AMC
CO$T BU$TER$ BUGLE

Vol. 12 **19 October 1998**

Being Our Best for Less: An Army Acquisition Center for the 21st Century

The U.S. Army Materiel Command (AMC) Acquisition Center (AMCAC) (Provisional) was born at Aberdeen Proving Ground (APG) on 1 November 1997 under orders signed by General Johnnie. E. Wilson, Commanding General of AMC. The Center was conceived by MG George E. Friel, then Commanding General of the U.S. Army Chemical and Biological Defense Command (CBDCOM) and MG John E. Longhouser, then Commanding General of the U.S. Army Test & Evaluation Command (TECOM), in response to the need to divert Army resources from infrastructure and support to modernization and combat. The Center's organizational and operational concepts are precedential and may have broad ramifications for the reorganization of Army contracting activities elsewhere.

DoD's dwindling share of the Federal budget and the millennial Revolution in Military Affairs have combined to demand a revolution in DoD business affairs. To preserve the superiority of our warfighting tooth, we must ensure sufficiency of the supporting tail with fewer resources and at lower cost. Army contracting activities make up a significant portion of the support dollar, and, in addition to reforming contracting and other acquisition processes, we must reexamine how our contracting and other acquisition resources are organized. Two Major Subordinate Command (MSC) leaders, who were neighbors on the same AMC installation, decided to tackle together the issue of contracting resources, to their mutual benefit.

CBDCOM, headquartered in the Edgewood Area of Aberdeen Proving Ground (APG), traced its roots there as the Army's chemical

Cost Busters Bugle Volume 6 focused on Efficiency efforts at SSCOM. Since then, SSCOM and CBDCOM have been combined to form SBCCOM. This issue focuses on those efforts begun at CBDCOM before the consolidation.

materiel acquisition establishment back to 1917. One of the smaller MSC's, it has now merged with Soldier Systems Command (SSCOM) in Natick, Massachusetts to form the Soldier and Biological Chemical Command (SBCCOM). Its organic contracting office focused on research, development, initial production and associated white collar service contracting, including support to the Program Manager for Chemical Demilitarization. It relies primarily on the Tank-automotive and Armament Command's (TACOM's) Armament and Chemical Acquisition and Logistics Activity (ACALA) and the Industrial Operations Command (IOC) for its full scale production contracting and relied on the APG Garrison contracting office under TECOM, the APG landlord, for installation-support type contracting.

TECOM, headquartered 10 miles up the road in the Aberdeen area of APG, had a temporally parallel history on the same Chesapeake Bay shores as the Army's primary materiel tester. TECOM's contracting offices focused mainly on support to TECOM's geographically dispersed Test Centers/installations, as well as support to some unique unaffiliated and international customers.

The incorporation of the real estate known as Edgewood Arsenal into APG in 1972 initiated a 26 year period of cooperation between the two major contracting offices on the merged installation, in which each relied upon and complemented the other's expertise in serving the tenants of APG. Recently SBCCOM has become a forerunner in applying innovative organizational and management concepts, and in regulatory reinvention, integrated product/process development (IPPD) and materiel acquisition reform. TECOM was well-known for efficiently and effectively managing geographically-dispersed contracting operations responsible for installation support and test equipment/test range support contracts, and Foreign Military Sales (FMS) service contracts in the Middle East and elsewhere.

In deciding to create a shared, but stand-alone contracting office, MGs Friel's and Longhouser's primary concern was that its relative autonomy not distract from its customer focus and/or distance it from the concerns of its creators. They reflected upon the perception that customer responsiveness may have diminished after some recent consolidations and centralizations within the DoD. To preempt any such shift, the Board of Directors concept was conceived. Major customers of the Acquisition Center form the core of its Board of Directors, to which the (operating) Director of the Acquisition Center reports. Other customers have a seat on, or access to, the Board, based on their contribution to resources and workload. The key functions of the Board are to provide overarching direction and broad management oversight, to determine priorities, to establish manpower and funding parameters and sources, to ensure implementation of acquisition reform and to monitor performance against assigned metrics. Board chairmanship rotates every other year. Currently, MG Doesburg, SBCCOM Commanding General; MG Edward L. Andrews, TECOM Commanding General; and Mr. Gary A. Tull, AMC Principal Deputy for Acquisition, make up the Board, with MG Andrews as its chair.

