

November-December 1994

PROGRAM MANAGER

Journal of the Defense Systems Management College

19950424 051

Streamlining

Benchmarking

Environmental Ethics

Entrepreneurship



JTI²V: The Formula for Marine Corps Acquisition Success

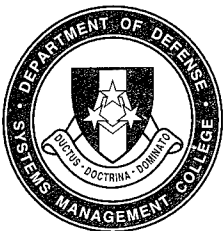
*Program Manager
Interview*

Maj. Gen. Carol A. Mutter, USMC, talks about her role as Commander of Marine Corps Systems Command.

PROGRAM MANAGER

Journal of the Defense Systems Management College

Vol. XXIII, No. 6, DSMC 123



Published by the
**DEFENSE SYSTEMS
MANAGEMENT
COLLEGE
PRESS**

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Program Manager (ISSN 0199-7114) is
published bimonthly by the Defense Systems
Management College Press.

POSTMASTER: Send address changes to:
DEFENSE SYST MGMT COLLEGE
ATTN DSMC PRESS
9820 BELVOIR ROAD
SUITE G38
FT BELVOIR VA 22060-5565

To subscribe, government personnel should
submit written requests (using their business address)
to the above address.

Nongovernment employees and organizations
may subscribe at \$11.00 annually through the
Superintendent of Documents, U.S. Government
Printing Office, Washington, DC 20402. Second
class postage paid at Fort Belvoir, VA, and at ad-
ditional entry offices.

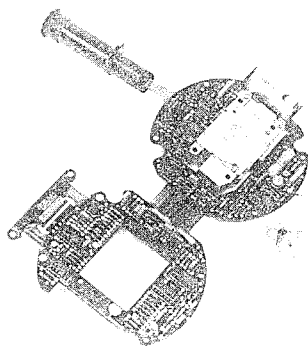
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2 **JTI²V: The Formula for Marine Corps Acquisition Success**

Program Manager Interview

Maj. Gen. Carol A. Mutter, USMC,
talks about her role as Commander of
Marine Corps Systems Command.



34 **Sensor Fuzed Weapon Tailor Made for Today's Air Force**

Maj. Michael A. Urban, USAF

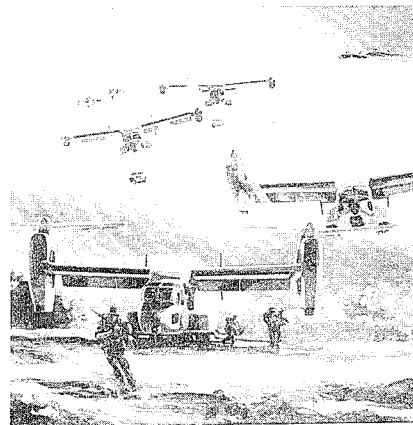
A program that maintained design
currency into production.



12 **Highlights of the Federal Acquisition Streamlining Act of 1994**

Joseph A. Drelicharz

Lowering Government's cost of do-
ing business.



42 **Baselining and Benchmarking**

Mark E. Gindele

Management tools for improving cost
management and the manufacturing
process.

Whenever feminine or masculine nouns or pronouns appear, other than with obvious reference to named individuals, they have been used for literary purposes and are meant in their generic sense.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION Unclassified			1b. RESTRICTIVE MARKINGS None		
2a. SECURITY CLASSIFICATION AUTHORITY			3. DISTRIBUTION/AVAILABILITY OF REPORT Distribution Unlimited		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE					
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S)		
6a. NAME OF PERFORMING ORGANIZATION Defense Systems Mgmt College		6b. OFFICE SYMBOL (If applicable) DSMC Press		7a. NAME OF MONITORING ORGANIZATION Same as 6a.	
6c. ADDRESS (City, State, and ZIP Code) 9820 Belvoir Road Suite G38 Fort Belvoir, VA 22060-5565			7b. ADDRESS (City, State, and ZIP Code) Same as 6c.		
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Same as 6a.		8b. OFFICE SYMBOL (If applicable)		9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c. ADDRESS (City, State, and ZIP Code) Same as 6c.			10. SOURCE OF FUNDING NUMBERS		
			PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.
			WORK UNIT ACCESSION NO.		
11. TITLE (Include Security Classification) Program Manager - Journal of the Defense Systems Management College VOL XXIII, No. 6, DSMC 123					
12. PERSONAL AUTHOR(S) Numerous Authors					
13a. TYPE OF REPORT Journal		13b. TIME COVERED FROM _____ TO _____		14. DATE OF REPORT (Year, Month, Day) November-December 1994	
15. PAGE COUNT 59					
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP	Highlights of the Federal Acquisition Streamlining Act of 1994; Baselineing and Benchmarking; Evolution of Configuration Management; The Green Aspect of Acquisition Reform		
19. ABSTRACT (Continue on reverse if necessary and identify by block number) Program Manager is intended to be a vehicle for the transmission of information on policies, trends, events, and current thinking affecting program management and defense systems acquisition.					
DISTRIBUTION STATEMENT A Approved for public release Distribution Unlimited DTIC SELECTED APR 25 1995 B					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL Sylvia Nance			22b. TELEPHONE (Include Area Code) 703-805-2743		22c. OFFICE SYMBOL AS-PR

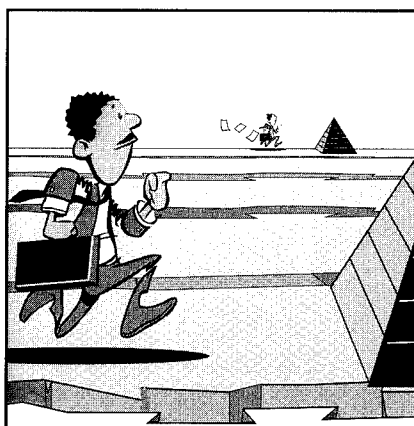
Cover: Maj. Gen. Carol A. Mutter, USMC, Commander, Marine Corps Systems Command.



17 Dr. Kaminski Delivers Keynote Address

Andrea Garcia

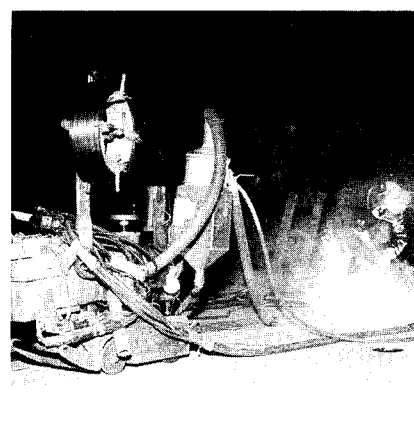
Honorable Paul Kaminski, USD(A&T) speaks at DAU Training and Education Conference '94.



26 Evolution of Configuration Management

William J. Semiatin
Thomas C. Hoff

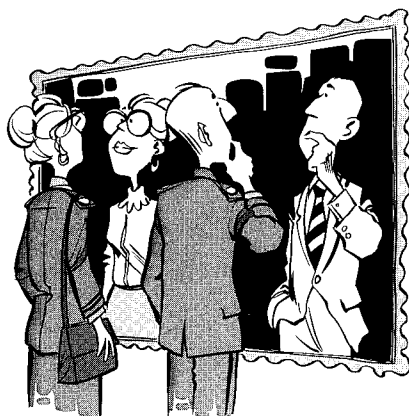
Challenges/growing pains at Edgewood Research, Development and Engineering Center.



29 The Green Aspect of Acquisition Reform

George P. Noble III

Action in the environmental aspect of acquisition reform is fast, furious and accelerating.



48 Managing Downsizing in the Military

Susan J. Harvey

The Army establishes Employment Assistance Centers.



54 Creating Successful Entrepreneurship One Program at a Time

Gretchel L. Hignite

LOGSA builds its reputation as friend, not foe, to PMOs.

ALSO

The Marine Corps Postures for Today's Acquisition Environment	8
Secretary Kaminski Appoints New DAU President	18
Secretary Preston Addresses DAU Training & Education Conference	19
DAU Training & Education Conference '94	23
Inside DSMC	24
Book Review — <i>Internet: Getting Started</i>	33
Managing Editor Retires — DSMC Welcomes Replacement	38
College Introduces New Systems Engineering Course	39
Letters to the Editor	40
Tailoring Authority	47
Making the "Professional Connection"	57

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JTI²V: THE FORMULA FOR MARINE CORPS ACQUISITION SUCCESS

Says Commander, MarCorSysCom

Program Manager recently interviewed Major General Carol A. Mutter, USMC, Commander, Marine Corps Systems Command (MARCORSYSCOM). General Mutter assumed command of the Quantico, Virginia-headquartered organization, which is responsible for developing and producing Marine Corps ground acquisition systems and equipment, in June 1994. Her biographical sketch follows this interview.

Program Manager. What guidance and vision are you giving the people of the Marine Corps Systems Command?

Maj Gen Mutter. I have come up with an acronym. You can't be in this business for more than 30 minutes without having an acronym. Mine is the acronym JTI²V, or JTI-squared-V. The "J" stands for Joint, jointness from two different aspects. The first is the perspective that we want to work with the other Services and be joint in developing our programs and systems. The other is that we must remember that Marine Corps systems need to work in the joint environment once they're deployed. We don't do anything that isn't joint these days.

Program Manager thanks DSMC professors Wilbur D. Jones, Jr., Acquisition Policy Department, and Lt Col Philip A. Young, USMC, Principles of Program Management Department, for conducting this interview.



Major General Carol A. Mutter, USMC, Commander, Marine Corps Systems Command (MARCORSYSCOM), makes a point as she is interviewed by Program Manager's representative, Lt Col Philip A. Young, USMC.

The "T" stands for teamwork. There are a lot of dimensions of teamwork. First, I emphasize teamwork internal to the command because we are somewhat matrixed in our organization; we rely on each other and are trying to lessen the stovepipe effect which can lead to "reinventing the wheel." Teamwork also plays heavily with the requirements folks over at the Marine Corps Combat Development Center (MCCDC). Because we are co-located here at Quantico with the Marine Corps' requirements command, we have an advantage the other Services don't have. Also, the Marine Corps Operational Test and Evaluation Activity, MCOTEA, is here. So, the synergy of being able to work as a team

throughout the whole development process gives us a tremendous advantage.

The requirements people at MCCDC are the spokesmen for the Fleet Marine Force (FMF), the users of our systems and equipment. We work as a team with them and also with the FMF directly. MCCDC brings the mission area people in to find out what the fleet needs. We are also closely connected with the Deputy Chief of Staff for Installations and Logistics (DC/S (I&L)) at the Headquarters Marine Corps and with the logistics base at Albany, Georgia. Albany is heavily involved in life cycle management of our systems and

Photos by Richard Vigue

equipment. So there are a lot of dimensions to our approach to teamwork.

The "I"-squared stands for inventiveness and innovation. It gets to the crux of total quality leadership (TQL). TQL empowers our people to do the things they need to do to get the job done, and helps us identify roadblocks and get them out of their way. We encourage not doing the same old thing in the same old way, because it's a different world now. We have different requirements. We have less money, less people. We have to invent new, innovative ways of doing the job.

The "V" stands for value. There are a couple of dimensions to value: getting the best value for the dollars we spend, and also emphasizing core values. Our Marine Corps values of honor, commitment and courage apply to all Marines whether we wear civilian clothes or a uniform, whether we are in garrison or the field, whether we are in wartime or peace. Those core values apply equally across the board; they require a basic integrity in how we go about our business.

Program Manager. What are the biggest challenges facing Marine Corps acquisition?

Maj Gen Mutter. Certainly the biggest is budget constraints. Another is keeping up with advancing technology. Technology is moving so quickly, and changing so fast. Our traditional way of doing business was taking 5-10 years or more to develop a system, which nowadays would be two or three generations behind technology by the time it's fielded. Our challenge now is in the acquisition reform arena to come up with ways of developing our software and computer systems faster, but also do them in a structured way to ensure we are making the right decisions, and can support the systems in the long term. We need to continue to look at streamlining. We have transitioned almost



We have transitioned almost all our programs to evolutionary programs, but the rules for going through the milestone decision process are not well suited for evolutionary development.

all our programs to evolutionary programs, but the rules for going through the milestone decision process are not well suited for evolutionary development.

Another big problem is commercial off-the-shelf items. We are going to have a lot more off-the-shelf systems, equipment, software, etc. Our programs then become more integration programs than development programs, integrating various pieces and maybe developing a small portion to customize it for a particular application. However, the defined DoD acquisition process doesn't necessarily lend itself to that, especially the operational testing rules and regulations. We need to relook at those things and come up with a more streamlined way

of doing business adapted to the new ways of systems development.

Program Manager. Do you see the Marine Corps' required participation with other Services on many of its programs as a constraint?

Maj Gen Mutter. No, not at all. The Marine Corps manages no Acquisition Category I (ACAT) programs itself, except for the Advanced Assault Amphibious vehicle (AAAV) program. The AAAV Program Manager reports directly to the Assistant Secretary of the Navy (Research, Development and Acquisition) (ASN(RDA)), Ms. Nora Slatkin. All our other major programs are either joint- or other Service-led.

An aspect with the "J" in JTI²V, which overlaps into the "T," is that we always work closely with other Services. The Marine Corps is small. We rely very heavily on the other Services: on the Army for the development of tanks and vehicles, for example. We work closely with the Navy for many computerized command and control systems. And, on occasion the Marine Corps is designated as the lead Service in some joint programs. Some examples include the Tactical Air Operations Module (TAOM), the Air Force is follow Service; the Anti Personnel Obstacle Breaching System (APOBS), the Army is follow Service; and the Position Locating Reporting System Communications Enhancement (PLRS-CE), the Navy is follow Service.

Program Manager. Regarding amphibious warfare and the basic Marine Corps mission of "from the sea," and the continuing talk and studies and reviews about roles and missions, how would you answer the question of why the Marine Corps needs a separate air force?

Maj Gen Mutter. The Marine Corps is unique because of our role in operational maneuver from the sea. We have to operate in a naval envi-

ronment and be able to transition from sea to shore and then operate in a land environment. That takes a very special kind of air capability, or air wing, to be able to practice and operate on a routine basis in a multitude of settings. We must be able to operate on board ship as well as in an amphibious assault or any other operation ashore using dedicated close air support. Probably the most complex of combat operations is the amphibious operation. That close relationship of working with our own aviation assets has always been important.

Program Manager. Is the Army's role in prepositioning overlapping with the Marine Corps' role in prepositioning? Is there a paradigm shift?

Maj Gen Mutter. Don't forget the Army has their mission to worry about as well, and that both the Army and Marine Corps have complementary missions. The Army needs a way to get their very large amounts of equipment and supplies to wherever they might be employed. In the past the most likely places of employment were few and well known. They could preposition things in those few places. Now that the world is looking a little more dangerous in a larger number of places, and not knowing where we might have to go, everyone recognizes the need for a different approach on how the Armed Forces get their supplies and equipment where they need it quickly. The Marine Corps does not pretend to be a large ground army. We are the enabling force that may go in first and secure the airport or port facilities where a larger force could go in later.

The Marine Corps' mission for over 200 years is probably even more relevant in today's world than in the past because of the likely places of employment: in the littorals and danger spots of the world. Operational maneuver from the sea and global forward presence is right up our alley, and involves the same kinds of things that we have been doing for many years.



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Program Manager. Given that our roles and missions are secure, what are the Marine Corps' acquisition priorities to support them?

Maj Gen Mutter. Our two big acquisition priorities are the V-22 Osprey aircraft and the AAV program. The V-22 is run by the Naval Air Systems Command (NAVAIR), and I have no responsibilities for it. Of course, we have Marines over there working with NAVAIR. I do provide matrix support to the AAV for contracting, logistics support and various other things. So, I do get involved with the AAV.

Those two programs are our key capabilities to execute our operations from the sea. They replace systems that are very old and very obsolete,

the CH-46 helicopter and the LVT amphibious tractor. We need not only to replace those platforms, but also to upgrade and update them with new technology that will be around a while. We are having some real budgetary difficulties getting the V-22 and AAV on board quickly enough in order to replace those old systems.

On the AAV, the discussion has centered around the current vehicle's age. If we slip the AAV and start it after the current POM [program objectives memorandum] cycle, the new AAV system would be in place at about age 47 for the current vehicle. Then you're talking about stretching something out to a point where it becomes almost nonsupportable — you're looking at 1950s, Korean War technology to take the Marine Corps with amphibious operations into the battlefield of the 21st Century. This does not seem like a prudent thing to do. The other primary thing is that the AAV is not that expensive. We're talking on the average of about \$60-80 million a year in R&D funds. So cutting out or stretching that program, or delaying it, doesn't save DoD that much money.

Program Manager. The Marine Corps' reputation is one of being resourceful. Where is the Marine Corps now with downsizing of personnel and restricted budgets?

Maj Gen Mutter. It reminds me of the saying "We've done so much with so little for so long that pretty soon we can do everything with nothing." We are seeing some tremendous challenges in being able to meet the minimum requirements with the numbers of people and the available budgets. It is getting to be extraordinarily difficult, which is why the innovation of new ideas and jointness, and cooperation and teamwork, are so important.

In the POM-96 prioritization process, it was primarily C'I systems that came to the top of the procurement list. That is a legacy from Southwest Asia

where a lot of lessons learned have been fed into the process. And for the last several years we've been emphasizing the C'I area to try to get more interoperability communications-wise, the ability to talk to one another, and more automated intel battlefield information dissemination to decision makers at the various levels.

Program Manager. We understand you have a background in computers and data systems.

Maj Gen Mutter. Yes, I do have experience in computers and the data systems world as far as how our data systems support our command and control, decision making, intelligence systems and communications systems. I've been involved in computer systems off and on for 11 years, both on the business and tactical sides.

I know Mrs. Colleen Preston [Deputy Under Secretary of Defense (Acquisition Reform)] and the acquisition reform folks are looking for ways to streamline. This is a candidate.

The biggest problem in computer software is that technology is moving so fast. You know how fast we've come from a 286 to a 386 to a 486 to a pentium computer. If we are not developing a system with open systems architecture so we can put it on a different piece of hardware to take advantage of the faster processing time, use reusable code, and keep our systems flexible, then our systems will be irrelevant and incapable for what the user needs in a timely fashion. We are working with the ASN(RDA) and others providing recommendations on ways we can streamline. The end result is doing things in a timely but structured way, looking at real alternatives, making the right decisions, and getting the system on the street.

Program Manager. Other than the AAV, an ACAT I program, all Marine Corps acquisition programs are ACAT IIs, IIIs and IVs. Is the



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Marine Corps tailoring its programs, or is the DoD 5000 Series of directives restrictive?

Maj Gen Mutter. The way we interpret the DoD 5000 Series can be restrictive. Some of our problems are self-inflicted within the Marine Corps.

When you go through the milestone process, you have to answer to all of the staff people and decision makers who are going to ask if you've done things a certain way to make sure they are legal, defensible, make sense, and that we are not wasting

money. In answering those questions a certain amount of rigor has been put into the process for even the ACAT II-III-IVs. I believe that rigor is good up to a point. But, Mr. [R. Noel] Longuemare [then Acting Under Secretary of Defense (Acquisition and Technology)] recently signed out a memo emphasizing the tailoring process. The Marine Corps is small enough so that we can get our arms around a lot of things the other Services cannot. We have some good ideas on how to tailor.

Back to technology again. Technology is moving so fast, it's difficult to move quickly enough with ideas at the same time we're trying to develop your systems. We have a unified build program where all our command and control systems are being looked at for potential reusable code. For example, why have every system develop its own mapping system for its display, or buy separately off the shelf? We have come up with one or maybe two standard mapping, message handling, and database management systems. We have found that from 45 to 82 percent of the code in each of our command and control systems is functionally similar to other Marine Corps command and control systems. There is a tremendous amount of opportunity for reusability of code with life cycle management support implications. We are fielding so many automated systems that to pay internally or on contract for someone to maintain the code becomes very expensive. A large amount of reusable code would cut back on the money required for post-deployment software support.

