fit under that command. Although this transfer occurred after FY 99, the two commands accomplished much of the planning and coordinating during that fiscal year.

Another area, that Major General Arbuckle focused his command intent on in FY 99 was the establishment of the TRIAD. This key initiative of Major General Arbuckle will benefit the command in future years. The TRIAD comprises the Commanding General of the IOC, the Program Executive Officer and Ground Combat Support Systems, and the Commanding General, U.S. Army Tank-

automotive and Armament Command (TACOM). These general officers agreed to meet and share information regarding the development of new and improved ammunition and their funding. This is a sure fire way of ensuring that the future OSC is on the ground floor and in the loop when the development of munitions are being planned and budgeted.

Major General Arbuckle also began planning for the development of a sufficient workforce to meet these new challenges. Personnel trends reflect an aging workforce at HQ, IOC, which will soon be eligible for retirement in record percentage numbers. A task force committee was formed to study the trend and develop new ideas on how to add new employees to the headquarters/

### **ROLE OF THE IOC IN OPERATIONS NOBLE ANVIL**

Since the end of the Cold War, American soldiers have deployed to various hot spots around the world to engage in dangerous but short of full combat operations. The list of dangerous contingency missions included Haiti, Somalia, Macedonia, the Sinai, and Bosnia. The latest contingency operation added to that list was the Army's peacekeeping mission in Kosovo, located in the mountainous Balkan Peninsula of Eastern Europe. One constant for the American soldiers performing these hazardous duties were their need for superior munitions to survive and to accomplish their mission. Many of IOC's ammunition plants and depots were originally built to produce and supply ammunition for our soldiers in World War II. Since the establishment of AMC in 1962, the IOC and several of its predecessor commands have played a key role in accomplishing this mission. The establishment of the Single Manager for Conventional Ammunition (SMCA) mission under the U.S. Army Materiel Command (AMC) occurred in 1977.<sup>1</sup> Since then, the IOC and two of its predecessor commands have been the Army's primary field operating agency for that mission. This significant SMCA mission became the responsibility of the Munitions and Armaments Center, under HQ, IOC in FY 99. This center transitioned into the Munitions and Armaments Command, an IOC subordinate command, after the close of FY 99, on 1 June 2000.

Major General Joseph W. Arbuckle, Commanding General, U.S. Army Industrial Operations Command (IOC), reminded his workforce that "the Army can not go into any conflict, like Kosovo or others, without the IOC."<sup>2</sup> The IOC manages ammunition, ranging from 9mm small arms ammunition to the modern most sophisticated satellite guided munitions for the entire Department of Defense. In this latest conflict, the IOC through its ammunition and army war reserve elements supplied American warfighters engaged in Operation Noble Anvil with ammunition. Noble Anvil was the United States contingency operation in support of the North Atlantic Treaty Organization's (NATO) Operation Allied Force.

Contingency commanders initially requested assets from within the Army War Reserve Support Command (AWRSPTCMD), which manages the prepositioned ammunition stocks. As these stocks were depleted, munitions were moved forward from primarily two IOC Tier I ammunition installations and one Tier II site to the theater of war. These were the reasons the IOC was critical to the "ammunition lifeblood" of our combat forces engaged in Operations Allied Force/Noble Anvil. The ammunition logistics that delivered a steady supply of ammunition to American combat units deployed in support of the Kosovo contingency operation was vital to the success of that operation.

The IOC Emergency Operation Center often extends their hours of operation in support of contingency operation and becomes the command's center of communications during an emergency. It receives requirements from the Services, which it sends to appropriate elements within the IOC to handle. In the case of the Kosovo contingency, the Emergency Operation Center did not initially extend their hours of operation. The requirements from the field were not yet sufficient to merit their extension. However, just as the Memorial Day weekend was beginning, a large U.S. Air Force requisition arrived

after normal duty hours and the EOC was not operational. In the future the EOC will extend its hours early on in support of a contingency operations as the IOC center of communications during such emergencies.<sup>3</sup>

### **Historical Events**

On March 23, 1999 diplomatic efforts to peacefully settle the conflict in Kosovo between Yugoslav Serb forces and Albanian Liberation Army collapsed. Yugoslav President Slobodan Milosevic rejected attempts by NATO to negotiate a political settlement to the conflict. He took away Kosovo's autonomy and implemented apartheid-type polices in response to Kosovar Albanians efforts to breakaway from Yugoslavia. He ordered approximately 40,000 troops and 300 tanks, several hundred armored personnel carriers and several hundred artillery pieces positioned in and around Kosovo. Ignoring NATO's warnings, President Milosevic ordered an ethnic cleansing campaign against civilian Kosovar Albanians in an attempt to end the conflict on his terms. Media reports of thousands of civilian Kosovar Albanians refugees fleeing their homes and the potential of a human catastrophe at the refugee camps in Albania and Macedonia were sent around the world via satellite television. Neither Albania nor Macedonia had the sufficient shelter and food for the thousands of refugees that were arriving daily into their camps.