In consonance with the general principles of the Army Functional Area Assessment (FAA) and AMC Contracting XXI initiatives, spokes radiating from the AMC Acquisition Center's hub and central contracting office site at APG terminate in two major remote, full-service contracting

offices in the field, one at White Sands Missile Range (WSMR), a major TECOM Test Center and the other at Natick. The WSMR contracting office, in turn, serves as hub to satellite contracting offices at Yuma and Dugway Proving Grounds, both TECOM Test Centers, and at Rocky Mountain Arsenal, which has recently reported to SBCCOM as it undergoes environmental remediation prior to shut-down**.** Incorporation of the contracting offices supporting the Army Research Laboratory and the Army Research Office is projected for October 1998.

To further ensure responsiveness to and full teaming with their customer base, major customers have been given the option of rating the chief of the contracting office which supports them. However, these contracting professionals will be senior-rated by a contracting executive to help ensure there is no compromise to public policy. The chairman of the Board of Directors will rate the Director of the Acquisition Center. Currently, Head of Contracting Activity (HCA) authority resides with the AMC Principal Deputy for Acquisition, who has delegated maximum authority to his Principal Assistant responsible for Contracting (PARC), the Director of the Acquisition Center.

The consolidation of contracting resources resulting in the AMCAC is projected to reduce manpower needs by 35 spaces, or approximately 14 percent by the time the AMCAC becomes a permanent unit in October 1998. Most of the savings will occur at the management level, resulting in a lower supervisor to staff ratio and a broader span of control for individual managers. This is consistent with the enhanced education and training of today's acquisition work force and the robust trend toward employee empowerment and job ownership. However, as managers will find less time to become closely involved in the day-to-day efforts of their subordinates, their success in effectively articulating their visions, values and objectives will become increasingly important.

Another major advantage of the establishment of the AMCAC is providing its customers unfettered access to a remarkably broad spectrum of contracting expertise. Each contracting office that has entered the partnership brings distinctive capabilities to the Center. The variety of specialties available to AMCAC customers includes the full range of materiel acquisition contracting:

- Research, development, initial and full scale production, including foreign military sales
- Test facility, range support and installation support contracting
- Automated information systems acquisition
- Environmental remediation and support contracting
- Minor construction and commercial activity contracting.

This enables Center managers to readily reach expertise formerly outside his or her geographic or organizational confines and to develop a more functionally versatile work force.

We expect to see other benefits resulting from Center establishment in the areas of acquisition/contracting process reform and automated systems development. Unitary leadership of previously separate contracting operations is expected to facilitate acquisition reform measures, especially as it enables successes in one location to be readily exported to others.

Likewise, unitary leadership will enable Center components to move further toward common automated systems, for solicitation/contract document generation and publication, as well as front-end input to the contracting system, infrastructure support and internal/external communications. This should ease transition to the DoD Standard Procurement System (SPS) for all Center contracting offices.

The successful consolidation of seven geographically separated contracting offices into the AMC Acquisition Center structure poses, of course, a special set of challenges. Effectively overcoming the broader span of management control and ensuring responsiveness to customers were mentioned above. Another concern is that the functioning of Integrated Product/Process Teams (IPTs), especially as they are operating in the materiel acquisition arena, not be compromised because contracting team members report to a separate organization. Conversely, if major customers are to rate the chiefs of their supporting contracting offices, we must ensure that program concerns do not inappropriately override public policy concerns. In addition, there are cultural challenges to overcome, such as those involved when traditional, hierarchical organizations interface with more collegial, flattened organizations. Another major concern is the many interface and support agreements (e.g., civilian personnel, resource management, facilities) necessary to sustain a stand-alone Center tenanted on multiple installations. These are some of the issues which Center managers are actively working today.