Program Manager. Do you think changing the requirements for using military specifications and standards will help the Marine Corps field systems quicker?

Maj Gen Mutter. There is a lot to be gained by relooking at specs and standards and getting rid of those which are out of control. We have tied

the hands of contractors, and the red tape requiring hundreds of CDRLs [contract delivery requirements lists] on every contract, adding unnecessary costs not in the government's best interests. I have seen a lot of computer systems developed where we produced documentation that is ten feet high, and nobody ever looks at it. It's of little benefit in getting us to where we want to go. Standards are usually developed because something went wrong somewhere, or somebody wasn't smart enough to catch it or didn't have the expertise on the evaluation team, or the contractor took advantage of the government. There's a certain amount of risk you must accept.

But, we may not have the technical contract expertise to evaluate contractor proposals. Specs and standards help us bound that problem. We need to keep some specs and standards, while getting rid of the ones that tie the hands of government and contractor in coming up with cheaper, more reliable solutions.

Program Manager. How is the health of the Marine Corps acquisition workforce?

Maj Gen Mutter. We have looked at what the acquisition workforce should be, both on the military and civilian sides, and how we want people to progress in their careers. We have made great strides since I was here two years ago.

We assign a "specialty" to Marine officers as an additional duty, not as a primary duty. One of the strengths of the Marine acquisition workforce is that we have people who rotate out into the FMF and are actual users of the equipment and systems we develop. They come back with a good operational perspective and contacts so they can stay in touch with the needs of the users. That's a tremendous advantage to our process, but it does make it difficult for a person who rotates in and out of acquisition business to be able to get back to the FMF



We have looked at what the acquisition workforce should be, both on the military and civilian sides, and how we want people to progress in their careers. We have made great strides since I was here two years ago.

to progress in his or her primary specialty. This is not an impossible task. We have had people who have done this, both on the aviation and ground sides, but it is getting harder to do because of the experience and education requirements.

We see the emphasis being placed at the highest levels of the Marine Corps, recognizing the importance of the work acquisition people do. There is every reason to believe both the military and civilian members of the workforce will continue to progress and have an important niche in the Marine Corps.

Program Manager. What is your strategy for training the workforce across functional lines?

Maj Gen Mutter. We have a heavy emphasis on education and training. It's the key element to the work force. Because we have so many ACAT IV programs, we have as project managers many junior majors, captains and in some cases warrant officers or staff NCOs filling captains' billets. We have had to be aggressive to get them into schools, because some school houses believe their classes should be for field grade officers or above. I had a good conversation recently with Colonel [Claude M.] Bolton [Commandant] of DSMC about this. DSMC has had to emphasize ACAT I programs because of the law requiring all ACAT I PMs to cycle through the school to operate legally in major program billets. They have had to concentrate on getting everyone educated across the Services. Now the schools are seeing they can change their education and training to include folks working the ACAT III and IV as well as continuing to focus on the ACAT Is and IIs.

We have overcome that initial bow wave of training. That's something we fought for a long time because the Marine Corps didn't have too many people in that initial bow wave. Now we are able to get our folks into training much easier. We have also brought instructors in and trained a large number of folks at one time in areas that are important to us.

We also developed our own project managers course, so that every one who reports aboard gets a 4- to 5-day course at Quantico that says how the Marine Corps does business. We include the Marine Corps requirements folks and test and evaluation personnel. We have programmed instruction texts on computer with a manual that people can use to come up to speed and pick and choose the areas they need. Those coming into matrix jobs can choose those areas they wish to specialize in. This has been under development for the last three years.

Program Manager. What is your relationship to the ASN(RDA), the

DC/S(Aviation), and the Commander, MCCDC?

Maj Gen Mutter. I answer to the Commandant for the things that I develop, and to the ASN(RDA) for how I develop them and in making sure we go through the right processes. I have two bosses.

My relationship with MCCDC is very close. [Lieutenant] General [C. E.] Wilhelm [Commanding General, MCCDC] and I try to set aside at least an hour a week to discuss whatever has come up. Things happen on a daily basis. We schedule time to talk routinely. We work on a co-equal plane. His people provide the requirements, the doctrine, the training, the studies, etc., to support what we develop. They give us the requirements document and we develop the equipment solution. But it's usually never just a single solution. The equipment solution also requires training and doctrine, always a combination. Our folks are working together constantly.

We have the same kind of relationship with DC/S for Aviation. Aviation works through NAVAIR with regard to aircraft and associated equipments, but there are support equipment and engineering equipment associated with aviation that we are responsible for. There is some overlap and interface with communications equipment that goes into both air and ground systems, such as the JTIDS. Some air systems are the sources of intelligence information to our ground systems.

The MARCORSYSCOM has high-level quarterly program reviews which my predecessor Lt Gen [James A.] Brabham set up where our different Marine Corps claimants, such as DC/S(Aviation) and DC/S (I&L), at the general officer level participate in program reviews. We ask, which systems would you like to talk about? We can't review hundreds of programs every quarter; so we focus on those where there is current interest and need.

Maj Gen Carol A. Mutter, upon advancement to her present grade in June 1994, assumed command of the Marine Corps Systems Command, Quantico, Virginia, responsible for developing and producing Marine Corps ground acquisition systems and equipment.



U.S. Marine Corps photo

Maj Gen Carol A. Mutter, USMC

General Mutter was commissioned a second lieutenant in the Marine Corps upon graduation from Northern Colorado University in 1967. Her early career spanned a wide range of assignments, including Project Officer for Marine Corps Air Command and Control Systems; Financial Management Officer at the Quantico Development Center; Assistant Chief of Staff, Comptroller, 1st Marine Aircraft Wing; Deputy Comptroller, Headquarters, Fleet Marine Force; and Deputy Program Manager/Program Manager for the development of new Marine Corps pay and personnel systems for active duty, retired, and reserve Marines.

After assignments at the U.S. Space Command and III Marine Expeditionary Force, General Mutter was selected for promotion to Brigadier General. In June 1991, she assumed duties as the Deputy Commanding General, Marine Corps Systems Command at Quantico. She was also the Program Manager for Marine Air Ground Task Force Command and Control (C²). On June 25, 1992, she assumed command of the 3d Force Service Support Group, III MEF, U.S. Marine Forces Pacific.

In addition to holding a B.A. degree in Mathematics Education, General Mutter attained an M.S. degree in general management from Salve Regina College (1985) and an M.S. degree in business management from the Naval War College (1985). General Mutter has attended the Amphibious Warfare School, the Marine Corps Command and Staff College, and the Naval War College.

Her medals and decorations include the Defense Superior Service Medal; Navy Commendation Medal; Navy Achievement Medal; Meritorious Unit Commendation; National Defense Service Medal with bronze star; and the Sea Service Deployment Ribbon with four bronze stars.

General Mutter is married to Colonel James M. Mutter, USMC (Ret).

THE MARINE CORPS POSTURES FOR TODAY'S ACQUISITION ENVIRONMENT

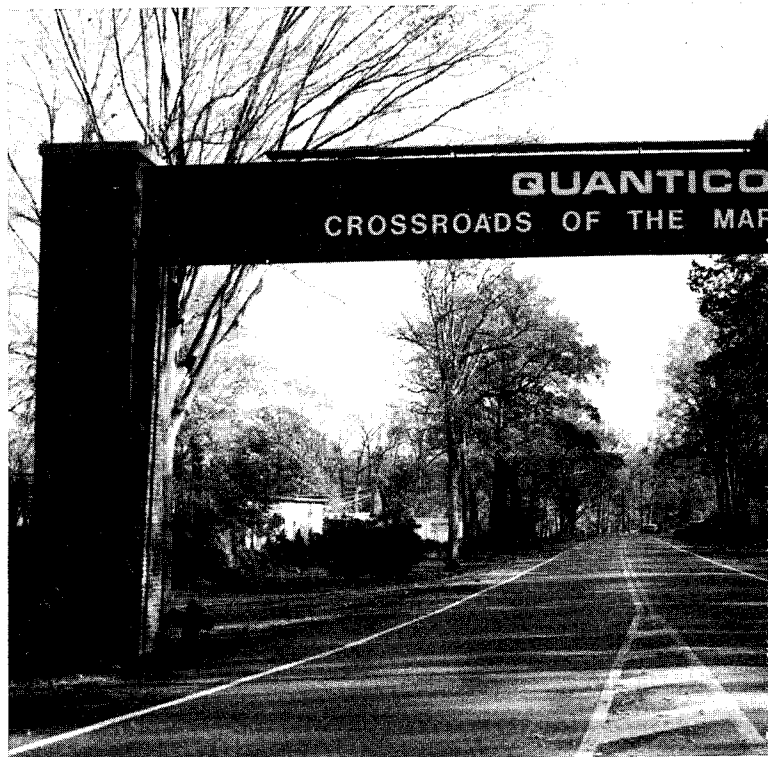
The Quantico Crossroads

Lt. Col. Philip A. Young, USMC

Settled against the Potomac River and surrounded by the thick foliage typical of Prince William County, Marine Corps Base, Quantico, Virginia, would appeal to the casual observer as a post replete in history, tradition and purpose. Many important training activities located here, including Officer Candidate School, Marine Security Guard School, and Marine Corps University train and educate Marines throughout their careers. That the Marine Corps' Combat Development Command and Systems Command are

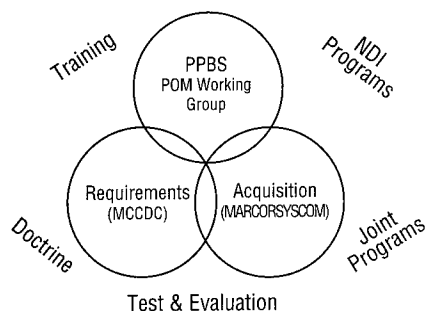
collocated with these training activities would seem befitting to the harmony that blends at this "Crossroads of the Marine Corps."

The setting provides a good model for how the decision support systems — requirements generation; acquisition management; and Planning, Programming, and Budgeting System (PPBS) — should interface for effective systems acquisition in today's era of change. A discussion of the Marine Corps' community of decision support system proponents and how they function in their setting reveals how the systems are working together to meet requirements. Additionally, this setting may be a useful model for how an acquisition management system should be working now, and for future reference as it evolves to keep in step with the changes that are sure to come (Figure 1).



Entrance to Marine Corps Base, Quantico, Virginia — the Crossroads of the Marine Corps.

FIGURE 1. Crossroads of the Marine Corps

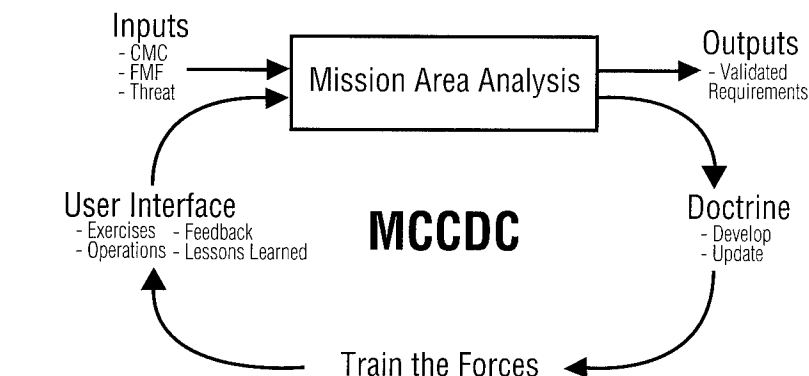


Close proximity and effective communications enhance the interface among the decision support systems.

Lt. Col. Young, USMC, is a Professor of Acquisition Management, Principles of Program Management Department, DSMC.

Integrating the three major decision support systems in which each of the four Services must coordinate and cooperate is a difficult task. Translating warfighting deficiencies into clear requirements is complicated by an evolving world order, fast-paced technological advancements, and paradigm changes within the Department of Defense and industrial communities. This requires greater emphasis on working effectively with the acqui-

FIGURE 2. Mission Area Analyses



Marine Corps Combat Development Command is single focal point for inputs from the Commandant of the Marine Corps (CMC) and the Fleet Marine Force (FMF) for requirements generation.

cies through a constant loop of training, experience and feedback from operating forces; and 3) inputs received from the Commandant of the Marine Corps (CMC).

While the Marine Corps' proponents for requirements generation and acquisition management may be conveniently located, the most important elements for effectiveness are communications and an efficient working relationship among these proponents and the operating forces. Accordingly, the MCCDC developed and disseminated standard training and operating procedures throughout the Marine Corps. With this centralized role, MCCDC ensures unity of effort in the requirements generation process by acting as a single focal point for the operating forces to receive guidance and support, as well as remaining in the same loop to receive feedback on what is working well, and not so well (Figure 2).

tems blurs the distinction. Efficiency and effectiveness of this interaction depends greatly on the efficiency and effectiveness of the communications among the Service proponents of these systems. The following is a description of those proponents in the Marine Corps.

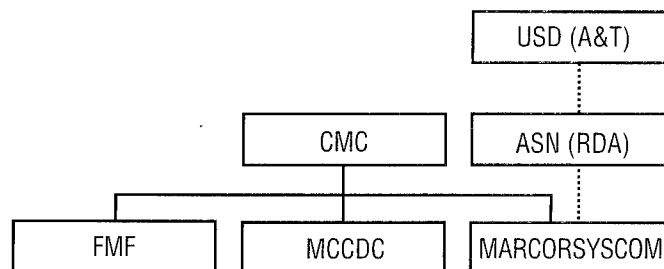
Marine Corps Combat Development Command

Marine Corps Combat Development Command (MCCDC) includes, among other elements, the directorates for warfighting, doctrine, training and requirements. Among them, the directorates accomplish the mission area analyses by performing the following actions: 1) maintaining current doctrine for the deployment and employment of existing and future forces with their weapons and support systems; 2) determining deficien-

Marine Corps Systems Command

While the Naval Air Systems Command manages Marine aviation requirements, the Marine Corps' proponent for the acquisition management system, Marine Corps Systems Command (MACORSYSCOM), receives prioritized requirements for ground systems. This link is most critical in ensuring that acquisition planners develop and procure the right systems to meet the users' requirements through acquisition strategies

FIGURE 3. Organizational Relationship of MARCORSYSCOM Between CMC and USA(A&T)



Organizational relationship of MARCORSYSCOM between CMC and USA (A&T)

sition decision support systems, such that the proponents of the users, acquisition managers and comptrollers work with greater efficiency to effect correct and affordable solutions.

While the requirements generation system, acquisition management system and the PPBS are considered as separate decision support systems, the need for close, continuous and effective interaction among the sys-



Short Range Assault Weapon (SRAW)
Predator

Loral Aeronautics photo

the users' requirements is the effective relationship with the other Services, and the channels established to procure foreign products as sources for meeting material solutions. In today's austere fiscal environment, the Marine Corps maximizes its return on the dollar through Navy-managed aviation programs, other Service and joint programs, and cooperative programs with our foreign allies.

Using other Service programs saves money and avoids duplication of effort. Whenever a study of alternatives



General Dynamics photo

Concept demonstrator for the Advanced Assault Amphibious Vehicle (AAAV)

that "...minimize time and cost..., [and are] consistent with common sense, sound business practices, and the basic policies established by DoD Directive 5000.1, Defense Acquisition" (excerpt from DoD Instruction 5000.2, "Instruction for Defense Acquisition Management Policies and Procedures," part 5, section A, paragraph 2.a., 23 February 1991).

The Fleet Marine Forces (FMF) are the customers and, as depicted earlier, generate requirements through the CMC and MCCDC. The MARCORSYSCOM's mission statement charges its Marine and civilian members with providing the best possible equipment to the Marines in response to validated needs, and with doing so in the shortest possible time (Figure 3).

The physical proximity and close working relationship between the commanders of MCCDC and MARCORSYSCOM foster the necessary interaction with the PPBS. Through frequent program reviews and joint membership on the Marine Corps Program Objectives Memorandum Working Group, the Marine

Corps receives the most out of its scarce fiscal resources.

Operational Test and Evaluation Activity

An added bonus for the Marine Corps is the fact that its Operational Test and Evaluation Activity (MCOTEA) is also located at Quantico. Close, direct and responsive access to operational requirements representatives of MCCDC and the systems developers of MARCORSYSCOM equates to clear understanding of objectives and meaningful operational tests to ensure that systems are ready for fielding.

Cooperative and Joint Programs

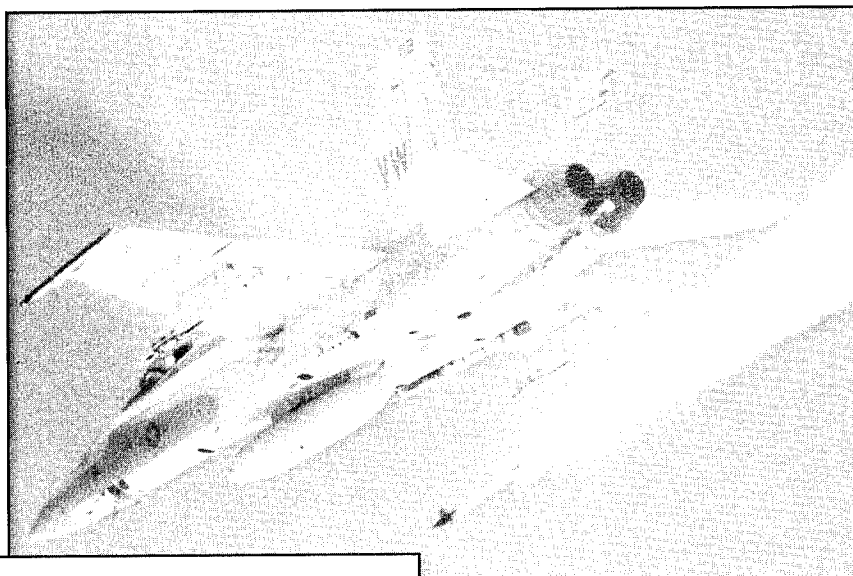
An additional component to the Marine Corps' successes in meeting

shows that another Service is developing or producing a system that will meet the requirement, the Marine Corps adopts a strategy that exploits it, providing economies of scale and cost savings to all concerned. Of the Marine Corps' procurement costs for ground systems for fiscal year 1994, approximately 84 percent were for joint, multi-Service, and non-developmental programs. Nine of the ten Acquisition Category I (ACAT I) programs for ground systems involving the Marine Corps are joint programs led by another Service, saving costs and enhancing interoperability.

Examples of other Service programs the Marine Corps exploits to satisfy requirements are the Single Channel Ground and Airborne Radio Systems (SINCGARS) and the M1A1 Abrams tank. The Army and the Marine Corps

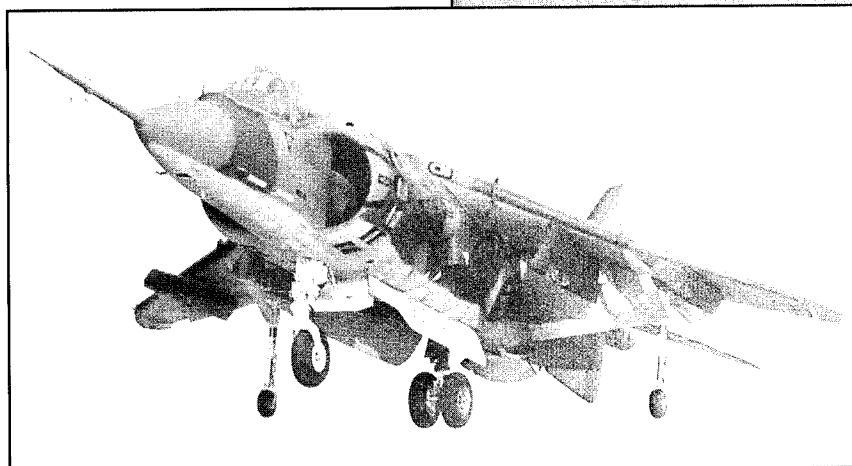
participate in a number of joint programs. A current example is the Joint Tactical Unmanned Aerial Vehicle (UAV) that is managed by an Army program manager under the direction of the Navy Program Executive Officer for the Joint Cruise Missile and UAV project.