On March 24, 1999, President Clinton and the NATO Secretary General turned to a military campaign as a means of halting the violence in Kosovo. U.S. Army General Wesley Clark, NATO Supreme Allied Commander, Europe, began organizing air operations against Yugoslav President Slobodan Milosevic's military and special police forces. President Clinton and our NATO allies intervened militarily while risking the lowest possible collateral damage, in terms of military deaths and loss of valuable weapon systems and equipment. In 78 days, American and our NATO Allies forced President Milosevic's forces from Kosovo, crippled their ability to wage military operations, and rescued over a million Kosovar Albanian refugees.

### **IOC Supports Operation Noble Anvil Early On**

Initially the IOC installations were able to meet requisitions for ammunition and other items within their normal daily duty hours. The Command's Emergency Operation Center (EOC) became the hub or focal point for communication. The EOC held daily 0830 briefings from its conference room once IOC ammunition depots and plants became heavily involved in the outloading of munitions in support of Operation Noble Anvil.<sup>4</sup> The briefings provided valuable information to key headquarters elements that managed the ammunition for the command. They addressed significant issues related to the status of current ammunition, spare parts, equipment and transportation questions pertaining to those items. Issues involving production, procurement, sustainment, and readiness of ammunition and equipment were also discussed at the briefings.

The EOC became the place where representatives of the various headquarters, IOC centers and teams met, shared information, tasked critical issues and initiated high priority actions. A bank of telephones and desks were available for them to conduct busy within the center. Representatives of the various headquarters elements were in close contact with one another throughout critical periods of the operation. Key personnel from the ammunition plants and depots, and those from the other armed services, particularly the Air Force, frequently contacted the EOC. They were checking on their requisitions, discussing issues/problems with subject matter experts at IOC headquarters.<sup>5</sup> The EOC emerged from Operation Allied Force/Operation Noble Anvil as the centralized source for the distribution of contingency information. It became the place where IOC leadership obtained a complete picture on the outloading of ammunition at IOC facilities. As the center for the collection and distribution of all contingency information, the EOC will extend their hours early on and have personnel available to receive communications and shared it with the entire headquarters in a timely manner.

Although the IOC ammunition installations led the command effort in support of Operation Noble Anvil, other installations also contributed to the operation. For example, Rock Island Arsenal made a contribution by outloading two commercial flatbeds of Tool Kits at the request of the receiving overseas command on May 8, 1999.<sup>6</sup> Sierra Army Depot sent two air shipments consisting of two 40,000-gallon capacity Water Storage Distribution Systems on July 24, 1999 and July 25, 1999 in support of humanitarian effort provided by the multi-national force to the Kosovar-Albanian refugees.<sup>7</sup>

### **Selected IOC Lessons Learned**

One area, IOC headquarters can take the lead in the future is to discourage leadership at the ammunition loading facilities from directly contacting customers and lobbying for their facilities participation in operations. It was believed that some facility leaders were contacting customer to secure additional workload for their facilities. The facility leaders should direct their comments on operational objectives and directives to the IOC Emergency Operation Center. The EOC, which has the big picture, can make an informed decision based on the facts and situation. This again will require the EOC to remain visible throughout any contingency operation. A Standard Operating Procedure needs to be developed on this process.<sup>8</sup>

Another valuable learning experience from the IOC's support of Operation Noble Anvil was that key headquarters organizations in the command's ammunition community discovered that they needed to interface more with one another on a daily bases not just during an emergency. This experience only supported ongoing plans to merge, the Single Manager for Conventional Ammunition Center, the Joint Munitions Transportation Deployment, and Sustainment Center, and the Industrial Base Management Center into the Munitions Armament Center (MAC). . The merger occurred shortly after Operation Noble Anvil. The MAC center's transition continued through FY 99 and on June 1, 2000, the Munitions and Armament Command (PROV) stood up. The Kosovo emergency confirmed plans that were in the works to bring these organizations closer together prior to Operation Noble Anvil. Their efforts to expedite ammunition shipments resulted in on-time delivery of high priority ammunition requirements at the port of embarkation. They planned, coordinated and directed the shipment of more than 1,400 ammunition containers in support of Operation Noble Anvil.

Blue Grass Army Depot received one of the first call forward ammunition requirements for Reactive Armor Tile, It prepared the item for shipment but no certified explosive haulers available to transport the containers. Plans to supplement existing haulers with reserve components needs to be explored since the number of certified explosive haulers have steady decline in recent years.

Although, the Command installations were busy supporting Operation Noble Anvil early on in April 1999, crunch time did not hit the IOC until Memorial Day weekend. Blue Grass Army Depot, Richmond, Kentucky; Hawthorne Army Depot, Hawthorne, Nevada; and McAlester Army Ammunition Plant, McAlester, Oklahoma, successfully completed a high priority Air Force requirement for a very large quantity of M117 (750 lb.) and MK82 (500 lb.) bombs received as Memorial weekend was to begin. The initial requirement for 45,000 bombs was increased to 60,000. To accomplish this mission, the IOC made temporary personnel shifts and diverted Army Reserve units to Blue Grass Army Depot and Hawthorne Army Depot to bolster the outloading operations at those installations. Blue Grass Army Depot gained the temporary transfer of sixteen members from the U.S., Army Reserve 125<sup>th</sup> Transportation Company (CT), Lexington, Kentucky. The Reservists proved invaluable in fabricating blocking and bracing materiel for munitions shipments and outloading ammunition containers on to rail cars and trucks.<sup>9</sup>

Thirty Army Reservists from three separate units were diverted to Hawthorne Army Depot to assist with the outloading. They were key to the success at Hawthorne in that the personnel on hand over Memorial Day weekend were not operating fast enough to complete the requirement and met the scheduled delivery date. A special effort was required by all hands at these sites to band, pack, load, and ship the bombs for Operation Noble Anvil. The Army now relies on Army Reserve units to bolster critically needed areas of expertise. The IOC found the Army Reservists under Operation Golden Cargo to be valuable temporary additions to the depots' workforce. The IOC supports the continued use of Reserve units in this manner for future contingency operations.