The rewards for rising to overcome these challenges gleam brightly on the horizon: to offer customers a lean and agile contracting capability which transcends installation and regional boundaries, has been honed by decades of support to many and varied customers, and can respond effectively to the contracting needs of the broadest spectrum of customer missions. Our ultimate vision is Excellence: to be the best that we can be for the Army of the 21st century - and to do it for less.

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Look for AMC CO$T BU$TER$ on the World Wide Web at http://amc.army.mil/amc/rm/costbust.html.

****SUCCESS STORIES****

Inventors Receive Royalty Money

Three inventors at the Edgewood Research, Development and Engineering Center (Hugh Carlon, Mark Guelta, and Bernard Gerber) recently received royalty income checks from the Pharmacia & Upjohn Company as a result of a non-exclusive Patent Licensing Agreement (PLA). This PLA is for a series of patents that cover the use of polyalphaolefins (PAOs) as a replacement material for dioctylphthalate, a suspected carcinogen to test filters. Following extensive testing and analysis at Edgewood, which validated the use of PAOs, they were approved by the Surgeon General of the Army. We also have another non-exclusive PLA with Abbott Laboratories. So far, a total of $25,000 in royalties have been generated from PLAs.

The PLAs are a result of the intensive marketing and negotiation efforts by the technology transfer and legal team at the Center. Technology transfer is a program mandated by Congress to promote the transfer of federally-funded technology and expertise to industry and academia, with the primary purpose of enhancing the competitiveness of the United States in international markets, stimulating economic growth, and creating more manufacturing and high-technology jobs. In addition, there are direct monetary benefits -- inventors receive 20 percent, the laboratory receives 60 percent, and AMC 20 percent of the royalties generated.
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JSLSCAD Software Savings

The Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD) program will design, develop, produce, and deploy an improved chemical warfare agent vapor stand-off detection system. The JSLSCAD will replace the M21 Chemical Agent Automatic Alarm system, and will add detection on-the-move capabilities to the DoD chemical detection inventory.

In September 1997, Intellitec Division of Technical Products Group, of Deland, FL won a competitive contract for Engineering and Manufacturing Development (EMD), with options for initial and full production of the JSLSCAD.

At the time of contract award, Ada computer software language was the government/ industry standard and was specified in the statement of work.. However, Intellitec became aware, during research for and performance of the contract software engineering effort, that industry was relying on and using C++ computer software language more extensively than in the past. Intellitec provided its industry computer language usage research, with advantages and disadvantages, to the government for evaluation and possible JSLSCAD application. The software technical team evaluated Intellitec's technical proposal and recommended acceptance and application of the more utilitarian C++ computer language to JSLSCAD program, saving $150K.
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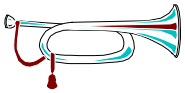

Team Pueblo Builds Bridges, Not Walls

SBCCOM's Pueblo Chemical Depot (PCD) has established Team Pueblo to guide the depot's future. Team Pueblo, a five-year, $186M environmental cleanup and redevelopment plan, is a collaboration of community stakeholders to determine the direction of the depot in the future and work toward depot reuse and remediation. Knowing that PCD will be slated for closure with the destruction of the chemical stockpile, LTC Pat Fogleson, PCD Commander, wanted to make the depot available to the community. "We are looking for a way to give the depot a better public image and for a way to reach the public," explains Fogleson. There are few restrictions on the program; however, it must be totally self supporting – no federal dollars spent.

With the support of Pueblo Community College, the University of Southern Colorado, and School Districts 60 and 70, Team Pueblo is creating a Community Learning Center on the depot and inviting the Program Manager for Chemical Defense (PMCD), the local reuse authority and environmental groups to bring their displays and information to the center. "Team Pueblo is an exciting opportunity," says School District 70 Superintendent Mike Johnson. "Why not a whole environmental high school?" Students will have the opportunity to explore real-world environmental problems and even help develop solutions. PCD will offer day trips to student groups and escorts for groups to view cleanup sites and learn about the stockpile disposal program. Fogelson expects PCD will become a major classroom for environmental applications.