The Navy and Marine Corps team consistently works together toward meeting Marine aviation requirements with current programs including F/A-18, AV-8 and V-22. Off-shore procurements, such as the Saratoga



McDonnell Douglas photo

F/A-18 Hornet



AV-8B Harrier II

reached a Milestone II decision in June 1994 after completing a successful demonstration and validation phase.

Summary

As the smallest of the four Services, the Marine Corps has always struggled in an austere fiscal environment to keep its operating forces manned, trained, educated and equipped in order to carry out its responsibilities for national security. In today's environment, everyone is learning how to do more with less.

As advancements in communications and management information systems enable ever increasing efficient communications for everyone, the end result should be enhanced communications and effectiveness of acquisition and user proponents, no matter how dispersed.

The close physical proximity among the requirements and systems components is unique in the Marine Corps. Since the Marine Corps has done so much, with so little, for so long, the "Crossroads of the Marine Corps" may well be the model to study defense systems management in this new era of increased austerity, efficiency and interaction.

chemical protective suit procured from Germany, and the chemical agent monitor procured from England, saved development costs for these required items that were not otherwise available.

Only after exhausting all possibilities for one of these alternatives will the Marine Corps pursue a new, single-Service (unilateral) material alternative. These alternatives are than prioritized among strategies such as conducting product improvements, upgrading existing systems, service life extension programs for systems awaiting future replacement, and (only when appropriate gains are clearly recognizable against the risk) a new systems development.

Given the Marine Corps' role as an amphibious landing force in opera-

tions from the sea, the Advanced Assault Amphibian Program emerged as an example of a major defense acquisition program by the Marine Corps where there were no alternative strategies available to meet the requirement. In this program, the Marine Corps program manager reports directly to the Under Secretary of the Navy (Research, Development and Acquisition).

The MARCORSYSCOM is at the forefront of other important programs as well. Two examples are as follows: 1) to enhance firepower and mobility of supporting arms, the Light Weight 155mm Howitzer, which is vying for program initiation in the near future; and 2) to defeat the next generation advanced armor threats, the Short Range Assault Weapon, which

U.S. Navy photo

HIGHLIGHTS OF THE FEDERAL ACQUISITION STREAMLINING ACT OF 1994

Lowering Government's Cost of Doing Business

Joseph A. Drelicharz

The U.S. Government spends approximately \$200 billion a year on the procurement of goods and services. Yet the acquisition system is huge, complex and confusing. The system is burdened with an outmoded and fragmented statutory foundation, regulatory and procedural proliferation beyond comprehension, a workforce that is in many cases underdeveloped, and an absence of accountability.

The intent of P.L. 103-355, commonly referred to as the Federal Acquisition Streamlining Act of 1994,¹ is to develop a more equitable balance between government-unique requirements and the need to lower the government's cost of doing business.

The Act addresses these objectives through an emphasis on increasing government-wide reliance on the use of commercial practices, goods and services; streamlining the rules and

regulations that govern high-volume contracting activities, which represent an overall low-dollar expenditure; and increasing the selling opportunities for small businesses.

The passage of the bill ends four years of integrated cooperative bipartisan effort, which started with the Department of Defense (DoD) Acquisition Law Advisory Panel, commonly known as the Section 800 Panel. It represents the combined efforts of the House and Senate Armed Services Committees, the Senate Government Affairs Committee and the House Government Operations Committee, along with a tremendous contribution of information, ideas and opinions from the Office of Federal Procurement Policy (OFPP), the DoD and industry.

Several messages in this legislation should not be overlooked. The Act consists of almost 400 pages that serve to enable or reinforce existing authorities and expunge obsolete and redundant statutes to recoup a less than four-percent cost saving. The existing rules and regulations, if streamlined and thoughtfully executed, could increase that savings to as high as 60 percent. The Act, however, is a start. It is a scratch in the patina of this bar of gold. The real cost savings and real streamlining can be accomplished only by the hands-on people in the agencies.

Joseph A. Drelicharz is a Professor of Engineering Management, DSMC. The sponsors of the Federal Acquisition Streamlining Act of 1994 are Senator John Glenn (D-OH); Representative John Conyers, Jr. (D-MI); Representative William Clinger, Jr. (R-PA); Representative Ronald Dellums (D-CA); and Representative Floyd Spence (R-SC).



Simplified Acquisition Threshold

Currently, purchases of \$25,000 or less can be made with simplified acquisition procedures. As a result, these small purchases can be completed

relatively expeditiously. Raising this threshold to \$100,000 and redefining it as the "simplified acquisition threshold," expands the streamlined process of making small purchases and reduces the administrative overhead needed for such purchases, resulting in substantial savings for the government. This action would allow use of simplified procedures for an additional 45,000 procurement actions that have an aggregate value of approximately \$3 billion per year.

In no way should this be interpreted as a lack of control in the procurement process. For example,

procurement integrity statutes and the Competition in Contracting Act (CICA) still apply. Notice requirements must still be published in the *Commerce Business Daily* 15 days prior to the issuance of a solicitation for any procurement over \$25,000, and this will continue. Such notice, however, would be phased out as electronic commerce procedures and systems come into being.

Contracts for more than \$2,500, but less than the simplified acquisition threshold, are reserved for small businesses, and the Act specifically authorizes the continued use of set-asides. A new micropurchase threshold of \$2,500 enables agency officials to make simplified purchases and credit card purchases of up to \$20,000 per year, per official with a few restrictions.

Commercial Items

One of the more important aspects of the Federal Streamlining Act of 1994 is that it enables the government to buy commercial items on commercial terms. Commercial companies find it difficult and costly to do business with the government. They have to comply with unique terms and conditions, grant blanket financial audit rights, and provide cost information to name a few. To further compli-

cate doing business with the government, many of these requirements flow downward to the subcontractors as well. Commercial companies often are unaware of, or are incapable of complying with, the practices that are alien in the commercial marketplace.

The Federal Streamlining Act exempts such procurement from a number of statutory requirements, especially those that require certification of compliance, such as contingent fees certification or the Drug-Free Workplace Act of 1988.

Indeed, the Act prescribes a clear preference for the purchase and use of commercial items first, and then non-developmental items (NDI). Only if neither of these is available should the government consider the acquisition of specially designed government-unique items.

Since a definition of "commercial item" was required and DoD could not develop one suited for the government, the Act is devoted to providing a definition. The definition is what one would expect — anything other than real property sold to the general public. However, the definition goes beyond this simple statement to include services that are sold in substantial quantities in the commercial market. It also includes items that are based on evolving technology and are not available in the marketplace, but will be in time to satisfy government requirements. The definition also includes items that are leased or involve intracompany transfers. Modification of the type customarily available in the market or minor modifications are permitted. In addition, NDI, if they have been developed at private expense and sold in substantial quantities on a competitive basis to multiple state and local governments, also are included in the definition.

Further, if in the best interests of the government, the contracting officer may use commercial financing practices consistent for the product



White House Photo

President Clinton signs Public Law 103-355, commonly referred to as the Federal Acquisition Streamlining Act of 1994, 13 October 1994. From left: Senator Patrick Leahy (D-VT); Senator Strom Thurmond (R-SC); Representative Patricia Schroeder (D-CO); Representative Jane Harman (D-CA); Representative John Conyers, Jr. (D-MI); Senator William Cohen (R-ME); Vice President Al Gore; Senator Robert Smith (R-NH); Representative Ronald Dellums (D-CA); Senator John Glenn (D-OH); Senator Carl Levin (D-MI).



Photo by Joseph A. Drelicharz

Congresswoman Elizabeth Furse (D-OR) discusses acquisition reform with Michael Mitton, President of Chemical Biosensors Inc., a Portland-based environmental technology company. Mitton hopes to do business with the federal government now that the Federal Acquisition Streamlining Act of 1994 has been signed into law by President Clinton.

category being purchased. As much as 15 percent of the contract price may be paid in advance of any contract performance.

If a commercial item is purchased on the basis of adequate price competition, the purchase is exempt from cost or pricing data requirements. If for all practical purposes the commercial item cannot be competitively acquired, the contracting officer then seeks pricing information through market analysis. If the information is such that price reasonableness is demonstrated, the acquisition is exempt from cost and pricing data requirements. If neither of the above criteria is met, the contracting officer may make a written determination to the fact, and only then may pricing data be required. To further protect the government, agencies retain the authority to audit any commercial contract for up to two years after the date of award.

Truth in Negotiations Act

Apart from the Truth in Negotiations Act (TINA),² as applicable to

commercial items, several provisions in the Act exist that apply across the board. One provision prohibits contracting officers from requiring certified cost or pricing data where there is adequate price competition, or catalog or market pricing, or prices set by law. However, a contracting officer may require submission of other, uncertified information, if it's necessary to determine price reasonableness. With a written determination by the head of the procuring activity, a contracting officer may obtain certified cost and pricing information in below-threshold procurement. The agency may obtain that information unless there is adequate price competition or catalog or market pricing available. The TINA is uniformly applied to all federal agencies.

Uniform Procurement System

A common complaint, and in some cases a barrier to doing business with a specific agency, is the variation in the procurement processes from one agency to another, especially between the DoD and civilian agencies. The Act amends existing statutes, such as

the Federal Property and Administrative Services Act, to promote uniformity wherever practicable, right down to the forms used in the process.

It establishes contract cost principles for civilian agencies (already applicable to DoD). Contract cost principles provide that certain types of costs — such as entertainment costs, lobbying expenses, advertising costs, and so-called “golden parachute” payments — should not be paid by the taxpayers and are not “allowable” on federal contracts. The threshold for application of the contract cost principles is raised to \$500,000 (for both DoD and civilian agencies), and cost certification procedures and penalties identical to those that have long been applicable in DoD procurement are established across the board.

The Act also consolidates audit provisions for both the DoD and civilian agencies. A plus for civilian agencies is that it provides multi-year contracting authority, which is already provided to DoD for the acquisition of property.

Furthermore, regulations governing payment protection for first-tier subcontractors and suppliers are required under most government contracts. Similar protection is already provided to DoD subcontractors.

Bid Protests — Notice and Debriefings

A widespread consensus is that the volume of protests is attributable, in part, to the fact that disappointed offerors protest defensively because they lack clear information on why their offers were not accepted.

The Act requires contractor debriefings on request in the hope that, armed with good information, the number of protests should be reduced as offerors either find their concerns are without merit, or simply confirm that the award process was fair. Additionally, the assumption is that given good information on the

shortcomings of their offers, bids and proposals will improve and inspire offerors to continue doing business with the government.

The Act requires greater detail be made available with respect to evaluation factors and significant subfactors. It establishes an accelerated notice, debriefing and protest schedule that requires the following actions: notice of award must be given to all offerors within three days after the contract is awarded; requests by offerors for debriefings must be made within three days after notice of the award; and the debriefing must take place within five days of receipt of a request and contain basic information about the award decision. Protests must be filed within 10 days after contract award or five days after the debriefing, whichever is later.

Protest Adjudication

The Act addresses frivolous or bad faith protests to the General Services Board of Contract Appeals (GSBCA) by authorizing the GSBCA to dismiss a protest that is frivolous, brought in bad faith, or does not state on its face a valid basis for protest. In addition, it authorizes the GSBCA to invoke procedural sanctions where a person brings a frivolous or bad-faith protest, or willfully abuses the Board's process.

The Act also changes existing provisions clarifying the General Services Administration's authority to revoke delegated authority after the award of a contract if there has been violation of statute or regulation in the award of a contract. It also clarifies GSBCA's authority to review contract decisions under similar conditions or conditions of delegated procurement authority. Further, it includes two other important provisions: (1) provides for the public disclosure of any settlement agreement regarding the dismissal of a protest and involving the direct or indirect expenditure of appropriated funds; and (2) provides the General Accounting Office (GAO) with protective order authority in protest cases.



Representative William Clinger, Jr. (R-PA), Ranking Minority Member of the Government Operations Committee of the House of Representatives.

"I am pleased to be a co-author of a bipartisan bill that, from my perspective, recreates the procurement system into a better, simpler, and more efficient process."

Finally, the Act authorizes the payment of consultant and expert witness fees, and attorney fees (subject to some caps) in protests to the GAO and the GSBCA, and amends the Comptroller General's authority to recommend the payment of attorney fees in bid protest cases, rather than directing agencies to pay such fees.

Federal Acquisition Computer Network

The Act establishes a requirement for a Federal Acquisition Computer Network (FACNET), which would be

a paperless, electronic method designed to dramatically streamline the federal purchasing process and increase competition among small and disadvantaged businesses. The FACNET is consistent with the President's October 1993 memorandum to implement a government-wide Electronic Commerce/Electronic Data Interface (EC/EDI) System.³

An interagency team, established by that memorandum, has been developing a government-wide electronic commerce standard that should be fully compatible with the FACNET architecture established by this Act. Indeed, the DoD found that by the end of 1994, 220 of their purchasing activities should be capable of utilizing an EC/EDI system. At the end of the two-year implementation period (1997), 249 purchasing sites, responsible for 80 percent of DoD small purchases, should be capable of utilizing an EC/EDI system.

As FACNET is fully implemented, small businesses will be able to perform the following actions: access tens of thousands of small-purchase solicitation opportunities daily; electronically select specific solicitations and submit quotes on those of interest; and electronically receive purchase orders if they are the successful offeror or access award information if they are not. The FACNET also should improve agency compliance with the Prompt Payment Act because it will be able to make electronic funds transfers. Moreover, FACNET should significantly reduce paperwork burdens for small firms.

A key element of FACNET is the requirement that it provide a uniform interface to industry. Government contractors, particularly small businesses, should have only a single point of entry to access every federal agency's FACNET system. Agencies are required to implement a FACNET capability within five years. Upon achieving a full FACNET capability, the agency's threshold regarding noti-

White House Photo

fication, or lack thereof will jump to \$250,000.

Test Programs

The Act authorizes the Administrator of the OFPP to conduct tests of alternative and innovative procurement procedures in nine specific areas for a period of four years by waiving certain provisions of law and regulations. A singular constraint to this authority is that participating agencies be certified to have a full FACNET capability prior to entering into the test program. The concept will enable OFPP to collect empirical data necessary to support further reforms to the procurement system, particularly reforms ensuring that agency contracting officials have the flexibility to take maximum advantage of competitive forces.

A specific provision of the Act authorizes one test program at the Federal Aviation Administration. This test allows the Secretary of Transportation to test alternative and innovative procedures in carrying out acquisitions for one of the modernization programs under the Airway Capital Investment Plan.

Five pilot programs are designated within DoD to test commercial-type acquisition procedures within the military system. These programs are as follows: (1) Fire Support Combined Arms Tactical Trainer (FSCATT); (2) Joint Direct Attack Munitions (JDAM I); (3) Joint Primary Aircraft Training System (JPATS); (4) Commercial-Derivative Aircraft; and (5) Commercial-Derivative Engine.

Miscellaneous Provisions

Several provisions in the Act outside the categories presented above are worthy of mention. They include, but are not restricted to, the following:

- Amending DoD-unique requirements for the certification of contract claims. The Contract Disputes Act of 1978⁴ established government-wide requirements for the cer-



The success or failure of this Act will rest with how vigorously it is implemented in the various agencies of government. This Act provides a vast array of tools for government officials to cut back outdated and counterproductive rules and regulations. Representative Floyd Spence (R-SC), Ranking Minority Member of the Armed Services Committee of the House of Representatives.

tification of claims. These requirements remain in effect for all claims, including those at the DoD.

- Streamlining and consolidating a number of DoD reporting requirements related to weapons systems acquisition. This action also provides an enhanced capability to fulfill current operational testing requirements.

- Providing tools to civilian agencies necessary to improve contracting with small disadvantaged businesses, similar to those currently applicable to DoD. A new five-percent goal has been established for women-owned businesses. The Act would also establish education and training programs for critical acquisition personnel aimed at increasing the participation of small disadvantaged businesses, women and other minorities in government contracting.

- Increasing the time period for shipbuilding claims to six years, while maintaining the 18-month

limit for contracts entered into after December 7, 1983, but before date of enactment.

- Improving acquisition management through vendor and employee excellence awards and workforce incentive programs, including pay for performance.

Epilogue

"Enable or reinforce existing authorities and expunge obsolete and redundant statutes," are powerful words. I have spoken to "a more equitable balance between the government-unique requirements and the need to lower the government's cost of doing business." Certainly, other compromises are possible in the complex business of acquisition. The act of balancing gouging-out, government-unique requirements, yet protecting the public good, is a delicate one. The balance, for DoD, is keeping the "edge on the bayonet," yet ensuring there are sufficient plowshares to feed the corps. Interestingly, in this battle the warriors may be wearing green eye shades and garters. The question is whether or not the corps will come out from behind the mountains of paper that protect them to do battle. Pogo found the enemy!

You, the squires of the acquisition community, have fumbled your way to the tournament field, confronted the knights, and negotiated rules to your favor. They have thrown their gloves at your feet. What will you do now?

Endnotes

1. Federal Acquisition Streamlining Act of 1994, P.L. 103-355.
2. The Truth in Negotiations Act, 10 U.S.C., Chapter 137, §2306a.
3. "Streamlining Procurement Through Electronic Commerce," White House Memorandum, 28 October 1993.
4. The Contract Disputes Act of 1978, 41 U.S.C., Chapter 9, §601.

DR. KAMINSKI DELIVERS KEYNOTE ADDRESS

Transforming the Way We Buy Goods and Services

Andrea Garcia

The Acquisition Streamlining Act of 1994 is the most significant change in law affecting procurement in five decades. It will transform the way we buy goods and services." These were the opening words of Dr. Paul Kaminski, Under Secretary of Defense for Acquisition and Technology, in his keynote address to the Defense Acquisition University (DAU) Training and Education Conference, on 13 October 1994, in McLean, Virginia.

Dr. Kaminski had just come from the ceremony in which President Clinton signed the Act into law. He believes the new law has solid potential to save money, give us better access to technology, and enable us to improve our readiness.

Despite the end of the Cold War and severe cuts in the defense budget, Dr. Kaminski says we still need a vigorous technical and industrial base to counter threats to national security. He called for dramatic action to integrate the defense industrial base with the commercial industrial base and unify them into a *national* industrial base. He says this is an idea whose time has come.

Ms. Garcia is a Professor of Systems Acquisition Management, Acquisition Policy Department, DSMC.



Dr. Paul Kaminski, Under Secretary of Defense for Acquisition and Technology

**We still need a
vigorous
technical and
industrial base
to counter
threats to
national security**

— Dr. Paul Kaminski

And times have changed. In the past, when the Department of Defense was the dominant customer, companies often set up separate organizations to do government business. Many leading companies cannot afford to do that anymore, nor do they need to. Commercial business, not the Government, is now the driver behind many of our high-technology industries. For example, in the 1960s, DoD bought two-thirds of all domestic computers and semiconductors; today, DoD buys less than five percent. DoD now has to "ride on the shoulders" of the commercial marketplace.

To adapt to this new environment, Dr. Kaminski believes DoD must buy commercial products more often, make greater use of commercial buying practices, and use non-government specifications and standards. The Acquisition Streamlining Act will facilitate the use of commercial products and practices in three ways:

(1) It lifts many government-unique provisions and allows DoD to follow general business practices so that companies will not need two separate production lines.