Hawthorne Army Depot also received temporary assistance from Sierra Army Depot, which sent 4 civilians and 15 reservists to the depot to assist with loading bombs into containers and placing them on railroad flat cars.<sup>10</sup> Tooele Army Depot sent 16 civilians to Hawthorne Army Depot for the same purpose.<sup>11</sup> Without this temporary shifting of personnel and the addition of Army Reservist the munitions may no have been delivered on time to the port of embarkation. The commanders at these installations did an excellent job of coordinating and enlisting temporary manpower, including reservists from nearby depots. This is a way the depots can operate with lower personnel levels. Procedures for such temporary transfers should be standardized to ensure their quick transfer.

The agility and flexibility of the IOC workforce and timely use of Reserve units were effective ways of using available personnel when resources are scarce. This is a trend that will continue as the Command continues to seek creative ways to supplement downsized workforces at their ammunition installations. The IOC will use the versatility of its workforce to ensure the Command continues to complete future ammunition requirements in a timely manner.

Employees not trained in fabricating blocking and bracing material were temporarily assigned this task and became bottlenecks for the entire outloading operation. Blocking and bracing is a pacing operation critical to the ammunition outloading process. This activity required some wood working skills and the use of saws, hammers, and nail guns. Also, it required some skill in reading

drawings because the material had to be built to scale. Blocking and Bracing Training of personnel temporarily performing this task was conducted onsite. But it took key employees away from their normal jobs. Under these temporary conditions the training and safety instructions suffered.<sup>12</sup>

The Defense Ammunition Center (DAC) developed two blocking and bracing training courses pertaining primarily to blocking and bracing motor vehicles and rail cars, with emphasis on interpreting drawings. DAC instructors conduct these courses on site to any organization that has the funds to support instructor travel. DAC plans to convert instructions to computer base training as an inexpensive means of gaining instruction in this area. DAC distributes a short training video titled Intermodal Freight Containers Unused for Shipment of DOD Ammunition upon request to any container loading installation.

Historically, this is a problem that also surfaced during Operation Desert Storm, in particular during the retrograde movement of ammunition after the conflict. Since, this is a reoccurring problem, possibly the DAC instruction and video needs to be more tailored to the specific work performed at IOC ammunition outloading installations. How expensive would it be to make a 10-15 minute video specifically tailored for the needs of the IOC ammunition community?

The creation of Block and Bracing Trailers modeled after the one Tooele Army Depot provided Hawthorne Army Depot should be investigated as to the practicality and safety of portable work shops. Anything that streamlines depot outloading operations should be seriously explored. In addition, Required

Delivery Dates (RDD) for ammunition shipments should be centralized. Confusion occurred at Blue Grass Army Depot when they received inconsistent RDDs provided by HQ, IOC organizations.

The Air Force prefers to have their bomb shipments transported in containers with access doors located on the side of the container.<sup>13</sup> Conventional containers for shipment of ammunition have their access doors located on the container end. The depots often do not have on hand the unique side loading containers. Naturally, employees not as familiar with the side loading containers generally have more difficulty using them. The outloading information should include the preferred containers of the customers for selected ammunition and correct outloading metrics particularly for side opening containers. The Army should consider procuring and prepositioning sufficient quantities of side loading containers to satisfy their Air Force customers.

Other reoccurring problems, which historically resurface during emergencies, such as Operation Noble Anvil, were the ready availability of rail flat cars and shipping containers. The Army is investigating the possibility of leasing these items to ensure that its facilities have sufficient numbers to timely respond to emergency requirements for ammunition.<sup>14</sup>

### **The Conflict and IOC's Role**

This was not a traditional military campaign, though it was similar to Operation Desert Storm in that it was a multi-nation operation. The United States and approximately 19 other NATO nations were involved in the operation. What was unique about this conflict was there were no direct clashes of massed military armies in Operation Allied Force. No ground assault was conducted during the war. Instead, an air campaign was conducted against enemy targets. The high altitude bombing kept U.S. and allied combat deaths at zero. The conflict was fought to gain limited goals, rather than achieve unconditional surrender or annihilation of the enemy. This can be attributed to no massive ground assaults, high altitude bombing and use of new technology, such as Satellite Guided Smart Munitions and the Unmanned Aerial Vehicles (UAVs). The expeditionary force also used satellite communications network to connect with subject matter experts in the States for intelligence and logistics support.

The IOC managed the Tomahawk long-range cruise missile used in strikes against select enemy targets. B-2 Spirit stealth bomber dropped 2,000 pound Joint Direct Attack Munitions on command and control centers and heavily reinforced structures. The munitions used by the B2s were from the IOC. Although the Army ground forces were not used in a massive ground assault against enemy forces, the Army was involved through the IOC in providing vital ammunition used in the air campaign.