PCD is also working with Pueblo Community College and the state to provide retraining opportunities for the depot's work force. Together, they are reviewing workers' capabilities and determining what they may qualify for in the civilian world. Workers will have an opportunity to become certified in their fields, to earn college credit for life experience, and even take college classes to finish degrees. The cost to the federal government will be time-the worker's time for interviewing and classes. All other costs will be paid through the state-run programs.

Regarding the land, state regulations specify that without a reuse plan in place, the depot's acreage would have to be cleaned enough for a residential community. For the depot's 23,000 acres, this could mean billions of dollars. "So, we asked the community what could be done," Fogelson says. By planning recreation and industrial uses for the property, millions of taxpayer dollars in cleanup costs will be saved as property is cleaned to meet its actual use. Fogelson says Team Pueblo will save taxpayers $3B to $4B over the five-year program life.

Team Pueblo continues to increase community knowledge of depot cleanup and reuse and it encourages involvement in deciding the future of the depot.
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M45 CB Mask

Members of the M45 CB Mask Acquisition Team were awarded the TACOM-ACALA Eagle Award for Acquisition Reform initiatives used during recent production contract negotiations. The 23 recipients included personnel from SBCCOM, TACOM-ACALA, Small Business Administration, Defense Contracts Audit Agency, and Campbell Plastics Engineering and Manufacturing, Inc. A three-year multiyear firm fixed price 8a set aside contract, with five option years for the end item and five years indefinite delivery-indefinite quantity for the spares, was awarded for FY97 through FY01. The contract was negotiated using Alpha contracting techniques, saving 180 days of pre-award time by performing tasks simultaneously in lieu of sequentially. A minimum of 90 days of ALT/PALT has been saved in placing the spares on contract by using the indefinite delivery-indefinite quantity provisions. Potential cost savings/ avoidance have not been quantified.
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$28M Life Cycle Cost Reduction

Application of a new mask maintenance concept and incorporations of a new communication device are projected to save $28M over a ten-year period. The maintenance concept, introduced by the M40/M42 CB Mask Sustainment Life Cycle Cost Reduction Project, involves the mask facepiece assembly being replaced instead of an entire mask, thus reducing replacement costs by approximately 50 percent. The M42A1 mask was improved by using an external microphone instead of the less reliable internal microphone for communication. This resulted in approximately $10.46 per mask reduction in addition to the savings from the improved maintenance concept.
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Modernization through Spares

Once upon a time, a Product Manager would develop, test, procure, and deploy a new or improved piece of equipment. At the end of this cycle, the PM would throw the product over the fence and leave it to the Integrated Materiel Management Center (IMMC) to sort out the life cycle logistic support issues. Depending on the readiness of the product, the IMMC would adjust the quantities of spare or repair parts in the inventory. If a product readiness was poor but it was critical to the mission, additional funding was provided to fix the problem. This approach rewarded failure not excellence. With the recent draw down in the Army and funding reductions, we have to find a better way to maintain our readiness at a lower cost.

The Undersecretary of the Army for Research, Development and Acquisition considers the Acquisition Reform Act of 1996 and Total Ownership Cost critical to the success of Army After Next. The operational effectiveness of an individual commodity is being considered concurrently with cost effectiveness and Efficiency of Force.

PM Smoke is working today to support the Army After Next. In October 1992, PM Smoke initiated a materiel change to the M157 Smoke Generator Set to incorporate critical safety and reliability improvements.

PM Smoke first formed a dedicated Integrated Product Team (IPT) that included outstanding engineers and technicians within PM Smoke, TACOM-ACALA and the Edgewood Research Development and Engineering Center at Rock Island. The IPT asked the customer after Operation Desert Storm to assess the existing system and provide suggestions for improvement. The IPT also examined the existing sustainment data and identified either high demand or sole source spare or repair parts for consideration. The first spare/repair candidates targeted by the materiel change were identified during this process. Most notable were the fuel can lid assembly and thermal switches.