(2) It raises the dollar threshold for simple procurement procedures from \$25,000 to \$100,000. This will affect about 40,000 purchases per year. Over

99 percent of all contract actions will now be under the simple procedures, saving a tremendous amount of time and money. And for "micro" purchases under \$25,000, government personnel will be able to buy items at a local store using a government credit card.

(3) It establishes a Federal Acquisition Computer Network, an automated list of what the government wants to buy. Companies will submit proposals electronically, avoiding paper solicitations and paper contracts.

DoD must go beyond the reforms in the new law in order to minimize the use of military specifications (MIL SPEC) and standards. This summer, Secretary of Defense William J. Perry issued guidance calling for the Services to use MIL SPECS and stan-

dards on an exception basis only. Dr. Kaminski noted, "We have turned the system upside down...now we must tell the contractor *what* we need the system to do, not *how* to do it."

The benefits are dramatic. For example, during Operation Desert Storm the Army needed to acquire a new receiver for the Global Positioning System. Under the old MIL SPEC, the receiver would have cost \$34,000, weighed 17 pounds, had only one channel, and taken 18 months to procure. Instead, the Army bought the receiver using commercial specifications, and the receiver cost just \$1,300, weighed less than three pounds, had multiple channels, and took just six months to procure.

Dr. Kaminski noted that it took "patience, sweat and determination

to get the Act through Congress. It will take the same to implement it." He cautioned us not to underestimate the difficulty; we must overcome deep-seated and long-held practices, and it will take the commitment of the whole acquisition community. He also prevailed upon the faculty and staff of the Defense Acquisition University and its consortium schools to ensure the acquisition workforce gets the education and training needed to realize these reforms.

In closing, Dr. Kaminski said that the Federal Acquisition Streamlining Act of 1994 is the beginning of a revolution in defense acquisition. It will cut paperwork and simplify the acquisition process. It will give us quicker and easier access to defense technology. And it will help both government and industry.

SECRETARY KAMINSKI APPOINTS THOMAS M. CREAN NEW DAU PRESIDENT

The Under Secretary of Defense (Acquisition and Technology), Honorable Paul G. Kaminski, recently announced the appointment of Thomas M. Crean as President, Defense Acquisition University (DAU), effective 21 November 1994.

Mr. Crean has extensive education and training, management, and acquisition experience in the Department of Defense. He is a retired colonel in the Army Judge Advocate General's Corps, and served as both the Commandant and the Chief of the Administrative and Civil Law Teaching Division of the Judge Advocate General's School. In addition, he served as an instructor at the Judge Advocate General's School and the Army Engineer School. Continuing his diversified career with the Judge Advocate General's Corps, he served as both the chief and assistant chief of the Judge Advocate General's Personnel, Plans, and Training Office where he was responsible for education and training policy for military and civilian lawyers.



Mr. Crean served as the chief legal officer for some of the Army's largest commands, including III Corps and Fort Hood, Texas, and the U.S. Army, Europe. He was responsible for the entire legal functions of those organizations, including acquisition law, civil law, administrative law, and criminal law, as well as the operational manage-

ment of the legal offices and personnel. Mr. Crean also served as a contracting officer's representative and Chairman of the European Command Remedies and Performance in Contracting Committee. Before retiring, Mr. Crean served as Senior (Presiding) Judge of the U.S. Army Court of Criminal Appeals.

Mr. Crean is a graduate of Fordham College and Fordham Law School, the U.S. Army Command and General Staff College, and the Army War College. His military decorations include the Legion of Merit (1st Oak Leaf Cluster); Bronze Star (1st Oak Leaf Cluster); Meritorious Service Medal (2d Oak Leaf Cluster); and one award each of the Air Medal, Army Commendation Medal, and the Army Achievement Medal.

Mr. Crean resides in Springfield, Virginia, with his wife, Donna, a first-grade teacher. His daughter, Kelly, attends Mount Saint Mary's College in Emmitsburg, Maryland; and his daughter, Katie, is a student at West Springfield High School, Springfield, Virginia.

SECRETARY PRESTON ADDRESSES DAU TRAINING AND EDUCATION CONFERENCE

Acquisition Reform Remains at the Forefront

Lyn Dellinger

It was to an upbeat audience at the Defense Acquisition University Training and Education Conference that Colleen A. Preston, Deputy Under Secretary of Defense for Acquisition Reform, presented the capstone speech on Friday, 14 October 1994, the day following the signing of P.L. 103-355, the Federal Acquisition Streamlining Act of 1994. Secretary Preston began by outlining her vision for the way Acquisition Reform should be implemented. Acknowledging the work of the Senior Steering Group over the last several months, she emphasized the importance of teamwork among all the players, not only within DoD, but with the administration, Congress, other agencies and industries. "Only when we get everyone pulling together in the same direction will we really achieve the success we need in the time frames we need to establish."

Secretary Preston discussed the implementation plans and stressed the planning and organization efforts key to their development. Eight major goals (Figure), numerous sub-goals, and Round 1, Round 2 and Round 3 activities emerged in her presenta-



Colleen A. Preston, Deputy Under Secretary of Defense for Acquisition Reform

tion. She defined Round 1 as things initiated in the past year for which substantial progress has been made; Round 2 activities are those that either were initiated very recently or will be initiated immediately; and Round 3 activities are those initiatives or sub-goals that will be pursued later after Round 1 and Round 2 objectives are met. Throughout the talk, Secretary Preston emphasized the use of Process Action Teams (PAT) to implement the goals, and defined her expectations of the PATs: "Our process action teams are designed to develop implementation plans. They are not study groups, they are

reengineering organizations. They will define the present state of the art, but only to the extent necessary for them to start with a clean sheet of paper and look at how to reengineer the process that they have been asked to address."

Goal I

The first of the goals she defined was: **Enhance the Needs (Requirements) Determination Process (What We Buy)**. To begin, she outlined sub-goals, the first of which was to reform specifications and standards to eliminate DoD-unique product or process specifications. Such specifications and standards often inhibit the purchase of commercial systems or dictate to a contractor how to produce a product or provide a service. Round 1 activities included establishing a Specifications and Standards PAT, which made recommendations to the Secretary of Defense. The Secretary of Defense, based on the recommendations, subsequently issued a memorandum dated 29 June 1994. Secretary Preston commented on the memo: "Specifications and standards can all be boiled down to one phrase...We will use performance specifications." She went on to explain that if performance specifications can not be used to ensure that we will be able to meet users' needs, then we should use a non-governmental standard. If the non-govern-

Ms. Dellinger is a Professor of Systems Acquisition Management in the Research, Consulting and Information Division, DSMC.

mental standard will not succeed, then we may use a military specification — a unique government specification. We are working to achieve a fundamental shift in our acquisition culture. To help us make this shift, programs in Acquisition Categories I to IV will require a waiver in accordance with Service procedures to require the use of a military standard or military specification in their solicitations. An exception to this policy is that repurchase of items already in the inventory do not require a waiver.

Secretary Preston also noted that although the memorandum only addressed new systems begun after the implementation date of 26 December 1994, the Services are attempting to include the spares and repairables. As a part of the implementation plan, her office will set up a process by which generic categories of these items can be handled. The Standards Improvement Council is tasked with implementation. This group was formerly called the Standardization Council, a subtle but important difference.

The second sub-goal she defined was a better integration of the needs or requirements determination, resource allocation, and acquisition processes. Her office is developing a charter for the PAT, and with the confirmation of the new Secretary of Defense for Acquisition and Technology, the team will start to work in the very near future.

Secretary Preston went into some detail on the confusion about what a requirement really is. In most cases, she noted that we don't define a needed military capability, we define a system solution, which we then sell to Congress and get locked into, and which may ultimately be undeliverable. As an example, she described a requirement for an aircraft that would fly a defined number of miles and carry a defined amount of cargo in a specified time frame. However, she said that that is not the needed mili-

tary capability. The needed military capability is that we be able to provide equipment through some type of lift or pre-positioning to any given spot in the world based upon our national security strategy. She concluded by saying, "If we are able to separate these issues, we will be able to go a long way toward stabilizing the acquisition process."

Goal II

Secretary Preston then moved away from "What We Buy" to "How We Buy" for the next three goals, starting with **Improve the Systems Acquisition Process**. The first sub-goal is to use commercial practices to acquire military-unique items as well as commercial items because, as she stated clearly, "We are no longer supporting a defense-unique industrial base. We cannot afford to...the budget has declined over 40 percent from our high of 1987, but the research and procurement budget has declined by over 65 percent...if we are going to meet our users' needs...we have to have access to technology...driven by the commercial market."

Among the Round 1 activities she described was approval of regulatory waivers to streamline procedures for pilot programs. She cited a number of programs that fell in this category and mentioned that about 85 percent of the requirements of one of the programs could be accomplished with commercial technology. Secretary Preston anticipates further moves toward eliminating government-unique contract terms and conditions. As an aside, she said that the government-unique terms and conditions were in part responsible for the fact that our enemies have technology that we can't buy. In Round 2, she noted that she expected regulatory relief to be the norm, not the exception. As a reference, she cited the recently signed policy memoranda, designed to assure that milestone decision authorities, program executive officers and program managers take full advantage of our ability to tailor oversight

and review requirements to specific program needs.

Another sub-goal was to improve the Service and Office of the Secretary of Defense milestone decision making and information collection processes for major systems, commensurate with risk, dollar value and other factors. This entails establishing appropriate levels of oversight, identifying issues for review, and ensuring that reviews occur at the appropriate time during the program. A PAT is in place to take a clean-sheet-of-paper approach to the decisions that must be made, who has to make the decisions, and why. They must ask the question, "Does that person add value?" This entails establishing appropriate levels of oversight, identifying issues for review and ensuring that reviews occur at the appropriate time during the program. Additional sub-goals are to streamline and conduct more effective and realistic developmental live-fire and operational testing, provide more funding flexibility and stability, and to substantially reduce time to field systems.

FIGURE. DoD Acquisition Reform Goals

- I. Enhance the Needs (Requirements) Determination Process (What We Buy)
- II. Improve the Systems Acquisition Process (How We Buy)
- III. Improve the Procurement Process (How We Buy)
- IV. Improve Contract Administration (How We Buy)
- V. Improve Contract Terms and Conditions (Legal Pricing and Finance Issues)
- VI. Change the Culture
- VII. Define Measures of Success — Metrics
- VIII. Enabling Actions

Goal III

Talking about the third goal, **Improve the Procurement Process**, Secretary Preston related that DoD must emulate the best procurement practices of world-class customers and suppliers. This includes raising the simplified acquisition threshold to \$100,000, removing the impediments to acquisition of commercial items, and using performance-based and fixed-price service contracts. She also said that we must also reward past contractor performance in source selection, identify and disseminate best procurement practices, and eliminate non-value added activities. The Federal Acquisition Streamlining Act of 1994 should go a long way toward meeting this goal.

Secretary Preston went on to say that a second way to achieve this goal is the use of technology to enable reengineering of the acquisition process. This is underway. The PAT Report prepared by the Electronic Commerce/Electronic Data Interchange was approved in January 1994. In this report, the team recommended a standard DoD system capable of providing information on pending procurements, receiving quotes or solicitations, and making awards at 249 sites within two years (80 percent of DoD's contracting activities). The PAT had marching orders to define a solution that would present a single face to industry with one point of entry into the system for all of DoD and common standards. It also had to allow the use of a commercial network of the contractor's choice to access the system, and to allow contractors to register once for all of DoD.

Goal IV

Secretary Preston then moved on to discuss the fourth goal, **Improve Contract Administration**. Here she emphasized a shift to the maximum extent practicable, from a management philosophy that attempts to achieve high quality and performance through after-the-fact inspection, to government review of contractor pro-

cess controls. Efforts already underway, Round 1, include the Secretary of Defense memorandum allowing any acceptable quality system, including ISO 9000. Another sub-goal is to ensure that oversight and review of contractor management add value and are minimally obtrusive, consistent with the risk of impact to the government in the absence of such oversight.

Goal V

The fifth goal is a legal, pricing/financing and regulatory issue: **Improve Contract Terms and Conditions (Legal Pricing and Finance Issues)**. This is to eliminate, to the maximum extent practicable, government-unique terms and conditions unless that particular aspect of the buyer-seller relationship is not adequately regulated by market forces. Or there may be other justification for the use of a government-unique term or condition. In any case, there should be a balancing of the government's interests with the cost to the government and industry.

Goal VI

When Secretary Preston discussed the sixth goal, **Change the Culture**, she related that her office had given over 200 speeches or seminars on the vision and goals of the Secretary of Defense's Acquisition Reform Initiative. She challenged the audience to be responsible for changing the culture through Defense Acquisition University acquisition reform seminars, and by establishing new courses and revising curriculum. In that challenge, she said, "You are in the forefront and are going to have to bring the Acquisition Reform message to the work force, and we have to find innovative ways to communicate this message because we are on a fast track — the revolution has truly begun!"

A sub-goal in changing the culture is to make both federal and DoD acquisition regulations and policies better facilitate the acquisition process, providing incentives for acquisi-

tion personnel to innovate while at the same time, providing appropriate guidance and the benefit of "lessons learned" in the past. This change is driven by the assumption that we do not empower the work force and that the regulations require a "cookie-cutter" approach to the acquisition process. Secretary Preston said that the regulations allow a great deal of discretion, but she agreed that, "in a risk adverse environment...there is no incentive for anyone to deviate from the tried and true approach, and there is a lack of sharing of information on new and innovative ideas."

Goal VII

Secretary Preston noted that a Defense Acquisition Pilot Program Consulting Group on Metrics was chartered in March of 1994 to attack the seventh goal, **Define Measures of Success - Metrics**, which is to establish clear measurements of system responsiveness and metrics to determine success of change efforts. However, she admitted, "We haven't developed any measures yet, because we don't know how to do this yet."

Goal VIII

Secretary Preston noted that the final item on the list, **Enabling Actions**, was not stated as a goal, but is necessary. She defined this as establishing a step-by-step plan of action to implement and institutionalize acquisition reform, including Round 1 initiatives, which incorporate acquisition reform as a part of "Reinventing Government."

Secretary Preston offered to provide a copy of the Secretary of Defense's plan, "Acquisition Reform — A Mandate for Change," to anyone who is interested. She also relayed that her staff is working with each of the Service representatives to develop an acquisition reform "road show" that should be starting before the end of the year. Finally, Secretary Preston concluded her remarks with a lively "Town Meeting"-type question-and-answer session.



Above: Newly confirmed Under Secretary of Defense (Acquisition and Technology), Honorable Paul G. Kaminski, presents his views on acquisition reform and the University's responsibilities for communicating and institutionalizing the new processes.

The Defense Acquisition University (DAU) sponsored a three-day professional development conference 12-14 October 1994, in McLean, Virginia. Brought together by the common thread of acquisition training and education, DAU consortium faculty, senior DoD staff, Service acquisition career managers, functional board members, and others within the federal government participated. Conference participants heard invited senior-level speakers address current issues and provide insight into emerging acquisition policy and legislative initiatives. In small group sessions, they selected from over 40 presentations, workshops and technical demonstrations that addressed a wide variety of acquisition-related topics.



Above right: DAU senior staff greet keynote speaker Robert Stone, Director of the National Performance Review, who described the role of education and training in implementing recommendations for improving government operations. From left, Dr. James S. McMichael, Interim President; Mr. Stone; Dr. Lenore E. Sack, Director for Academic Affairs; Mrs. Linda Furiga, Director for Resources Management; and Mr. Frank Sobieszcyk, Director for University Operations.

Right: Mrs. Colleen Preston, Deputy Under Secretary of Defense (Acquisition Reform) provided the capstone presentation to the conference, giving the attendees a glimpse of future acquisition reform initiatives and plans for implementing the Federal Acquisition Streamlining Act.



Right: A panel of Directors, Acquisition Career Management reported initiatives their organizations have taken to improve acquisition career management. From left to right: Dr. James S. McMichael, DoD; RADM William Hauenstein (Ret.), Navy; Mr. Blaise Durante, Air Force; Mr. Bernie Pinckley, Director, Acquisition Career Management, Army; and Mr. Herbert Cowles, OSD and DoD Agencies.



DAU Training & Education Conference '94

Focus on Training and Education Needs of DoD's Acquisition Workforce

It took patience, sweat and determination to get the Act through Congress. It will take the same to implement it.

- Dr. Paul G. Kaminsky



Above: Dr. Robert Hawkins of the Naval Center for Acquisition Training leads one of the 24 small group sessions and workshops held during the conference.

Above right: (A) An executive-level view of acquisition reform programs within the military departments was provided by the Honorable Nora Slatkin, Assistant Secretary of the Navy (Research, Development and Acquisition); (B) Honorable Clark G. Fiester, Assistant Secretary of the Air Force (Acquisition); (C) LTG William H. Forster, Military Deputy to the Assistant Secretary of the Army (Research, Development and Acquisition).



Below: Mr. Edward A. Fitzsimmons, Special Assistant for Education and Training, White House Office of Science and Technology Policy, challenges conference attendees to fully utilize new communications technologies in their education programs.

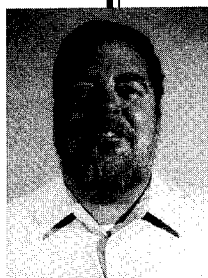


All photos by Richard Mattox

Inside DSMC



Gregory T. Caruth became the new Director, DSMC Press, effective 1 November 1994. He is currently the Chief, Visual Arts and Photography Department, Division of College Operations and Services, and serves as Art Director for *Program Manager*. He will continue to serve in this dual capacity, along with his new duties as Press Director. Greg came to DSMC in 1979, and holds a B.A. in Education from West Liberty State College, with a double major of English and art.



The staff and faculty of DSMC were deeply saddened to learn of the death of Mr. Michael R. Dee from an apparent heart attack, 29 October 1994. Mike was the Director, Audio Visual Services and Maintenance Department, Division of College Operations and Services — a position he held with distinction since March 1976. Mike is survived by his wife, Marilyn, of Alexandria, Virginia.



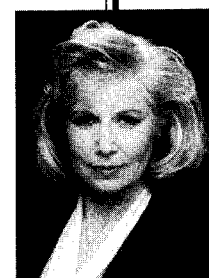
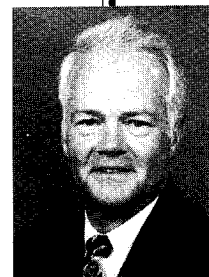
Wilbur D. Jones, Jr., returned to the teaching faculty as a Professor of Acquisition Management, Acquisition Policy Department, and became the speechwriter to the Commandant, effective 1 November 1994. He previously served for three years as Director, Defense Acquisition Historical Center; and Director, DSMC Press and Associate Dean of Information since 1993. Wilbur came to the DSMC faculty in 1984, and holds a B.A. in History from the University of North Carolina.

Richard H. Reed became the new Dean of Faculty, Faculty Division, DSMC, effective 3 October 1994. He previously served as Department Chair for the Systems Engineering Department until 1991, and subsequently as Associate Dean of Faculty prior to assuming his current position. As Dean of Faculty, he recently identified three main objectives:

- Support the College as it strives to fulfill its mission and vision.
- Support the faculty members as they strive to maintain and improve their qualifications to meet the needs of the acquisition workforce for education, training, consulting, and research products and services.
- Support the acquisition workforce with acquisition professionals capable of creating an environment in which real learning can take place.

Rich came to DSMC in 1989, and holds an M.B.A. from Central Michigan University.

Dr. Adelia E. Ritchie, Dean, Research, Consulting and Information Division, resigned her position effective 2 December 1994, to accept a position as Vice President for Environmental Operations, Strategic Research Corporation, Atlanta, Georgia. She previously served as a Professor of Systems Acquisition Management in the Test and Evaluation Department, Faculty Division. Dee came to DSMC in November 1992, and holds an M.S. in Organic Chemistry and a Ph.D. in Nuclear Magnetic Resonance from Northwestern University. She also graduated summa cum laude from the University of West Florida where she received a B.S., with a double major in Chemistry and Physics.