The preferred munitions requested by field commanders were delivered in a timely manner. In certain cases, only small inventories of the latest U.S. precision munitions were in operation. The satellite guided smart munitions included the new Joint Direct Attack Muniton (JDAM) and the Joint Standoff Weapons (JSOW) which were in early phases of production.

Building inventories of such munitions is very expensive and difficult to maintain. Some argument could be made that field commanders depleted their stocks unnecessarily by using them against inferior forces rather than retaining them for more powerful enemies. It also could be argued that these regional conflicts provide an opportunity to see how the latest preferred munitions perform in combat conditions. The use of new technology, weapons, and munitions accelerate their development. As a cost shaving measure, the IOC may explore upgrading munitions already in stock, and equipping them with guidance devices.

The logistics movement of deploying soldiers, weapons, ammunition and equipment was primarily accomplished through strategic airlifts rather than by strategic sealift. Field commanders not only want

the latest weapons and ammunition – they also want them transported as quickly as possible, even when it was not mandatory that the items be airlifted. The Army needs to improve its sealift capabilities to increase the reliance level of the Ready Reserve Force.

The United States and our NATO Allies expanded the targets to include military infrastructure, media, electrical power plants, bridges, supply and reinforce routes for supplies and troops to weaken the enemy's capability to continue the fight. Peace negotiations were concluded in June 1999 and the paratroopers of the 82<sup>nd</sup> Airborne Division led a NATO force into Kosovo to begin the peacekeeping mission.

The U.S. Army Industrial Operations Command had a significant role in Operation Noble Anvil. Its employees met the logistical and material needs of its customers in one of the most unusual contingency operations of the 20<sup>th</sup> Century. The IOC will apply the lessons learned from Operation Allied Force/Operations Noble Anvil to enhance their efforts in support of future contingency operations. Operation Noble Anvil's military campaign lasted just 78 days. The Army is now exploring development of lighter, medium weight all-wheeled combat units designed for quick deployment and use in brief military operations, such as Operation Noble Anvil.

The IOC as Single Manager for Conventional Ammunition was responsible for the management of munitions and the coordinating of customer requirements including transportation for conventional munitions. This included all small arms through large conventional aerial bombs, and Tomahawk missiles used in Operation Noble Anvil. The IOC professionally met the challenges before them in Operations Noble Anvil. Overcoming problems, the IOC revisited them after the operation and reviewed lessons learned for future operations.

Army Chief of Staff General Eric Shinseki's new vision for the Army will effect the IOC's and its successor command. He wants lighter forces that can more rapidly deploy and respond to crisis worldwide. Many Army units are currently viewed as being too heavy, and requiring a lot of strategic lift and time to deploy mechanized divisions. These heavy forces also require a great deal of support, large logistic forces to provide them with fuel and ammunition. General Shinseki intent is to lighten the weapon systems as well as the supporting logistics units, but first the Army needs to develop light armored, wheel vehicles. General Shinseki wants the Army to be able to deploy a medium weight brigade within 96 hours, a division within 120 hours, and 5 divisions within 30 days. The IOC will have to outload ammunition faster than ever before and more War Reserve ammunition and equipment will be prepositioned at strategic sites overseas and onboard ships.

### **Watervliet Arsenal Workload**

Headquarters IOC assisted Watervliet Arsenal (WVA) with efforts to overcome its workload problems. The lack of workload at WVA has driven up its rates to a point that it is very difficult to attract new workload. This situation has created a potential "death spiral" effect on the Arsenal's business, as the workload declines and the Arsenal's excess infrastructure capacity increases. Major General Arbuckle challenged his planners to develop a radical plan that will dramatically impact on the future of Watervliet Arsenal. General John G. Coburn, Commanding General, U.S. Army Materiel Command, encouraged the IOC to seriously look at the arsenal workload problem and come up with ways to receive direct funding. In the meantime, the Arsenal, for that matter the entire command, searched for ways to become more customer focused in FY 99 in an effort to obtain additional workload.

### **A76 Process**

. Major General Arbuckle also made several recommendations to AMC regarding the A76 process, including the canceling of demil A76 studies and rescoping the Arsenal A76 process to focus only on base operations. Headquarters IOC staff devoted several weeks to preparing these recommendations and the efforts was successful in that the demilitarization A76s were cancelled and the Arsenal 76s redefined to base operations. Major General Arbuckle explained that the demilitarization workload had decreased to such a lower level that it was not cost effective to proceed with an A76. Regarding the Arsenals, the IOC could not project the workload during the transition timeframe of FY 2002 to 2005 necessary to engage in the A76 process any further.

### **Arsenal Act and Arsenal Summit**

IOC headquarters also took efforts toward gaining visibility on the importance of IOC Arsenals. At the Arsenal Summit on 5 August 1999, the IOC briefed Mr. Paul J. Hoeper, Assistant Secretary of the Army for Research, Development and Acquisition, General John G. Coburn, Commanding General, U.S. Army Materiel Command, and other key officers/officials from higher headquarters on the issue of Arsenals' visibility.<sup>15</sup> Currently, Project Managers and commodity managers at AMC's major subordinate commands routinely ignored the Arsenal Act. The IOC supported efforts directed toward establishing a policy, which would require them to follow the Arsenal Act. The ultimate goal is to increase Arsenal workload. The Army needs to define and clarify their policy toward the Act. The Arsenal Act was part of a government legacy to reduce excessive production costs, which included Harry Truman, the Nye Committee and Hoover Commission.