The original fuel can lid assembly was a single piece cap, which relied on three quick release mechanical disconnects and required complete removal prior to refilling the Jerry fuel can. The joint team redesigned the lid assembly to include a pass-through, which allows hot refueling without removal and exposure to dirt/dust contamination. The new lid assembly also eliminates three aircraft quality quick disconnects, which experience poor reliability in a harsh combat environment. The new fuel can lid assembly costs $800 dollars less than the existing item.

During the materiel change, the existing thermal switches were re-evaluated for reliability and cost. The engine run switch and high temperature cut-off switches are critical to safe mobile smoke operations. Both items were sole source items. The manufacturer mistakenly understood that they were prohibited from selling the exact same part to outside commercial customers. With the Government as their only customer, the low quantity and high cost were unacceptable. We were surprised to discover that the same vendor has commercial equivalents and alternative parts that were previously rejected by the Government because they were not in accordance with the detailed Technical Data Package. Also, the reliability and performance of the commercial part were continuously improved, while the original Military Specification component became more obsolete and expensive. The commercial thermal switches demonstrated over a 250 percent increase in reliability over the Government component.

After completion of the first M157 materiel change and type classification of the M157A1, the production funding was eliminated by the Department of the Army. The readiness of the M157 continued to decline. At one point, the projected percentage of M157 systems that were operationally functional dropped into the low 60s. PM Smoke challenged the joint IPT to consider alternative ways to accelerate the introduction of these new spare/repair parts, which were common to the existing fleet of M157 gasers. We selected parts that combined lower procurement costs with operational improvements. Our approach was to exhaust the original spare/repair part inventory through attrition and introduce the improved and less expensive replacements. Since these items were common with the existing M157 and future M157 system, early introduction of these parts accelerated our organic support and inventory for the future systems. As a result of these improved parts, the overall fleet readiness improved from 60 to 70 percent to over 90 percent despite a lower budget to procure the items.

Our Modernization Through Spares success and readiness improvements, combined with a technical breakthrough by the Edgewood RDE Center resulted in the Department of Army funding a follow-on materiel change for the M157. This new M157 could generate heat for vaporization of large area

obscuration using any of the mid-viscosity fuels. Our IPT team was expanded to include our new partners in industry, and we expanded our investigation of potential Modernization Through Spares candidates. One of our successes was the replacement of the existing fire sensor.

The original fire sensor on the smoke generator was a fusible link wire, which melted when exposed to heat. The loss of continuity caused an immediate shutdown of the smoke generator. Unfortunately, the fusible link could only be used one time, and the replacement cost was staggering – $1.8K each. The joint IPT discovered that there was a commercial fire sensor used on military aircraft with increased sensitivity and significantly lower cost. These sensors also automatically reset themselves at the end of the exposure and were re-usable for the entire life cycle of the equipment. These fire sensors cost less than $100 dollars each.

After the M157A2 Multifuel Smoke Generator System was type classified in December 1994, we continued our Modernization Through Spares efforts. The IPT awarded a best value production contract based on a performance specification for both the end items and the spare and repair parts to a small business contractor. The joint IPT was further expanded to include our newest prime contractor Minowitz Manufacturing Company. After formal team and partnership training, we continued our investigation of potential Modernization Through Spares candidates. Two of our biggest success stories are the commercial replacement of the pressure sensors and an improved fire detector.

Using the performance specification, Minowitz identified a commercial replacement for the pressure sensors. The existing sole source vendor had a commercial replacement, which was slightly larger, but identical in performance. The best part was that the cost was significantly less. The commercial pressure sensors were $90 less expensive than the original government part. Minowitz was able to both integrate this new switch into their new production and simplify spare and repair replacement.

Members of our IPT firmly agree that Modernization Through Spares works. Our readiness has increased and our spare/repair part inventory has never been healthier. The joint IPT and our partners in industry have eventually introduced nine improved and less expensive spare/repair parts for the M157 family of smoke generators. The total life cycle cost savings in procurement of new production was over $1.1M and the annual cost savings in sustainment was over $600K. The Army After Next needs Modernization Through Spares to succeed, and we believe we are doing our part.

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