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EVOLUTION OF CONFIGURATION MANAGEMENT

Challenges/Growing Pains at Edgewood Research, Development and Engineering Center

William J. Semiatin • Thomas C. Hoff

For almost a year, management told us that the U.S. Army Chemical Research, Development and Engineering Center (CRDEC) had to reorganize — change our way of doing business — just to survive.

Rumors abounded. However, the corporate board leadership, early in the reorganization effort, shared the visions and values of the new Center (renamed Edgewood Research, Development and Engineering Center — ERDEC) with the workforce. The vi-

sion was for the Center “to be the recognized world leader in chemical and biological-related science technology, engineering and service by 1) anticipating and exceeding customers’ needs; and 2) providing an environment that encourages and enables people to excel.” The board developed four core values to attain the vision:¹

- People (the workforce above all else)
- Customer commitment (inter-

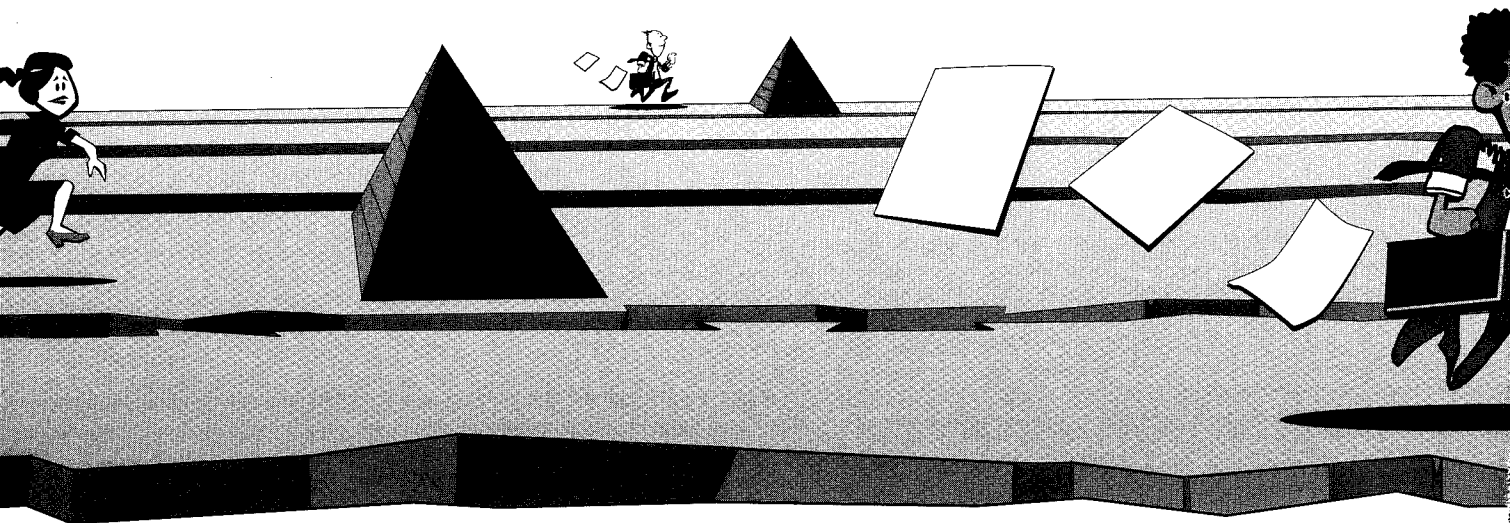
action of the workforce with customers to assess and ensure complete satisfaction)

- *Innovation* (breaking the mold to realize potential)
- *Continuous improvement* (striving for excellence)

Training became a priority. We were taught how to “break the mold” — break away from our directorates, divisions, branches and sections, and how to form project teams. Management held process action team meetings to facilitate the changes, and electronic mail and bulletin board postings to inform and involve the CRDEC personnel of the direction and progress of the reorganization.

Mr. Semiatin is a mechanical engineer at the U.S. Army Edgewood Research, Development and Engineering Center (ERDEC), Aberdeen Proving Ground, Md.

Mr. Hoff is a general engineer who currently serves as the Rapid Obscuration System Manager, ERDEC.



And, just as important, encouragement from the very top — the new Commander — lent credibility and reaffirmed our resolve to make it all work.

CRDEC Yesterday

Previously, the program management for configuration items had been aligned with applicable directives, regulations and standards, and CRDEC was structured accordingly. Functional areas had equal levels of authority, such as development engineering, producibility engineering and quality engineering, and each project representative had a pyramid to climb and descend for official interaction with one another.

Typically, the producibility engineer, through a senior engineer, section chief, branch chief and division chief/director would send a request to the quality engineer — via the director, division chief, branch chief and senior engineer. The response, of course, was the reverse.

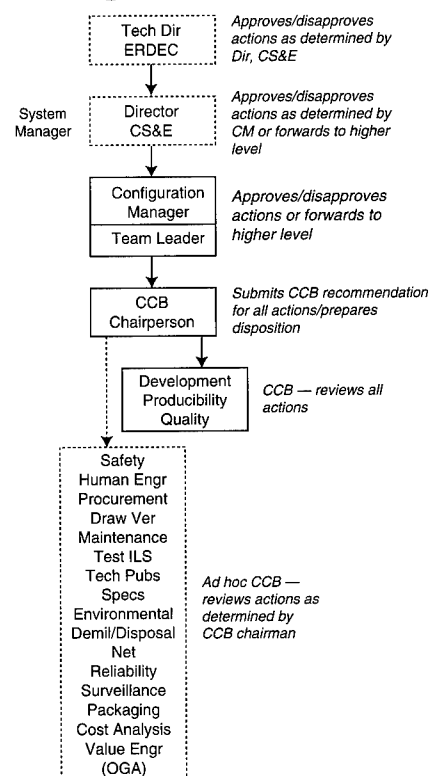
For configuration management items, the senior engineer was the signatory authority on the Level 2 Configuration Control Board (CCB), the division chiefs or directors composed the Level 1 CCB, and the director of the hardware organization was the configuration manager. Disposition of configuration management actions was sometimes cumbersome.

Functional areas had equal levels of authority, such as development engineering, producibility engineering and quality engineering, and each project representative had a pyramid to climb and descend for official interaction with one another.

Teaming

In the reorganization, functional area representatives would be co-located to support one project (or one group of similar projects). This project team would all have the same boss — the team leader. Through teaming we would be an organization in which team members would "achieve common goals and share ownership and responsibility for their results, while considering the needs of all stakeholders."

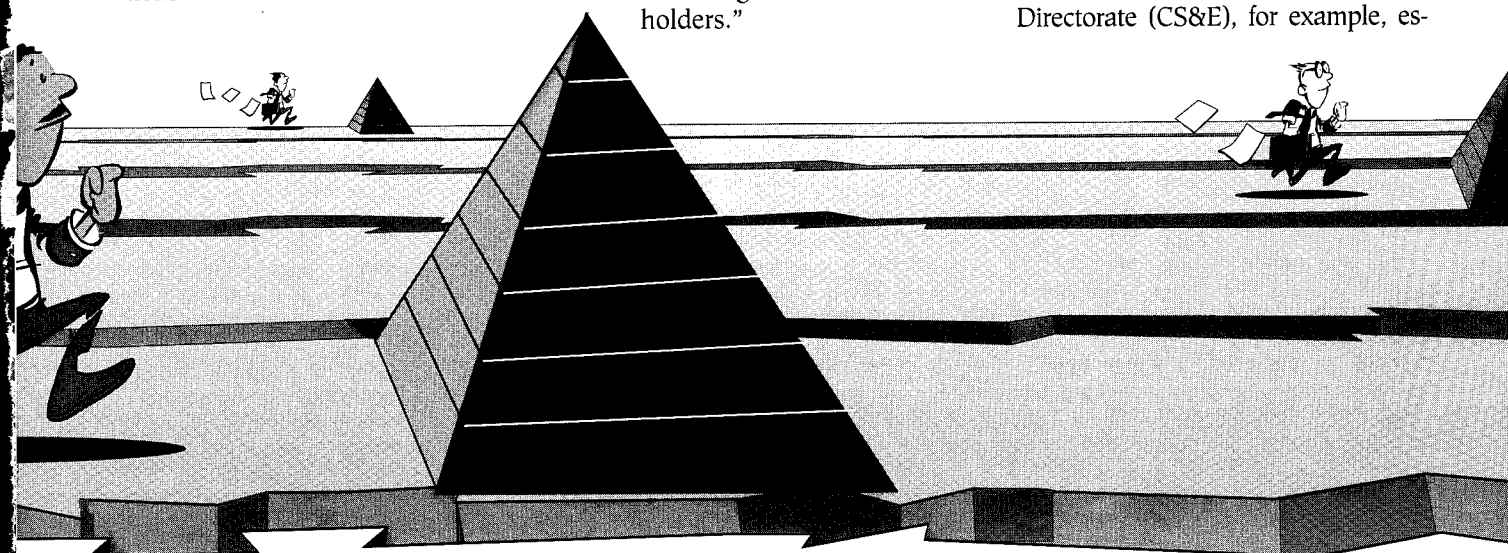
FIGURE 1.
Configuration Management Structure



Empowerment

The teams would be empowered "with the freedom, responsibility and ownership needed for innovation and risk taking within defined operation parameters."²

With empowerment came accountability. A project team within the new Concurrent Science and Engineering Directorate (CS&E), for example, es-



tablished a baseline schedule, funding profile and exit criteria for approval of the Director, CS&E. The team leader would then be free to operate within the limits of this agreement.

Case of the XM6 Discharger

The configuration management plan for the XM6 Discharger, a typical CS&E program, reflects the visions and values of the new organization. The XM6 Discharger consists of four fixed tubes for launching smoke

ration management responsibility, and thereby approval authority for all actions (engineering change proposals, value engineering change proposals, requests for deviations, requests for waivers) not affecting the baseline agreement between the team and the Director, CS&E. A provision is also allowed for involvement of the Technical Director, ERDEC, depending upon the impact. The team leader is also responsible for keeping CCB members cognizant in their respective functional areas. The team leader (and typically, the team) will periodically brief the Director, CS&E on all current configuration management actions.

The CCB chairperson is designated by the team leader. The chairperson convenes the Board to review actions, consolidates and submits recommendations to the configuration manager, and prepares disposition for procurement implementation and/or engineering release into the technical database. The CCB members are the team members who maintain cognizance in their respective functional areas. Figure 2 depicts this "evolution."

For a program like the XM6 Dischargers, the new configuration management is a much more practical way of doing business. No longer would a hierarchy of managers be needed to "sign off" on the day-to-day business of materiel acquisition, nor would arbitrary limits be set on a team leader's authority. Therein lies the

strength of configuration management — teaming and empowerment.

However, teaming may result in loss of functional area expertise. In the past, the quality engineer, for example, worked side-by-side with other quality engineers, as well as product quality managers (who had inspection expertise) and technicians (who maintained regulations and policies governing quality assurance activities). This group would typically have a few senior engineers who had expertise in the section's hardware specialty area.

For incoming personnel, a high level of competency in a functional area could be achieved quickly because the group of quality engineers, product quality managers, technicians and senior engineers provided sound guidance and direction.

ERDEC Now

Today, the evolution of configuration management at ERDEC continues — including the growing pains — as the next generation learns through teamwork, empowerment and accountability.

Endnotes

1. CBDA/ERDEC "Corporate Vision and Values," February 1993.
2. CBDA/ERDEC Information Note No. 3, "Command Vision, Values and Behaviors," 23 June 1993.

CONFIGURATION MANAGEMENT

A discipline applying technical and administrative direction and surveillance to—

- identify and document the functional and physical characteristics of a configuration item;
- control changes to those characteristics; and
- record and report change processing and implementation status.

grenades for the defensive obscuration of military vehicles. "Usual" project engineering personnel participated in the program development, producibility, quality, test, logistics, reliability, safety, etc. The program was in the last year of its development (6.4 phase) when the reorganization went into effect.

According to the new configuration management structure (Figure 1), the XM6 team leader has configu-

FIGURE 2. Evolution of Configuration Management

	10 Years Ago (CSL)	5 Years Ago (CRDEC)	Today (ERDEC)
The Configuration Manager was/is:	Munitions Division Chief Physical Protection Division Chief Detection and Alarms Division Chief	Producibility Division Chief(s)	Team Leader(s)
Configuration Control Board (CCB) members were/are:	Level 1 - Commander/Technical Director and Division Chiefs Level 2 - Branch/Division Chief and Development Engineer, Producibility Engineer, Quality Engineer, Test Engineer...		The Team
Limitations to Configuration Manager authority were/are:	Impact of 6 months/1 year or \$500k/\$1M to program	Impact to the baselined agreement of program schedule and funding profile between team and Director, CS&E.	

THE GREEN ASPECT OF ACQUISITION REFORM

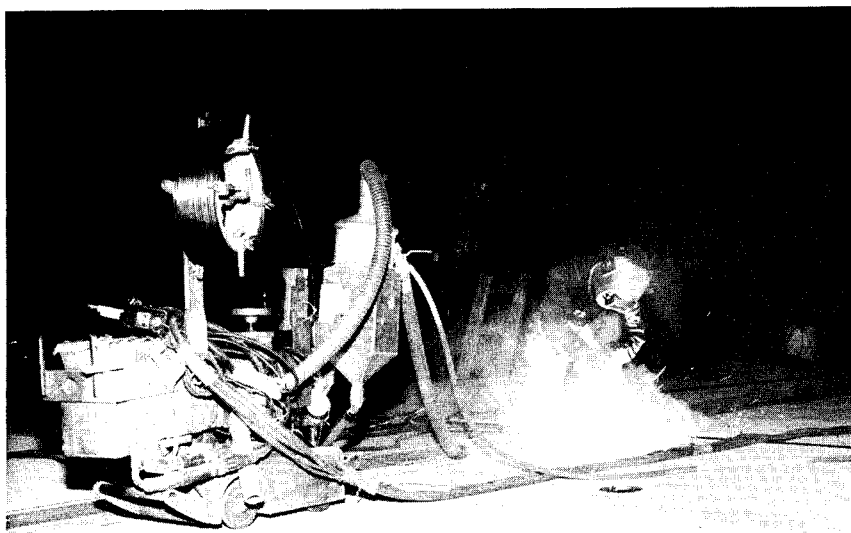
Fast, Furious, and Accelerating

George P. Noble III

Acquisition reform is a multifaceted and wide reaching initiative. Its thrust is to modernize the complex and costly process of providing America's fighting forces with needed weapon systems and equipment. The Department of Defense (DoD) is well aware that the acquisition system does not operate in a vacuum. Even with post-Cold War drawdown, the size and scope of DoD acquisition impacts on many aspects of American life. Not the least of these impacted areas is the environment in which we all work and live.

Recognizing America's commitments around the world, including stationing of military forces overseas, it is readily apparent that DoD's environmental impact is an issue of global magnitude. Weapon system development, production, testing, deployment, operation and disposal (every phase of the life cycle) include both products and processes that can potentially harm the environment. The DoD is pursuing numerous initiatives to eliminate or minimize these adverse potentials. Emphasis must be maintained, as part of the ongoing reform initiatives, on improving environmental performance at every opportunity.

Mr. Noble is a Professor of Systems Acquisition Management, Defense Systems Management College.



Photos by Richard Mattox

Many environmentally unfriendly industrial processes are used in shipbuilding.

In the past 12 months, several events transpired that will cause positive change on the acquisition process as it relates to environmental protection. These events range from Presidential Directive to relatively simple, but highly significant, administrative changes.

Executive Order 12856

The 3 August 1993 Executive Order 12856, "Federal Compliance With Right-to-Know and Pollution Prevention Requirements,"¹ provided direction to the Federal Government to plan and carry out a vigorous pollution prevention strategy. The Order required the establishment of toxic chemical or toxic pollutant reduction goals. It also established an annual progress reporting requirement to monitor compliance.

Of particular note to the acquisition community is Section 3-303 of the Executive Order, which speaks to acquisition and procurement of toxic chemicals and hazardous substances. The acquisition community will achieve reductions in acquisition of these substances through changes in what we buy and use, as well as changes in manufacturing, maintenance and other processes in DoD facilities. The Order also specifically directed that DoD review their standardized documents, including Military Specifications and Standards, and identify opportunities to eliminate the use of toxic and pollutant substances.

The requirements of the Order are obviously far reaching in scope and will affect virtually every area of the



Emissions associated with military equipment are just one of a number of environmental operational issues.

acquisition process. Efforts to eliminate toxic and pollutant substances are to be an inherent and integral part of the process in developing, contracting, producing and maintaining weapon systems. A key point is that the emphasis is to be on source reduction of toxics and pollutants, not recycling, remediation or disposal. This requires up-front consideration of pollution prevention opportunities in every process.

Secretary of Defense Perry signed a memorandum on 11 August 1994,² which spelled out the Department's

pollution prevention strategy. A number of the strategy's objectives focus on the acquisition community and process. Pollution prevention is to be integrated into educational and training programs. Likewise, pollution prevention and other environmental concerns are to be integrated into the entire life cycle of acquisition programs. Stated goals of the strategy include the following actions: developing environmental life-cycle cost estimating tools; implementing revised Military Standard 499B, "Systems Engineering"; and changing environmentally oriented speci-

cations and standards, acquisition regulations and contract documentation. This strategy sets the stage for a number of initiatives to be accomplished in 1995.

NAS 411

Industry has been an active and pro-active partner with DoD in meeting environmental challenges associated with acquisition. One leading initiative on Industry's part — specifically the Aerospace Industries Association — was the development and publication of National Aerospace Standard (NAS) 411, "Hazardous Materials Management Program."³ This standard has been a work in progress for some time. It represents a comprehensive attempt to define and assure consideration of the elimination/reduction of hazardous materials and the proper control of hazardous materials that must, of necessity, be used in an acquisition product or process.

The standard provides general requirements for conduct of a Hazardous Materials Management Program (HMMP), as well as specific planning requirements to describe and accomplish an HMMP in the performance of an acquisition contract. The Services previously used NAS 411 on a limited basis. However, DoD recently formally adopted the standard and anticipates its increasingly widespread use. The DoD expects to issue official written notification of the standard's adoption at any time.

DoDIG Audit Report No. 94-020

In December 1993, The Department of Defense Inspector General (DoDIG) issued an Audit Report⁴ that addressed the effectiveness of DoD environmental consequence analyses of major Defense acquisition programs. The report culminated an audit that evaluated nine major programs — two Army, five Navy, and two Air Force — and covered the period June 1992 to April 1993. There were three major findings:



A shipyard is a prime example of military industrial activity with great potential to impact the environment.



The military operates in many environmentally fragile areas such as the desert.

- Environmental oversight was not fully effective.
- There was a failure to assess programmatic environmental trade-offs when conducting Cost and Operational Effectiveness Analyses.
- An accurate estimate for environmental clean-up and remediation liabilities at Defense contractors has not been fully developed.

The findings are of concern to everyone in the DoD environmental and acquisition communities. Since the issuance of the report, acquisition planners are working to clarify the procedures involved, better define the requirements concerned, and develop responsive courses of action. While much may yet need to be worked out in the details, there appears to be general agreement that environmental concerns and issues need to be fully integrated into the acquisition decision making process. Key players in effecting this integration must be the responsible program managers and their supporting environmental management staff elements.

Environmental Awareness

The task of integrating environmental management into the acquisition process recently received top-level DoD attention. At the January

1994 National Security Industries Association (NSIA) Environmental Seminar, and again at the March 1994 American Defense Preparedness Association (ADPA) Environmental Conference, a major theme echoed by many speakers was the need to integrate acquisition and environmental processes. Deputy Under Secretary of Defense for Environmental Security DUSD(ES) Sherri Goodman made the point that 80 percent of DoD's pollution problems and concerns can be traced to some form of acquisition action or activity. Environmental concerns must be addressed early; it's too late to realize an environmental problem exists when a program has already entered production.