### **ARMY ARSENAL ACT PROVISIONS** **(10 U.S.C. 4532)**

(a) The Secretary of the Army shall have supplies needed for the department of the Army made in factories or arsenals owned by the United States, so far as those factories or arsenals can make those supplies on an economical basis.

(b) The Secretary may abolish any United States arsenal that he considers unnecessary. In an effort to achieve a more positive policy, the IOC is emphasizing to higher headquarters that the Arsenals' valuable capability and capacity can not easily be found in the private sector. Mr. Hoeper signed a revised Army Arsenal policy memorandum on October 22, 1999, which became known as the Hoeper-McCoy Memorandum, Army Arsenals and Factories. The Arsenals, for their part, are seeking partnerships with private industry to create uses for their idle capacity as FY 99 ended. The Arsenal Act was intended to benefit the Government.<sup>16</sup>

### **TRIAID AND STRATEGIC PLANNING**

Major General Joseph W. Arbuckle as a logistician and strategist wrestled with the tough issue that faced the Army Industrial Operations Command in FY 99. During the fiscal year he focused on strategic issues, big issues such as identifying the role his command will have in AMC's future. In particular, he concentrated on defining the IOC's end state. To accomplish this, the IOC needed a clearer vision and needed to modernize its facilities for the future. Major General Arbuckle promoted the establishment of the TRIAD, so the IOC would be involved from the beginning with research and development and Project Managers (PMs) concerning the development of new and improved munitions systems. Through the TRIAD, Major General Arbuckle gained the cooperation of Major General John F. Michitsch, Program Executive Officer, Ground Combat and Support Systems (PEO-GCSC) and Major General Roy E. Beauchamp, Commanding General, U.S. Army Tank-automotive and Armaments Command (TACOM). The three generals signed a memorandum of agreement (MOA) to continue to explore avenues of cooperation.<sup>16</sup>

IOC strategic planners identified the command's future job as one of sustainment and logistics. To reach this end state, the IOC needed to demonstrate to PM's that it could provide better value than civilian contractors. To accomplish this, the IOC improved communications with PM's, TACOM-ARDEC, and other customers by initiating a series of briefings between these organizations. The improvement of communications was part of the TRIAD initiative to make people aware of operations and initiatives that may impact their work. The IOC's goal was to provide production and demilitarization input up front during design phase, which hopefully would translate into funding for those activities at the earliest possible date.<sup>17</sup>

Under the leadership of MG Arbuckle, IOC strategic planners focused on development of a master plan for the command, one that would define and map out where the IOC was headed in the future. The conclusion was that the IOC's future was best tied to Logistics. They saw the IOC's future end state in lifecycle logistics, including SMCA Mission, Sustainment, Transportation, and Acquisition. They saw an integrated life-cycle approach with the PEO-GCSS, and PMs.

For the IOC to transform industrial power into military readiness the command must reduce its infrastructure costs, reduce its idle industrial capacity, and modernize logistic facilities and equipment. Major General Arbuckle emphasized the importance of cooperating and satisfying the PMs because they had funds the IOC could use for modernization projects. The IOC can survive and prosper by becoming the PM's best value. MG Arbuckle recommended teaming with industry and other services. He wants dollars invested in the IOC in what the Army keeps not in what it is discarding. He also wants acquisition reform by having the command enter into long term leases and adopt fee for service. As with past commanders, he wants his command to identify duplication and streamline its operation. The IOC goal is to convince its customers to commit to the long-term and invest in the organic base.

### **Future in Munitions Business**

The IOC needs to modernize its facilities and equipment to prepare for the changing shape of munitions during the next 15-20 years. MG Arbuckle guided the command toward a solid future in the munitions business. During his tenure a commanding general, he stressed involving the IOC in the development and production of smart munitions, the ones with an electronic guidance package. He sought a partnership in the future with private contractors. The IOC plants could build the warheads and private contractors could supply the electronics. dDmb bombs could be converted into smart ones to overcome the acquisition shortage of smart munitions. Smart munitions are too expensive to dramatically increase their stockpile, and converting dumb munitions to electronic guided bombs would be markedly less expensive. Major General Arbuckle foresees the United States military forces continuing to use convention ammunition until approximately the 2015 time frame.

### **REALIGNMENT OF INSTALLATIONS**

Major General Arbuckle emphasized that he does not advocate either the Arsenals and AWRSPCMD seek homes with other commands and directed that they continue to be treated as part of the IOC family. The realignment of other command elements progressed in FY 99. The non-ammunition portion of Anniston Army Depot and Red River Army Depot were transferred to the U.S. Army Tank-automotive and Armaments Command (TACOM) on 1 October 1999. Also, the non-ammunition portion of Letterkenny Army Depot was transferred to the U.S. Army Aviation and Missile Command on that same date.<sup>18</sup> Pine Bluff Arsenal (PBA) operational control (OPCON) transferred from the IOC to the Army Soldiers and Biological Chemical Command (SBCCOM) after the close of FY 99, on 3 December 1999. Formal command and control of PBA will transfer from the IOC to SBCCOM on 1 October 2000.<sup>19</sup> This transfer occurred because PBA's focus shifted from ammunition to chemical.