As a result of increasing awareness in the environmental area, at least perhaps in part due to the DoDIG Audit Report, a number of changes were proposed or are under consideration in the acquisition policy arena. That changes are occurring at the same time as the overall acquisition reform effort is propitious, and serves to emphasize the integral importance and influence of environmental issues on the acquisition process. At a recent Defense Acquisition Board (DAB), discussion focused on elevating the DUSD(ES) from a special advisor status to full-fledged membership. When fully accomplished, this

action will serve to focus the deserved level of attention on environmental issues.

Effort at the DoD level is also underway to improve the guidance relative to conduct of Programmatic Environmental Analyses (PEA) as prescribed in the 5000-series documents. More definitive information in this area should allay many program office concerns in their attempts to accomplish progressive management and decision making for their programs.

Environmental Ethic

The need for increased training, improved technical staff support, and the development of a DoD "environmental ethic" has long been recognized.⁵ Several efforts in the DoD and the Services are underway to improve performance in these critical areas. Acquisition planners across the Services developed courses focusing on various aspects of environmental management and directed them at virtually every level of command, from flag/general officer rank, down to the individual worker.

The acquisition community also introduced environmental concerns in acquisition training (environmental competence is recognized by the Acquisition Management Functional Board as a requirement), but coverage needs to be expanded. The goal of total integration, an "environmental ethic," throughout the acquisition process has yet to be achieved.

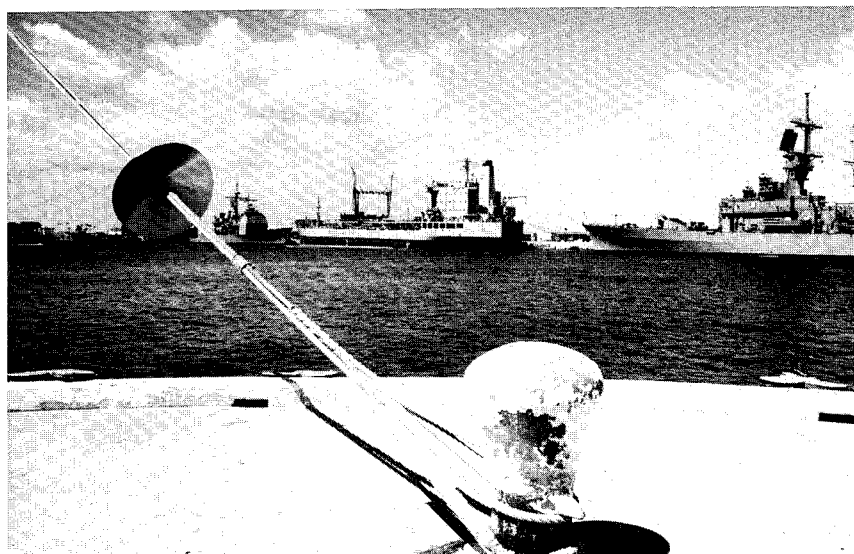
Technical Assistance

For specific technical assistance, DoD acquisition program managers now have several sources. The National Defense Center for Environmental Excellence, located in Johnstown, Pa., is a unique national asset focused on identifying and implementing environmentally acceptable solutions for virtually the entire gamut of industrial operations associated with acquisition. The emphasis is on pollution prevention. The

services offered include Baseline Surveys, Technical/Investment Analyses, Technology Demonstration, Technology Transition Services, and Information Services.⁶ Current efforts focus on ozone-depleting chemicals (ODC), volatile organic compound (VOC) emissions, and reductions in heavy metal discharges — all top priority concerns for DoD acquisition program managers.

In addition, all the Services now operate established centers or staff elements with the expertise to assist with environmental requirements. Examples include the Air Force Center for Environmental Excellence, the Army's Acquisition Pollution Preven-

nents of environmental security are basic: clean-up, compliance, conservation and pollution prevention.⁷ While affected to some degree by each component, evidence confirms that compliance and pollution prevention need to be prime concerns of the DoD acquisition program manager. Throughout the entire DoD acquisition community, action in the green aspect of acquisition reform is fast and furious, and is accelerating. The environment and its protection will continue to be high on the National agenda and a key component of acquisition reform.



tion Support Office, the Production Base Modernization Activity, and the various elements of the Naval Environmental Protection Support Services. A broader base of technical support is growing, and indications are that capabilities in this area will continue to increase. Program managers should be aggressive in searching out the help they need!

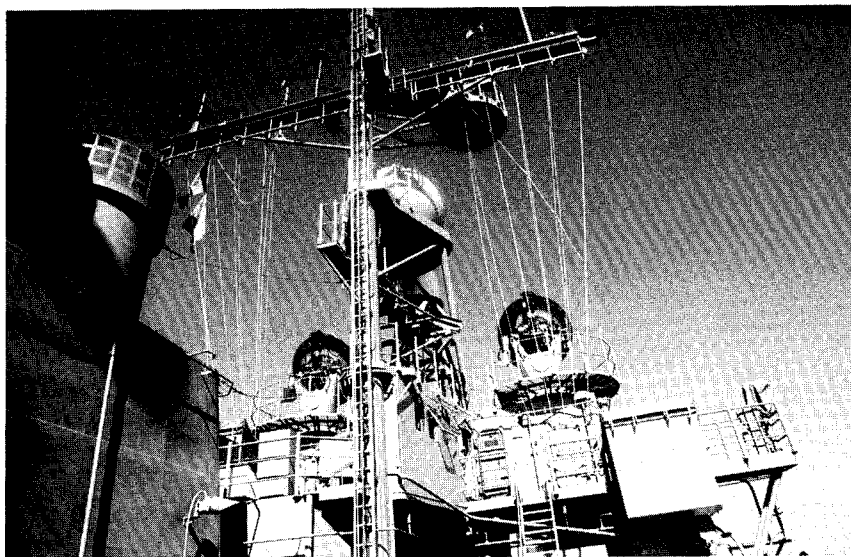
Summary

The DoD elevated environmental security, as an area of DoD policy and concern, to the Deputy Under Secretary level in March 1993. The compo-

Endnotes

1. Executive Order 12856, August 3, 1993, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements," *Federal Register*, Volume 58, No. 150, August 6, 1993.
2. Secretary of Defense Memorandum, "Comprehensive Pollution Prevention Strategy," 11 August 1994.
3. National Aerospace Standard (NAS) 411, "Hazardous Materials Management Program," Aerospace Industries Association, Washington, D.C., July 1993.
4. Office of the Department of Defense Inspector General, "Environmental Consequence Analyses of Major Defense Acquisition Programs," Audit Report No. 94-020, December 20, 1993.
5. Office of the Department of Defense Inspector General, "Hazardous Waste Minimization," Inspection Report No. 93-INS-06, December 28, 1992.
6. National Defense Center for Environmental Excellence, "Capabilities Summary," Fall 1993.
7. *Defense Issues*, "DoD's New Approach to Environmental Security," Vol. 8, No. 26, May 1993.

Environmental challenges and mitigation can range from the simple to the complex. Pictured on the left is a ship's rat guard; to the right is an example of radar and electromagnetic interference.



BOOK REVIEW

INTERNET: GETTING STARTED

Prentice Hall

by April Marine, Susan Kirkpatrick, Vivian Neou and Carol Ward

Millions of people all over the world use the Internet daily to exchange electronic mail, access information and share computing resources. The Internet is a collection of computer networks that evolved from a handful of computers 25 years ago, to millions of computers interconnecting the entire world. An institute that responded to users' questions about the Internet for more than two decades, SRI International (formerly the Stanford Research Institute), now has an excellent reference guide for beginners and intermediate Internet users — *INTERNET: Getting Started*.

The book provides basic background material to help you understand how the Internet operates, how to get connected, what services are provided, and the organizations that manage components of the network. Filled with names, addresses and telephone numbers, this book is a capstone guide to locating sources to answer your questions or solve your problems. By covering a vast breadth of topics, the book, of necessity, limits the depth of discussion of each topic; however, the authors include the basics, and there are always pointers to other sources for more information.

The first half of the book provides information to initiate Internet access. Topics covered in this section include the following areas: types of Internet access, steps for initiating access, costs of connectivity, and an extensive list of service providers. A brief discussion of the history of the Internet includes a description of packet-switched networks and their components such as repeaters, bridges, routers and gateways. The authors also provide a brief overview of the Transmission Control Protocol/Internet Protocol (TCP/IP), IP address-

ing schemes, and the Domain Name System.

To understand the technical documentation that assists in managing such a vast network, the authors explain the Request For Comments (RFC), For Your Information (FYI) and Standards (STD) documents — how to use them, where to find them, and how to get them. The back of the book includes an index to RFCs, STDs and FYIs.

The Government Open Systems Interconnection Profile (GOSIP), issued by the National Institute of Standards and Technology, describes the U.S. Government's requirement to incorporate protocols based on the Open Systems Interface Reference Model into its networks. In August 1990, GOSIP became mandatory in federal procurements, and GOSIP Version 2 became a Federal Information Processing Standard (FIPS 146-1). The authors tell you how to obtain GOSIP documentation.

The second half of the book provides users with information about the Internet's most popular "traditional" services — electronic mail, file transfer and remote login. Starting with an example of a typical electronic mail message, the user@host form of Simple Mail Transfer Protocol, the book covers Internet addressing along with other addressing forms. In addition to private electronic mail, Mailing Lists, Newsgroups and LISTSERV applications use electronic mail to provide electronic discussion forums. The authors fully explain participation in these forums.

The File Transfer Protocol (FTP) makes it possible to move a file from one computer to another, independent of the computer operating system or file

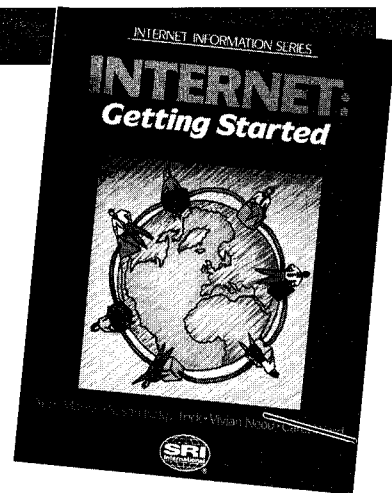
storage

format. Files can be text, data, programs or graphics — anything that can be stored on a computer. A detailed description of an actual FTP session serves as a tutorial for users with this capability. Many hosts provide an "anonymous" FTP file retrieval service that allows users to access information repositories.

To access other computers in order to enter data or run a program, users follow the Telnet Protocol. The book details a typical Telnet session that also includes an example of the WHOIS service that allows access to public account information. This service is similar to an on-line telephone book. Telnet also allows you to use information servers such as Archie, Prospero, the Wide Area Information Server and Gopher. The authors include a detailed Archie session.

Anyone can become a part of the Internet as either a user or service provider, and SRI International has put together an excellent book that tells you how to do it. If you've just heard of the Internet and want to know more about it, or if you're a sporadic user of the Internet and want to tap its full potential, this book is for you.

Col. Albert B. Garcia, USA, is a former Research Fellow, Research and Information Division, Defense Systems Management College. Currently, he is the Commander, U.S. Army Information Systems Software Development Center — Lee, Fort Lee, Va. (E-Mail: garciaa@ftlee-sdcl1.army.mil)



SENSOR FUZED WEAPON TAILOR MADE FOR TODAY'S AIR FORCE

Maintaining Design Currency into Production

Maj. Michael A. Urban, USAF

It is not unusual in today's world of rapidly changing technology and 6- to 10-year acquisition cycles for a weapon system to be somewhat "dated" by the time approval for production is sought. The acquisition team responsible for the Air Force's Sensor Fuzed Weapon (SFW), the first "smart" antiarmor munition to enter production, developed and executed a plan for technology insertion that can be used as a model for other programs in similar circumstances. The payoff for their efforts is lower costs, improved producibility and higher reliability while maintaining weapon lethality and effectiveness.

Program Objective

The objective of the SFW program is to provide a conventional force multiplier capable of achieving multiple kills per pass against armor and other mobile targets. The advance of sensor technology, coupled with improved standoff warhead kill mechanisms, gives significant improvement in the number of kills per weapon expended under battlefield conditions. Such improvement can be translated directly to a reduced sortie requirement, fewer dedicated aircraft

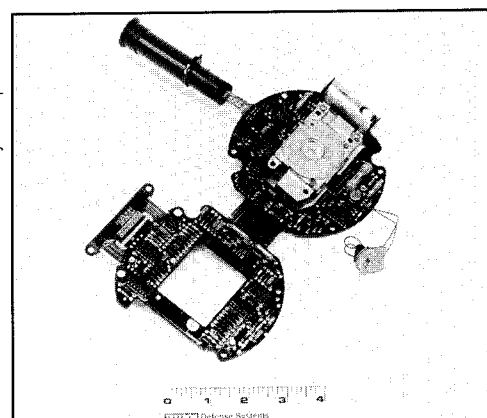
needed for the antiarmor mission, and more flexibility for the area commander. In effect, SFW is a tailor-made weapon for the smaller, more flexible Air Force needed today and into the 21st Century. As a result, Air Force planners identified SFW as an essential piece of the Office of the Secretary of Defense (OSD) antiarmor strategy outlined in the "Bottom Up Review."

System Description

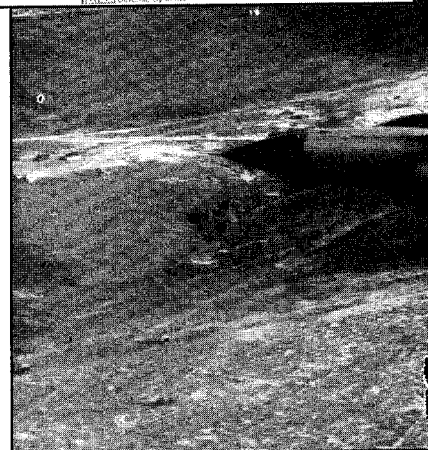
Each SFW (CBU-97/B) is a 1000-pound class, unpowered, unguided, free-fall, wide-area munition, stored and transported as an all-up-round in a previously fielded container. Each weapon consists of a single SUU-66/B Tactical Munitions Dispenser (TMD), 10 BLU-108/B sub-munitions, and 40 explosively formed "smart" projectiles.

The SFW employs a "wooden round" concept that requires no scheduled maintenance of any kind. The only actions required are cosmetic external actions such as paint touch-up, decal application and lanyard changeout. Internal access to the weapon/embedded software by the support community is never envisioned. In essence, the weapon is placed in storage and loaded on an aircraft when needed. As a result, the design complexity of SFW is transparent to the using command and the

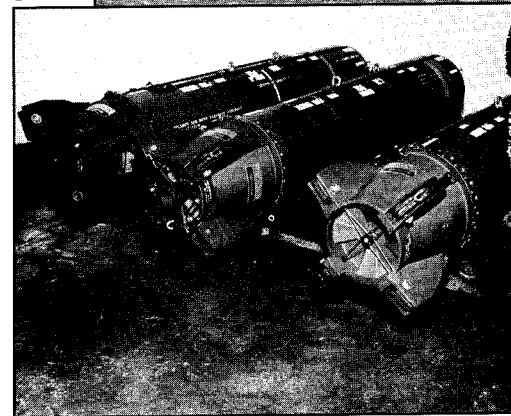
Textron Defense Systems photo



A



C



Maj. Urban is a U.S. Air Force Senior Program Manager, Sensor Fuzed Weapon Producibility Enhancement, Eglin Air Force Base, Fla.

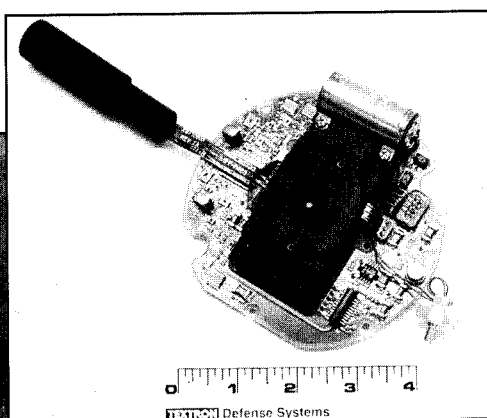
The objective of the SFW program is to provide a conventional force multiplier capable of achieving multiple kills per pass against armor and other mobile targets.

support infrastructure. Moreover, only previously fielded munitions loading equipment is required in support of storage, handling and loadcrew operations. The SFW is compatible with most U.S. Air Force, U.S. Navy/U.S. Marine Corps, and North Atlantic Treaty Organization aircraft, providing a single pass, direct-strike capability against tanks, armored personnel carriers, self-propelled artillery and trucks. For typical tactical sorties, a combat load consists of four to six CBU-97/Bs. Further, the SFW can be delivered at low or high altitudes throughout all speed regimes.

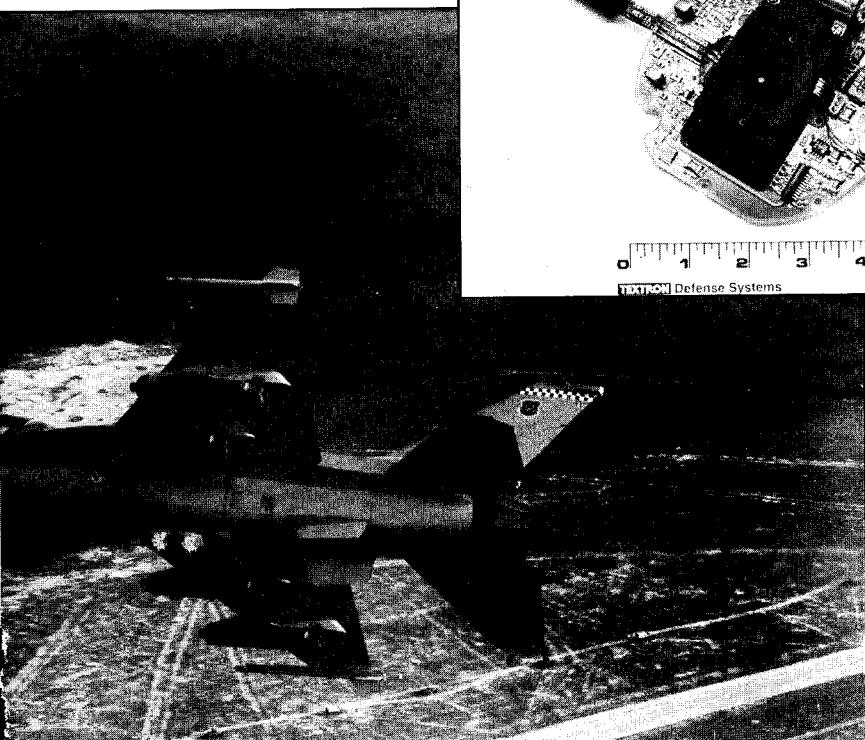
Development History

The SFW evolved from two previously demonstrated system concepts. While the projectile (warhead) came from the Extended Range Antiarmor Munition program, the delivery vehicle, the TMD, came from the Army's Assault Breaker program. The Air Force conducted risk reduction efforts on the newly formed SFW program during the early 1980s, culminating in the successful firing of four warheads from a single submunition (BLU-108/B), hitting four separate targets in September 1985. The Secretary of the Air Force authorized Full Scale Development (FSD; now Engineering and Manufacturing Development) in November 1985, with an increase in inventory planning quantities. Due to technical problems and resulting test failures in the 1988-1989 time frame, the Air Force restructured and re-baselined the program in April 1990. From that point on, the SFW achieved a highly successful technical performance. Specifically, the SFW's performance resulted in a long string of unbroken successes: 30 of 30 successive Developmental Test and Evaluation flights; 29 of 30 Initial Operational Test and Evaluation flights (one "no test" unrelated to SFW); and three of three Production Qualification Tests representing the first inventory units.

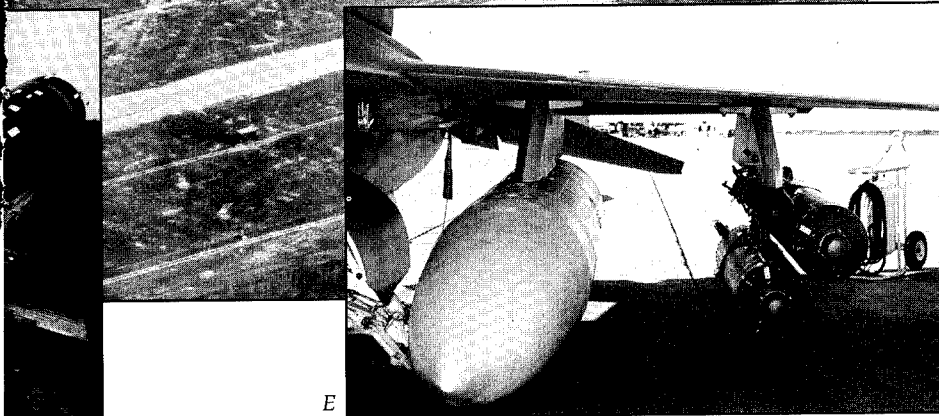
In March, 1992, the SFW completed a major Defense Acquisition Board (DAB) Program Review. The Board subsequently gave the SFW authorization to enter into Low Rate Initial Production (LRIP). Since the initial contract award in March 1992,



B



D



E

U.S. Air Force photos unless otherwise noted

- A. Airborne sensor electronics — PEP 1 simplified design.
- B. Airborne sensor electronics — LRIP baseline design.
- C. Commonality of Sensor Fuzed Weapon (SFW) with two other inventory weapons. From left to right: 1) Gator Air Delivered Mine; 2) Combined Effects Munition; and 3) Sensor Fuzed Weapon.
- D. F-16 with four Sensor Fuzed Weapons (SFW) (CBU-97) loaded.
- E. Sensor Fuzed Weapon (SFW) in standard combat configuration on the F-16 aircraft.

the Air Force awarded LRIP 2 and LRIP 3. Program planning calls for one additional LRIP contract in Fiscal Year 1995, and five Full Rate Production (FRP) buys beginning in Fiscal Year 1996. A Milestone III decision for SFW to enter FRP will be made by the DAB in December 1995.

The currently planned procurement objective for SFW is 5,000 munitions. A version of the Navy-led Joint Stand-off Weapon (JSOW) will employ the identical BLU-108 submunition. The JSOW carrier vehicle employs only six BLU-108 submunitions instead of the 10 carried by SFW. Thus, the planning objective of 5,000 JSOW/BLU-108 munitions will add another 3,000 SFW-equivalent munitions to the inventory.

Producibility, Cost and Design Currency

In each of the 60 successful flight tests, the robustness of the SFW design proved itself by significantly exceeding the operational user's performance requirement. As the program successfully completed FSD, the Air Force recognized that opportunities existed to drive down SFW unit production cost through the insertion of improved technology. Given the fact that over 10 years had elapsed on some of the SFW subsystem designs, the Air Force deemed technology improvements in both the design and manufacturing processes essential.

Production Transition Program

In 1989-1990, the Air Force conceived and initiated a key piece of the SFW FSD program restructure — the Production Transition Program (PTP). Specifically, the Air Force initiated the program as a risk-and-cost-reduction effort to enhance the contractor's SFW production capability, and included the following areas: (1) development of high payoff producibility enhancements; (2) development of tooling and inspection gages; (3) development of environmental stress screening levels and procedures; and

FIGURE 1. FSD Baseline vs. PTP (LRIP) Design Key Comparisons

	Baseline	PTP
1. Projectile	Hand-insertion	100% automatic component insertion
	Assembly labor: 6.5 hours	Assembly labor: 4.0 hours
2. Submunition Electronics	Expensive custom hybrids and old generation microprocessor	More cost effective piece parts
	Altimeter board — all inserted stand-up components	Altimeter board — discrete analog components in a through-hole design for automatic insertion
	Assembly labor: 12 hours	Assembly labor: 6.4 hours

(4) development and optimization of production processes. Moreover, PTP changes had to be transparent to the user and the support infrastructure in order to maintain the "wooden round" maintenance concept.

The program consisted of two phases with decision point milestones. Phase 1 was a study phase to identify preliminary design and process candidates. In effect, the Air Force characterized and ranked production transition risk; developed producible, testable designs; and scoped high-rate production processes. As might be expected, the Air Force identified the major cost drivers for the SFW in order to select those projects which would give the biggest payback.

It is important to note that the SFW cost drivers are not individually high-cost items. The Air Force designed the munition with 10 submunitions (BLU-108/B), and 40 individual projectiles per weapon. Therefore, a single item that appears low priced may be a major cost driver when multiplied 40 times. This multiplier effect associated with the SFW design, would also be the basis for all subsequent producibility efforts.

Phase 2 of the program actually involved the development, demonstration and qualification of those previously identified engineering and

manufacturing changes. Project areas included the following: projectile electronics, submunition nose electronics (includes submunition altimeter), Infrared (IR) Sensor Qualification, submunition launcher housing, modular orientation and stabilization unit, and the submunition rocket motor (Figure 1).

The completion of PTP was a significant milestone for the SFW program. The program was a \$30 million investment that was completed on schedule, at target cost, and achieved all of its stated goals. Actual cost savings achieved by the program exceed \$128 million (BY 91\$, 5000 units). At PTP inception, SFW procurement quantities were over three times what they are today. Cost savings against that early baseline quantity would have exceeded \$340 million.

Significantly, PTP achieved these cost savings, reduced production risk, and simultaneously maintained SFW's vaunted system performance. The Air Force conducted a five-flight test series (based on the PTP configuration) early in 1993, and the results exceeded the operational user's performance requirement by 100 percent. As a result of these successes, the Air Force introduced PTP initiatives into the SFW baseline design two LRIP lots ahead of schedule. In

essence, this earlier cut-in generated more cost savings and reduced the risk of transition to production even more.

Producibility Enhancement Program

Although OSD recognized the successes of PTP at the March 1992 DAB Program Review, they felt that even more producibility cost reductions could be attained for a modest investment. As a result, the March 1992 Acquisition Decision Memorandum (ADM) directed the Air Force to further improve the producibility of the SFW design without negatively impacting the demonstrated performance:

Concurrent with LRIP, the Air Force shall immediately initiate an accelerated Producibility Enhancement Program (PEP). In the PEP, the Department will make every effort to significantly improve the SFW design for enhanced producibility, increased reliability and reduced cost (ADM, March 1992).

Moreover, PEP progress was tied directly to the Milestone III production decision scheduled for December 1995.

Employing the same thought processes that went into PTP, the SFW team identified the projectile (40 per weapon) and the BLU-108/B submunition (10 per weapon) as areas that could generate a more producible design at reduced cost. As an analogy, PTP could be thought of as harvesting "low lying fruit," while PEP involves moving up to the next layer of branches. Thus, PEP changes can be characterized as slightly more complex than those completed in PTP, although both programs would be considered low to moderate risk.

Originally envisioned as a single program, PEP was eventually separated into two distinct packages due to funding constraints. The Air Force

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initiated Package 1 of the PEP (PEP 1) in September 1992 as a series of projects focused on the SFW projectile. The projectile is significant because it represents 30 percent of the recurring cost of the entire weapon. Specific PEP 1 initiatives include the following areas: the integration of Application Specific Integrated Circuit (ASIC) technology into the projectile electronics; reducing the complexity of the projectile Safe and Arm device; and manufacturing simplification of the IR Sensor. The Air Force projects a dramatic 42-percent reduction in total parts for this effort, resulting in a simplified design and significantly lower weapon unit costs (Figure

2). Moreover, the Air Force will incorporate PEP 1 into the SFW production baseline in LRIP 4 (Fiscal Year 1995), and conduct a performance demonstration of five flight tests scheduled for mid-1995.

Due to continuing funding constraints, the Air Force did not initiate Package 2 of the PEP (PEP 2) until a year later than envisioned (October 1993), forcing a restructure of the effort. Despite these difficulties, the goals of PEP 2 did not change. Accordingly, PEP 2 continued to focus on improving the design of the submunition nose electronics, a major weapon cost driver. Specific PEP 2 initiatives include the following areas: integrating the submunition altimeter and sequencer into a single processor through the introduction of ASIC technology; decreasing the total subsystem component count; and simplifying the fabrication and assembly of the submunition electronics. Although it is relatively early in the PEP 2 program, conservative estimates for the submunition nose electronics project a total parts reduction of over 40 percent (Figure 3). Flight testing of PEP 2 is scheduled for late 1996 with subsequent incorporation into the second FRP lot.

Current cost savings estimates for PEP exceed \$108 million based on conditions existing during the DAB Program Review (BY 91\$, 10,000 units). Then-year savings for PEP represent some \$133 million. The Air Force obtained these projected PEP cost savings from a parts-in/parts-out analysis based on actual LRIP com-

FIGURE 2. LRIP Baseline vs. PEP 1 Key Comparison

Baseline	PEP 1
222 Total parts	128 Total parts (42% reduction)
Double rigi-flex board	Single, conventional board
Discrete Analog Components	Highly integrated ASIC
Through-hole technology	Surface mount technology
Assembly labor: 4 hours	Assembly labor: 2.5 hours

FIGURE 3. LRIP Baseline vs. PEP 2 Key Comparison

Baseline	PEP 2
209 Total parts	122 Total parts (42% reduction)
Separate processor for altimeter and sequencer	Single, shared processor
Discrete Analog components	Highly integrated ASIC
Custom expensive RF power source	Off-the-shelf, cost effective RF power source

ponent costs. Thus, PEP is achieving the goals of enhanced producibility, reduced cost and improved reliability for the SFW design set by OSD.

Summary

The SFW is a force multiplier representing a new generation of “smart” weapons. Moreover, military planners at the highest levels of DoD and

Air Force identified it as an essential piece of OSD antiarmor strategy outlined in the “Bottom Up Review.” Like many other major acquisition programs, SFW experienced an extensive (in excess of 10 years) development cycle that produced a highly effective but somewhat “dated” design as the weapon transitions to production. In effect, Air Force challenged

the SFW team to update the weapon design by incorporating a series of producibility enhancements, while simultaneously preserving the demonstrated operational performance.

The producibility improvements represented by PTP and PEP have already substantially driven down, and will continue to drive down, production costs for SFW. These lower production costs equate directly to affordability for the operational user at a time when the budget continues to decline.

Reference

Office of the Under Secretary of Defense for Acquisition, Acquisition Decision Memorandum, “The Sensor Fuzed Weapon Program,” 26 March 1992.

MANAGING EDITOR RETIRES — DSMC WELCOMES REPLACEMENT

The staff and faculty of the Defense Systems Management College recently said a reluctant good-bye to Ms. Esther M. Farria, managing editor, *Program Manager* — the College’s flagship periodical. Esther retired effective 15 October 1994 after a splendid career with the College — nine years as associate editor and one year as managing editor. She plans to divide her time between her homes in Manassas, Va., and Myrtle Beach, S.C.

Effective 3 October 1994, we welcomed Ms. Collie J. Johnson as the new managing editor. Collie brings many years of writing and editing experience to our magazine. Her career highlights include assignment as technical writer-editor of six “Army Study Highlights” winners, U.S. Army Engineer Strategic Studies Center; writer-editor for the Tailhook Task Force, Department of Defense Inspector General; and writer-editor for production of the Pentagon “Early Bird,” Armed Forces Information Service.

COLLEGE INTRODUCES NEW SYSTEMS ENGINEERING COURSE

ASPRDEC Becomes A Reality

Cmdr. William Lankford, USN • Dr. Robert A. Warren

On 24 October 1994, the Advanced Systems Planning, Research, Development and Engineering Course (ASPRDEC) became a reality, and a visible sign of how the Defense Acquisition Workforce Improvement Act (DAWIA) will affect the way we educate DoD personnel. Designed by the Defense Systems Management College in response to Office of the Secretary of Defense and Defense Acquisition University requirements, this two-week course is now the capstone Level III (SYS-301) course for senior Department of Defense personnel in the Systems Engineering career field.

The course is recommended for personnel who have completed the three-week Intermediate Systems Planning, Research, Development and Engineering Course (SYS-201) or who have significant systems engineering and program management experience.

The ASPRDEC, which is based on over 400 competencies, uses Department of Defense acquisition policies as the framework for senior-level students to analyze and evaluate science, technology and system engi-

neering management principles, industrial, environmental and international realities, and such special topics as modeling and simulation, ethics, and contract management. Instructors employ simulation exercises and case studies to ensure that students do integrated technical decision making and problem solving in a realistic manner throughout the course.

Using the systems engineering process, the ASPRDEC involves requirements analysis, functional analysis and allocation, synthesis and verification as the core of most classroom activities. It also incorporates systems analysis and control tools such as risk management, tradeoff and effectiveness analyses, configuration, interface and data management, technical performance measures, technical reviews, forecasting, design of experiments, work breakdown structures, and specification and statement of work tailoring to control and evaluate the "cradle-to-grave" evolution of a system.

The first offering of the

course revealed that ASPRDEC is an intensive learning experience. Class time and homework provided a rich and diverse, although time-consuming opportunity to examine current and future Defense initiatives. Students are expected to conduct self-assessments via questionnaires and examinations, participate in classroom activities and team building exercises, and do homework that involves written and oral reports on current systems planning research, development and engineering topics.

The ASPRDEC is now one of many courses taught at this College that will improve the quality of the DoD acquisition workforce. Currently, the course runs for two weeks (10 class days).



Photo by Richard Mattox

Students of the Advanced Systems Planning, Research, Development and Engineering Course (ASPRDEC) participate in open discussion. Standing from left: Walt Squire (OSD); Jerry Moncrief (Navy); John Snodderly (DSMC Faculty); Patty Gargulinski (Navy); Maj. Jim March (Air Force). Seated from left: Ron Wade (Industry); Brian Dillon (DLA).

Cmdr. Lankford is DSMC's Course Director for the Advanced Systems Planning, Research, Development and Engineering Course (ASPRDEC) (SYS 301).

Dr. Warren serves on the College faculty as a Professor of Systems Engineering, ASPRDEC.

FROM OUR READERS

LETTERS TO THE EDITOR

As I read Major Bolton, Jr.'s book review in the July-August 1994 edition of *Program Manager*, I couldn't help but feel that the authors of "Reengineering a Corporation, A Manifesto for Business Revolution," were trying to "set us up" into "buying in" on reengineering at the expense of total quality, whose implications are much broader. I cite three examples:

First: "To implement total quality, you must successively document, measure and incrementally improve a process."

In my experience, implementation takes a little more than that. What they describe is one effect of implementation rather than the implementation itself. They have omitted the systems changes that must take place in the technical (functions, tools, processes), political and cultural aspects of an organization, which are sometimes radical, sometimes not. If they are radical, then the system undergoes wholesale changes. This is a natural expectation. In any case, the actions they suggest apply after the change has occurred, and only to a stable process or system. Then, incremental improvements are all that may be needed. Such improvements also imply the ability to predict the near-term capabilities of the system or process with a reasonable degree of certainty.

Second: "...if [sic] processes...are individually documented and improved, this suboptimization is at the expense..."

I read with interest Mr. Richard Kwatnoski's article in the July/August issue, "Ethics in International Defense Acquisition Programs." I was a participant in an international program in 1987-90 called the Modular Standoff Weapon (MSOW). I too observed some of the differences in approach of the non-U.S. participants in the program. This was not a U.S. program with international participation, but a truly international program. There was an International Program Office (IPO) located at Eglin Air Force Base, Fla. We were an international tenant on the base. One of the first things I noted was a completely different relationship between the government and industry. If a contractor bought you lunch, it was part of business for the Europeans. It was also part of business that when we held meetings in Europe, the host government had one or more hosted (i.e., they paid) lunches or dinners, either in one of their facilities or at a restaurant. Unfortunately, we were hard pressed to do anything close to this, especially if there wasn't a general officer involved. Information that we consider close-hold and source-selection sensitive always seemed to find its way

CERTAINLY! And anyone who thinks otherwise has no idea of what total quality is about! Following their argument, the converse of their position: If processes are documented and improved **in relation to the system and its customers**, then the system is optimized and the customers are happy. Hence, there is no need for their book.

Third: "Reengineering requires companies to organize around processes."

How should we interpret this? In light of their thesis in the second example? Or by its converse? Mind you, there is a place for the notion that some call reengineering (and others call innovation). For those who are frustrated by what goes on around them and are looking for honest answers, then reengineering may appear like a valid solution. To others, it may be nothing more than instant pudding — another algorithm — albeit a helpful one.

Then, let's recognize it as an algorithm, one way of getting a part of a much larger job done, and let it stand on its own merits.

Isidor Patapis, USN
TQL Office, SEA 09Q
Naval Sea Systems Command
Washington, D.C. 20362
Class 81-2

Ed. Note: The book review referred to appeared on p. 38.

to the contractors and the trade publications. While I'm not sure these things are of the same ilk as Kwatnoski talks about, they are things you should be prepared for if you are in one of these programs.

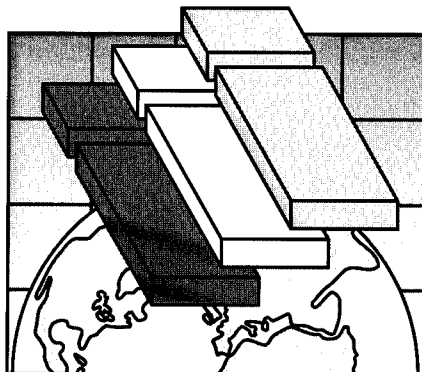
More along the lines of what Kwatnoski had is the area of waivers. We had some very long and difficult negotiations on this subject, and finally came to an agreed list. This entire activity is covered by a paper titled "The Modular Stand-Off Weapon Federal Acquisition Regulation Waivers and Deviations in an International Acquisition," which appears in "Proceedings, 1991 Acquisition Research Symposium," Volume II. I would offer this list as a good baseline for anyone involved in an international cooperative acquisition program.

Alan E. Habermusch
Colonel, USAF (Ret.)

Ed. Note: The article referred to appeared on p. 28.