The Army War Reserve Support Command, an IOC subordinate command, is on the front line of readiness at prepositioned sites, such as in Kuwait and Qatar in Southwest Asia. As a matter of reference, the AWRSPTCMD was redesignated the Field Support Command (PROV) after the close of FY 99, on 31 March 2000. On that same date, the U.S. Army Industrial Operations Command gained more logistical responsibility and was renamed the U.S. Army Operations Support Command (PROV).

A major reorganization effort at Headquarters, IOC, focused on the transition of the Munitions and Armament Center through FY 99. After the close of FY99, the Munitions and Armament Center was still as a business center, but discussions on upgrading it to a subordinate command continued between HQ, IOC and higher headquarters into FY 2000. First, the non-ammunition missions at Anniston Army Depot (ANAD), Letterkenny Army Depot (LEAD), and Red River Army Depot (RRAD) were transferred to other AMC major subordinate commands. Newly organized Munitions Centers were established at ANAD, LEAD, and RRAD under the IOC's predecessor Operations Support Command. Pine Bluff Arsenal's realignment under SBCCOM also was finalized in this time frame. Finally, MAC Commander's position needed defining and the organization's name finalized. Once these items were taken care of the Munitions and Armament Center was discontinued and the Munitions and Armament Command (Provisional) stood up on 1 June 2000.

The Munitions and Armament Center (MAC) is the largest IOC headquarters organization, comprised of 553 civilian and 31 military employees in FY 99. The MAC Center executed and managed ammunition production and supply, storage, maintenance and demilitarization of conventional ammunition, and financial management of ammunition systems. MAC controlled approximately 75 percent of the IOC's workload. The MAC was organized into five directorates: The Readiness Directorate, The Business Management Directorate, the Production Directorate, The Installation Management Directorate, and the Stockpile Management Directorate. The MAC was formed by combining primarily the Industrial Base, Single Manager for Conventional Ammunition, and Munitions Transportation into a single center.<sup>20</sup>

## **TOTAL ARMY QUALITY PHILOSOPHY**

Major General Arbuckle directed that the Total Army Quality (TAQ) philosophy be implemented through out the command and Headquarters, IOC in FY99. The Commanding General repeatedly emphasized that his TAQ initiative would not supplant the current chain of command. He encouraged his IOC workforce to make process improvements that will maximize efficiencies. The Commanding General assigned the HQ, IOC Command Center to review TAQs deployment throughout the command. All organizational leaders were responsible for developing their own TAQ implementation plan. The Director of Human Resources will be the champion of Human Relations across the headquarters and will implement TAQ within his organization. The Commanding General is the champion for strategic leadership.

Each organization applied TAQ by establishing their own Quality Management Boards (QMBs), training their personnel in TAQ, adopting a TAQ structure for their organization, and chartering Integrated Process Teams. The QMBs provided the Board of Directors (BOD) with overarching issues that need resolution. The BOD identified the strategic direction/vision for the entire organization. The QMB level uses metrics to measure progress toward accomplishing TAQ goals. First step was to layout existing processes and identifying duplications and inefficiencies, where resources were needed. Later steps included reorganizing, rightsizing, and using Activity Based Costing (ABC) as a means to evolving to a fee for service system.

## **Board of Directors (BOD)**

Major General Arbuckle established the IOC Board of Directors (BOD) to function as the senior advisory body to the Commander for strategic resource decisions. Major General Arbuckle served as the Chairman of the BOD, Mr. Larry V. Gullledge and Mr. Anthony B. Sconyers, his two Senior Executive Service (SES), and Colonel (P) Jeanette K. Edmunds, Commander, AWRSPTCMD as the BOD's senior executives in FY 99. Mr. Robert J. Radkiewicz, Single Manager for Conventional Ammunition (SMCA); Colonel Richard Adan, Industrial Base Management Center; Mr. Walter T. Simmons, Resource Management Center, Colonel Alan D. Kruse, Government-Owned, Government Operated (GOGO) Installation Representative; Lieutenant Colonel James A. Piner, Government-Owned, Contractor Operated (GOCO) Installation Representative were the BOD's Principal Members. The BOD's Senior Advisors were all the Installation Commanders; Center Directors; Office Chiefs; and Union Officials, and Other Services Liaison Offices.<sup>21</sup>

The Mr. Stephen R. Mapley, the BOD's Executive Secretary, modified the BOD Charter and distributed a copy to all BOD Principal members. Principal members represented the interests of the entire command, not just their organization and were required to attend BOD meetings. The BOD was established as a decision-making board, which receives their information primarily from information briefings presented to them. Prior to each meeting, the Command Center distributes the agenda and any necessary read-a-head material to the BOD members. The agenda includes stated purpose and expected outcome of the meeting. BOD members prepared the read-a-head material for discussions at the BOD meetings. The BOD meetings were usually open sessions, however some closed executive sessions were also held.<sup>22</sup>

The BOD Chairman assigned taskers, solicited opinions, and made decisions. Major General Arbuckle presented his philosophy on the operation, membership, and member's responsibilities at the first BOD meeting held on January 27, 1999. He emphasized finalizing the charter, and provided his direction for the BOD covering Strategic Planning and TAQ implementation. As BOD Chairman, he assigned taskers and solicited BOD members' views on issues.<sup>23</sup>

The BOD's mission promoted and spread the IOC vision, mission, values and strategic plans through out the command. The BOD advised the Commanding General on issues related to implementing and integrating Total Army Quality (TAQ) on the existing IOC structure. Total Army Quality is a leadership strategy and philosophy that fosters improvement efforts directed at all aspects of an organization includes efforts to continuously improve and change the process design.<sup>24</sup>

The BOD carried out Major General Arbuckle's intent by instilling a TAQ culture in the command. The TAQ culture will shape the direction of the entire IOC. Major General Arbuckle emphasized the importance of the BOD connecting the dots between the actions the command need to take today with the concept plan for 15-20 years in the future. The BOD identified areas for improvement, assessed efforts to improve those areas, and regularly updated improvement plans.

The BOD approved all Base Realignment and Closure (BRAC), financial and workload assumptions at the February 26, 1999 meeting. The intent was to stabilize the yearly rate changes at the Installations to stop the see-saw effect that impacts on the customer. TAQ helps ensure the command is institutionalizing the right procedures and processes to hold down overhead costs. Major General Arbuckle reminded the BOD members that this was their opportunity to address major resource decisions by tying strategic plans to the resource plans.<sup>25</sup>

Mrs. Sherryl Kool presented an overview and led strategic planning discussion at the April 12, 1999 BOD meeting covering the status of the nine Future State Strategies. The BOD approved the following strategies: replenishment, modernization, divestiture, evolution of logistics, and fee for service. The

BOD also approved strategies covering Production, Storage, and Customer, and Human Resources. The BOD approved the Production Strategy, which included munitions-related goals/objectives in January 1999 and directed that an armaments focus, including the weapons mission, be added as part of the Production Strategy. The BOD reviewed the nine strategies as a complete package to ensure the planning was moving in the right direction. The BOD approved the Production and Storage strategies with minor changes at the April 12<sup>th</sup> meeting. <sup>26</sup>

The Quality Management Boards (QMB) are leadership team convened by a process owner seeking to form an IPT to improve his/her process. The QMBs meet periodically and report their results to the BOD. The QMB consists of cross-functional members and oversees IPTs, providing guidance when required. They meet with IPT teams and decide what improvements are needed based on whether the change is critical to the organizational vision and whether it will improve customer services.

**IOC PERSONNEL TRENDS**

Planned loss of spaces continued at IOC. From FY99-FY02, IOC personnel will be reduced by a projected 1,819 spaces. The A76 studies account for 1,201 of those spaces. Headquarters, IOC eliminated 278 spaces in FY 99. He warned of the danger of breaking mission capability by reducing personnel so low that the mission can not be performed. He emphasized the need for the command to train more people to do more than one thing to avoid a "personnel train wreck". This was a concern in FY 99 because so many IOC employees are approaching retirement age. The command was not developing new mid level leadership to fill the retirement void. He directed his staff to search for creative ways to address these personnel problems so it can remain strong. Major General Arbuckle was also uneasy about the loss of military spaces at HQ, IOC and throughout command in general. He saw this as a dangerous trend with future downsizing.

The average age among headquarters employees is approximately 47.6 years and about 44 percent will be eligible for retirement within the next five years.<sup>27</sup> This coupled with regular attrition and possible early retirement, and the potential employee exodus could exceed 50 percent. If new employees are not added to the workforce, the command's ability to perform its management of conventional ammunition, stewardship of the industrial base, and implementation of War Reserve activities missions will be impaired.

A team was formed to study how the command should recruit employees with high potential in the future, how to develop a multi-skilled, adaptable workforce, and how to retain top performers with critically needed skills. The team is developing a model to identify areas where the future depletion of skills may be most severe. It was important to have internship programs such as the Defense Ammunition Center ammunition management/QASAS program fully funded for FY 2000. The IOC headquarters is placed more emphasis on employee development and training as a result of the downsizing. The Headquarters has a growing need for generalists with skills in several different areas rather than specialists limited to one area. The goal is to build a multi-skilled workforce for the Headquarters.

**HQ, IOC CIVILIAN EMPLOYMENT, FY 99**

**On Board Civilian Strength**

Start (01 OCT 98)	1,370 Total (Rock Island)	22(other sites)
End (30 SEP 99)	1,290 Total (Rock Island)	30(other sites)

## TOTAL IOC CIVILIAN EMPLOYMENT, FY 99

### On Board Civilian Strength

Start (01 OCT 98).....20,379  
End (30 SEP 99).....16,650

### COMMANDING GENERAL AND SENIOR STAFF , (date of incumbency)

Major General Joseph W. Arbuckle, Commanding General, 24 September 1998  
Colonel Robert A. Benson, Chief of Staff, 25 August 1999  
Colonel William Pulcher, Chief of Staff, April 1998 to 25 August 1999  
Mr. Larry V. Gulledge, Deputy to the Commander, 13 April 1997  
Also Senior Executive Service (SES)  
Lieutenant Colonel Thomas P. Blackburn, Secretary, General Staff (SGS), 21 August 1998  
Depart for Bosnia on 3 January 1998 returned to SGS 25 August 1999  
Command Sergeant Major Lynnell Sullivan, 24 February 1996  
Mr. Anthony B. Sconyers, Director, Law Center, July 1998  
Also Senior Executive Service (SES)

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<sup>1</sup> U.S. Army Armament Materiel Readiness Command (ARRCOM) *Annual Historical Review, FY 77*, Vol. 1, p. 19.

<sup>2</sup> MG J.W. Arbuckle, "Command Perspective" *The Edge, July 1999, p. 2.*

<sup>3</sup> Interview, Mr. Tom Slattery, Historian, Public Affairs Team conducted interview with Mr. Tim Fore, Joint Munitions Transportation, Readiness, Deployment and Sustainment Center, 14 July 1999 and Mr. Leon Szabaga, IOC Emergency Operations Center, 21 July 1999.

<sup>4</sup> Mr. Tom Slattery, AMSIO-PA, interviewed Mr. Leon Szabaga, EOC, 21 July 1999.

<sup>5</sup> Mr. Tom Slattery AMSIO-PA interviewed Mr. Mark Schneider, AMSIO-SM, 22 July 1999.

<sup>6</sup> Lesson Learned Board Minutes/Dispositions, 8 October 1999.

<sup>7</sup> Ibid.

<sup>8</sup> Ibid.

<sup>9</sup> Mr. Tom Slattery interviewed Mr. Tim Fore, JMTRDS Center, 14 July 1999, and Mr. Ed Jamieson, AMSIO- SM, 26 July 1999.

<sup>10</sup> FONECON, Mr. Tom Slattery, AMSIO-PA, with PAO, Hawthorne Army Depot, 12 August 1999.

<sup>11</sup> FONECON, Mr. Tom Slattery, AMSIO-PA, with Ms. Kathy Anderson, Tooele Army Depot, 12 August 1999.

<sup>12</sup> Interviews, Mr. Tom Slattery, AMSIO-PA, with Glenn Leach, AMSIO-SF, 13 July 1999; Ed Jamieson, AMSIO-SM, 26 July 1999; Roger Biehl, IBMC, 17 July 1999, and Tim Fore, AMSIO-JT, 14 July 1999.

<sup>13</sup> FONECON, Tom Slattery, AMSIO-PA, with Major Peter Getts, Hill Air Force Base, 17 July 1999.

<sup>14</sup> Interview, Tim Fore, AMSIO-JT, Lesson Learned Board Meeting, 14 July 1999.

<sup>15</sup> MG J.W. Arbuckle, CG, IOC, "Command Perspective", *The Edge - Online, November-December 1999.*

<sup>16</sup> Mr. Al Wilson, Munitions and Armament Center, Briefing Notes, "Arsenal Act Implementation Strategy", 7 June 2000.

<sup>16</sup> MG J.W. Arbuckle, "TRIAD Background, Briefing Charts, 12 January 2000

<sup>17</sup> Memorandum to Headquarters Centers and Offices, Robert J. Radkiewicz, Director, Single Manager for Conventional Ammunition, subject: TRIAD Initiative - Improving Communications, 17 February 1999.

<sup>18</sup> DA Permanent Orders 282-3, Anniston Army Depot's ammunition mission reassigned to Anniston Munitions Center under Blue Grass Army Depot; Letterkenny Army Depot ammunition mission reassigned to Letterkenny Munitions Center under Crane Army Ammunition Activity; Red River Army Depot ammunition mission reassigned to Red River Munitions Center under McAlester Army Depot, transfer of command and control effective date 1 October 1999. DA Permanent Orders 007-3, Red River Army Depot (non-ammunition missions) reassigned from HQ, IOC to HQ, TACOM, 7 January 1999, effective date 1 October 1999. Letterkenny Army Depot DA Permanent

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Orders 336-2, section 2. (non-ammunition missions) Transfer Anniston Army Depot (non-ammunition missions) from HQ, IOC to HQ, TACOM, 2 December 1998, effective date 1 December 1999.

<sup>19</sup> DA Permanent Orders 168-1, Pine Bluff Arsenal granted to Commander, HQ, SBCCOM, 1 October 1999.

Command and Control of PBA schedule for transfer to HQ, SBCCOM on 1 October 2000.

<sup>20</sup> "IOC forms new Munitions and Armament Center", *The Edge*, 7 September 1999, p 1.

21 Board of Directorates (BOD) Minutes, July 22, 1999.

22 BOD Meeting Minutes, January 27, 1999.

<sup>23</sup> BOD Minutes, June 27, 1999.

<sup>24</sup> BOD Minutes, July 22, 1999.

<sup>25</sup> (BOD Minutes 12 FEB 99)

<sup>26</sup> FONECON, Mrs. Sherryl Kool, Strategic Concepts and Innovations Team, 1 November 1999

<sup>27</sup> Paul Levesque, "Team looks at shaping IOC's future workforce", *The Edge*, November-December 1999, p. 1.