CALL FOR PAPERS

1995 ACQUISITION RESEARCH SYMPOSIUM



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*Holiday Inn Crowne Plaza
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The 1995 theme is "Acquisition for the Future: Imagination, Innovation, and Implementation," and the sub-theme is "Acquisition Reform: A Mandate for Change — Reengineering the Acquisition Process." Papers that address the theme, subtheme and current issues in acquisition management will be especially relevant. Topic areas include:

- Acquisition Management Education and Workforce
- Acquisition Planning and Management
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BASELINING AND BENCHMARKING

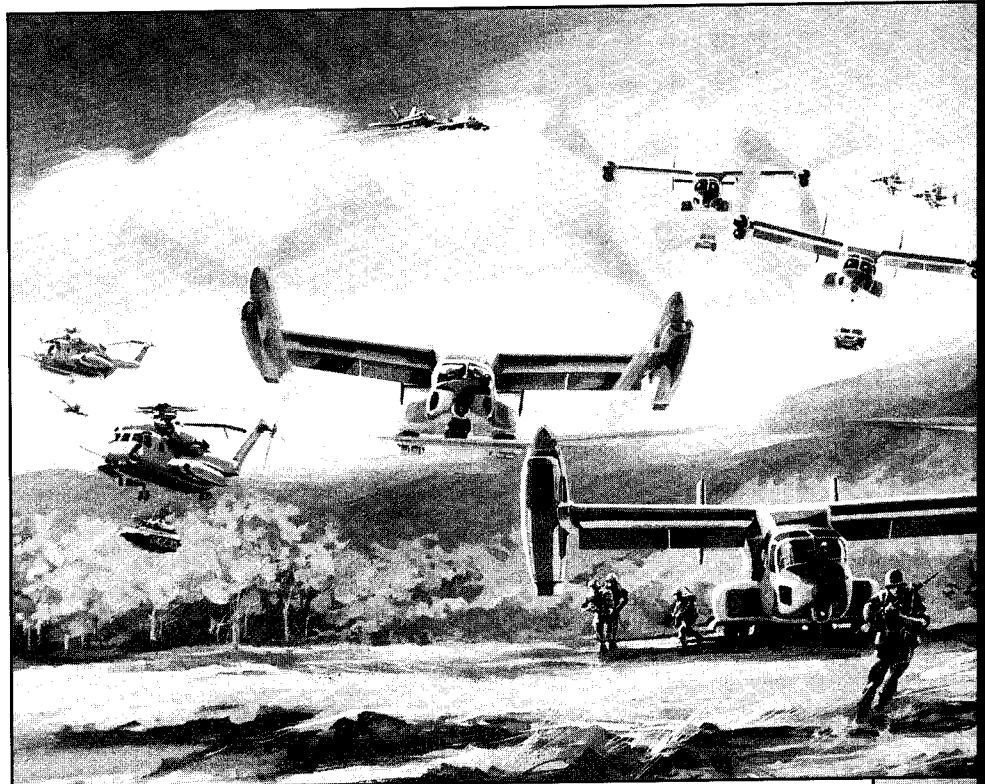
Management Tools for the 21st Century

Mark E. Gindele

In 1979, after failing to obtain a temporary freeze on government regulations or a refundable tax credit, the Chrysler Corporation was forced to do the unthinkable and go to the perennial source of funds, the U.S. government, to obtain loan guarantees. Having been ravaged by recession, the energy crisis, government regulation, and poor management, Chrysler had to follow the footsteps of the City of New York and Lockheed Corporation. Fearing that government involvement accompanying incipient loans would ruin the company, Chrysler management had to convince itself and Congress that the loan guarantees were the correct thing to do.

With approval of the loans in December 1979, Chrysler was given a unique opportunity to reinvent itself. The team assembled to save Chrysler needed to employ a host of cost-saving techniques and improved manufacturing skills to survive. Marketing strategies had to be initiated for the near and far term. In addition to common platform technology, Chrysler targeted markets and manufacturing

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V-22 Osprey Combat Assault

quantities. The idea of adapting "benchmarking" was born.

Benchmarking is a management tool that enables businesses to borrow existing proven techniques from successful companies and adapt them to companies needing change. Rather than reinvent new management principles and implement them to an existing business, managers look outside the immediate organization for help in self-improvement. At a minimum, benchmarking is a form of vali-

dating and verifying how the business of an entity is conducted. Like any management tool, benchmarking success strongly depends on how receptive management is to change. Encountering resistance from the established and entrenched organizational hierarchy is not unusual.

At Chrysler, management had no choice. They had to adopt the techniques that worked best for other large corporations. After

implementing numerous improvements, Chrysler excelled at making cars and at measuring the success of their benchmarking performance. Using proven efficiency improvement processes perfected by Honda and General Electric, Chrysler went one step further and measured effectiveness by using cost-benefit analysis. With its employees oriented toward measuring performance on a continued basis, benchmarking continues to be used by Chrysler as a way of improving the manufacturing process.¹

The Military Connection

A military connection to benchmarking does exist — the baseline, a term widely used throughout current regulations.² Establishing the *development baseline* requires effective interaction among the requirements generation, acquisition management, planning, programming and budgeting systems. *Configuration baselines* are used to ensure an orderly transition from one major

commitment to the next. *Program baseline* thresholds are established to determine when a program has breached its acquisition level. *Performance measurement baseline* describes the time-phased budget plan against which contract performance is measured. Baselineing, therefore, is a term that describes the process of maintaining baselines consistent and current throughout the program acquisition cycle.

The Fall/Winter 1986 edition of *Amphibious Warfare Review* contained numerous articles concerning the V-22 Osprey program. In addition to topics assessing the mission capabilities, reports addressed the management issues for the 913-aircraft acquisition. Senator John H. Glenn highlighted a number of management innovations to reduce risk and control costs. Lt. Gen. Bernard E. Trainor, USMC (Ret), and Col. John J. Grace, USMC (Ret), espoused such factors as a good design, new materials and manufacturing techniques, and modern technology in all components will

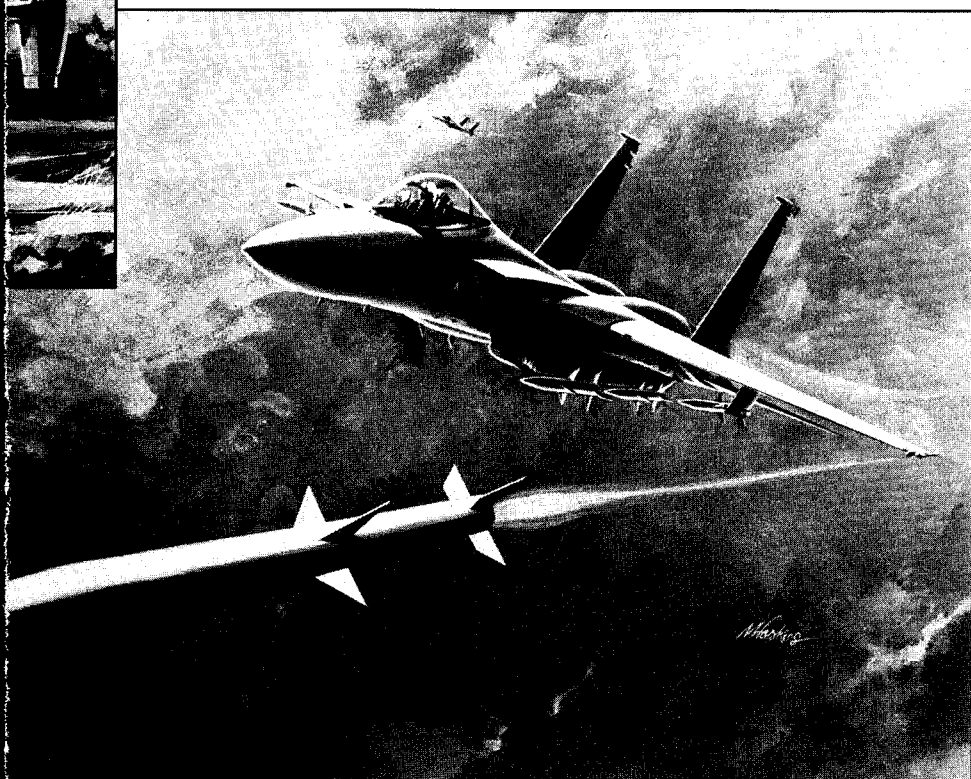
make the entire system as efficient and reliable as possible.

Though the program enjoyed a tremendous amount of support from Congress and the aviation community, the Naval Air Systems Command program office, tasked with managing the Osprey program, realized this program faced many hurdles before production could begin. Since the aircraft would incorporate many new technologies such as tilt-rotor and composites, inherent questions existed about feasibility of production and affordability. An increased emphasis also was being placed on work measurement for performance measurement using MIL-STD 1567A³ and should-cost studies on military programs.⁴ The program office was determined to consider innovative methods to estimate and manage the V-22 program.

Historically, the process of estimating a new airplane program is straightforward. Early in a program's concept formulation phase, when the design of a proposed aircraft is unknown, detailed cost estimates cannot be calculated. However, estimates are necessary to establish resource planning requirements and perform cost and operational effectiveness analysis on weapon system alternatives. Since detailed designs are not available, cost estimates are developed using gross parametric relationships or by comparing the new aircraft program with known costs of a past program. These estimates then form a budgetary threshold for the program.

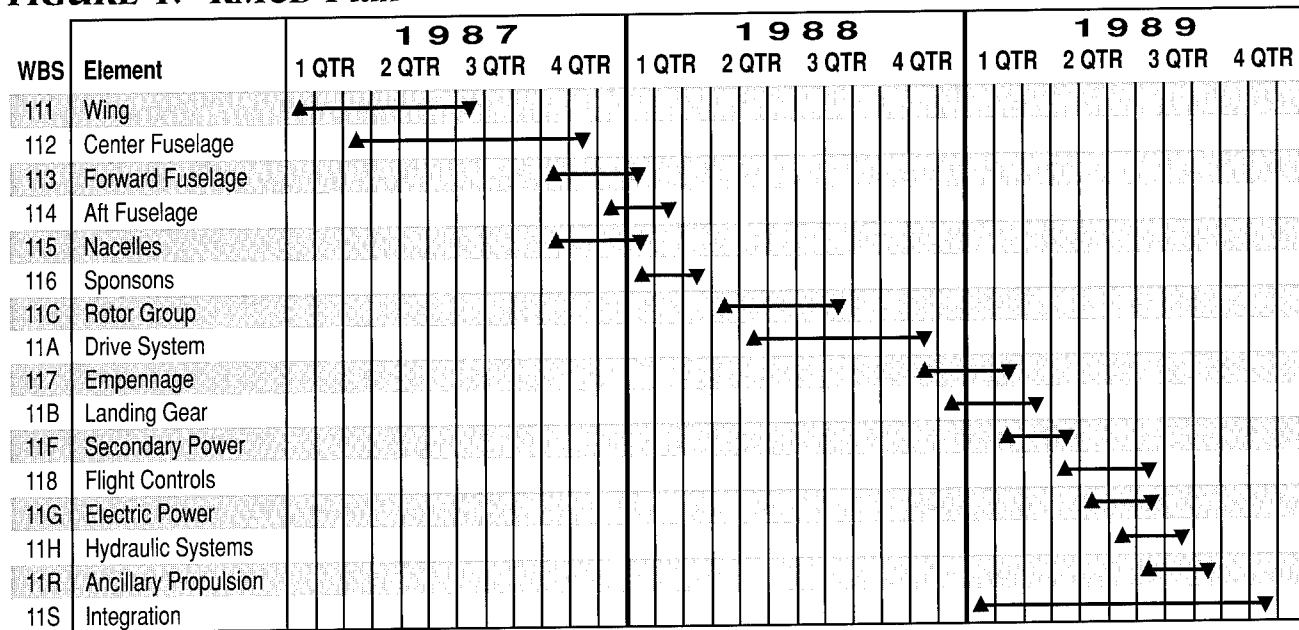
As the design of an aircraft becomes defined, more precise estimates can be developed. The earlier estimates, based on broadly applied cost-estimating relationships (CER) and parametric estimates, can be replaced with more accurate estimates based on specific subsystem designs for the new aircraft. The problem, however, is that program estimates are calculated using historical information, at

Illustration courtesy Bell/Boeing Tiltrotor Team



AMRAAM F-15

FIGURE 1. RMCB Plan



least until the total design is solidified. This technique assumes that historical experiences can be a good predictor of the future. But, when a program involves drastically new technology, such as the extensive use of composites for both primary and secondary structures, the confidence level decreases with the use of existing cost information that lacks relevant data.

Basing future costs on past experiences does not consider any improvement to the manufacturing processes used on older aircraft programs. This approach to costing corroborates the past as acceptable and uses the information to form a standard for future performance measurement. Old manufacturing processes, together with historical cost information, are extrapolated and adjusted for technology to form the basis for the new program. Because of the perceived acceptability of the past, production design decisions may not reflect the state-of-the-art production technology — new techniques are often believed to have a greater risk than older, proven processes.

In August 1984, Deputy Secretary of Defense William Taft IV directed the Under Secretary of Defense (Re-

search and Engineering) (USD)(R&E) to lead a joint-Service review of contractor overhead costs. The objective of the study, in addition to identifying contractor cost-reduction incentives, was to improve government oversight of defense contractors. Mr. Taft established 10 principles to improving government oversight. One of the principles, Discrete Cost Analysis, stated that, "Pricing methods that place undue emphasis on historical costs must be avoided."⁵ Similarly, J.T. Kammerer, Deputy Assistant Secretary of Defense (Cost and Audit) (July 1985) stated that cost-monitoring activities performed on a continuing basis might be a better approach in the long run than a full-scale should-cost over the relatively short period of a proposal review.

To satisfy the Defense Department's senior management's quest for an improved methodology to estimate and manage programs, the program office established an objective to develop an independent, in-depth cost "baseline" for the V-22. The monitoring program would have to be structured to enhance the ability to identify and challenge uneconomical and inefficient practices, to quantify those findings in terms of cost

impact, and to establish a program for eliminating such practices in future follow-on production. By benchmarking a program used successfully by the Air Force on the Advanced Medium Range Air-to-Air Missile (AMRAAM) program, the V-22 program office identified an existing process that could meet its rigid criteria.⁶

Entitled "Recurring Manufacturing Cost Baseline" (RMCB), the program office implemented a system for evaluating and measuring efficiency in the manufacturing environment. The system was detailed sufficiently to satisfy regulation requirements and major milestone reviews, while at the same time adaptive to design changes. Although the intent of the program was stressing commonality in variant aircraft, changes due to Engineering Change Proposals (ECP), Value Engineering Change Proposals (VECP), and manufacturing initiatives were anticipated. The evaluation and measurement system would account for all design configurations.

The principal philosophy underlying RMCB is the development of a model that estimates cost, using work measurement techniques. An impor-

tant step in the process applies learning improvement at the part/assembly level rather than the program level, thereby yielding a more accurate estimate. The validity of this application can be substantiated and documented easily. When first documented, the learning effect was based on a reduction of labor hours. Soon after, costs were examined for many operations, and learning was evident. In analyzing this observation, it was discovered that different learning rates existed, and they were task-dependent. For example, a machine shop operation has a different learning rate than an assembly operation, even though both are from the same program. This is because the machine-dependent operation improves relatively little, since a machine does not learn through repetition while the assembly operation, which is labor-intensive, improves dramatically.

The RMCB is the ultimate cost-management tool to satisfy the DoD requirement for ensuring a reasonable price for aircraft. The RMCB avoids the potential pitfalls of using historical data, since it is not dependent on analogous systems cost. Rather than base estimates on parametric or CER data, RMCB calculates cost from a "bottoms-up" approach. Similar to zero-based budgeting, every manufacturing process and component is reviewed for efficiency and cost-effectiveness. New manufacturing techniques are simulated and analyzed to determine their effect on the bottom-line cost.

Numerous features to the RMCB program exist. Most importantly, it provides an independent review of the program and documents analyses in order to support conclusions. Alternative manufacturing processes are considered and their impact assessed. Because RMCB was being performed during full-scale development (FSD) (as opposed to a "should-cost" study that would be performed at the conclusion of FSD), it could influence the manufacturing plan and design be-

fore many of the investment decisions are made. Last, but not least, it provides a single repository for production cost data.

How Baselining Works

The RMCB program was established to develop a recurring cost baseline for production aircraft. This was to be accomplished by collecting data during the FSD phase, such as standard hours, processes, realization indices, etc., and using this data as a basis to project production costs. The RMCB was expected to develop and maintain an independent non-parametric estimate of recurring manufacturing cost, based on the determination and evaluation of: work to be performed, the effort required to perform it, and the frequency of occurrence.

The effort begins by identifying major assemblies of the aircraft — wing, center fuselage, forward fuselage, etc. — and continues to the lowest level of a work breakdown structure that identifies the major assembly. Figure 1 identifies the major assemblies and schedules for baselining. Production operations, labor standards, manufacturing support effort and cost, performance data, and indirect expenses are analyzed. Figure 2 provides the assembly baseline process. All work areas re-

viewed are documented and entered into a model that permits cost analysis trade-offs.

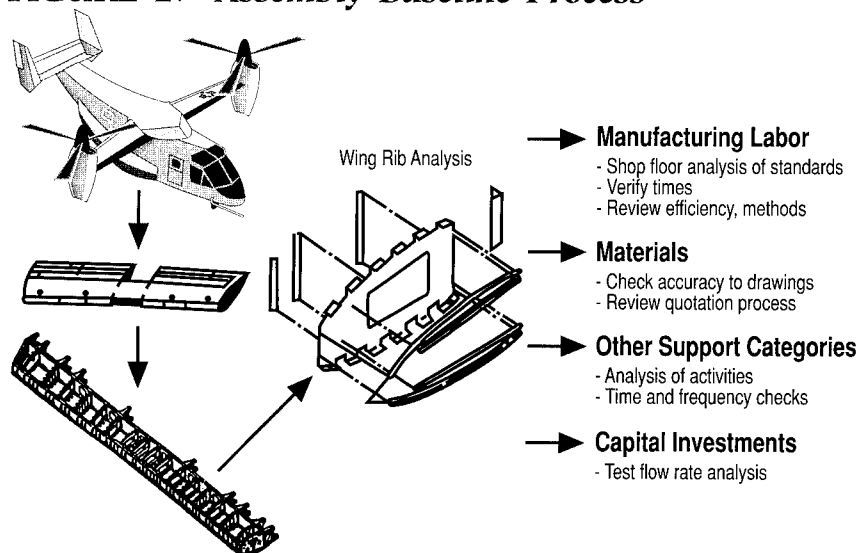
Work Areas

Direct labor, a significant cost driver, receives the most analysis. All conditions and activities associated with the manufacturing floor are reviewed. Plant layout, product flow, plant capacity and utilization, downtime, material handling systems, set-up requirements, work-in-process levels, and scrap and rework are the major areas to be analyzed. Fabrication, machining, assembly, inspection, and test labor categories are analyzed for standard hour content. Realization indices are developed for each labor standard. Other direct and indirect labor categories also are examined.

Material content is reviewed and validated. Purchasing practices are examined for commonality issues and sourcing considerations. Recommendations are made to improve the processes and supported with detailed documentation.

An estimating model is developed using estimates at the major assembly level. As the RMCB estimates become available, they replace the parametric or historically analogous estimates in the model. As the pro-

FIGURE 2. Assembly Baseline Process



gram progresses, and more information becomes known about manufacturing, revisions are made to the earlier RMCB contributions, and the process continues until all aircraft elements are baselined. The model can be used by program management doing "what-if" drills to see the immediate impact on cost of changes to programmatic issues, such as quantity changes or lot-size revisions. The model also would be able to simulate the effects of changes to tooling and manufacturing.

Results of the Program

The RMCB team directed the initial effort by concentrating on the wing assembly. This was consistent with the original plan, which identified all major subassemblies of the aircraft and proposed a phased approach to baselining each element. With a limited amount of data, but identifying every item on the indented parts list, an estimate was developed for the wing assembly. The actual baseline estimates indicated a 28.4 percent increase over the derived estimate of the prime contracting team. This was consistent with the design-to-cost (DTC) estimate (not prepared by the RMCB team), which indicated a 23.7 percent increase over the DTC goal.

In addition to the cost-estimating capability, the RMCB task of identifying cost drivers and challenging uneconomical and inefficient practices also was successful. The RMCB team identified four specific areas involving manufacturing, assembly, dual sourcing, and fabrication that could possibly be improved. Lastly, the results satisfied the need for an independent review of the program estimates.

Shortly after the Wing study was finished, the RMCB effort was stopped, and the team disbanded.

In Retrospect

Benefits from an RMCB program could be tremendous to an acquisi-

tion program requiring production units. By independently evaluating every component, manufacturing process, and technique, the program office is assured that all alternatives are considered. Since the overall intent is efficiently built production units, the RMCB goal is aligned with the contractor's objective. After all, any increase in efficiency during production should have a positive effect on cost and, therefore, enhance the potential for greater sales in the future.

The basic premise that an independent team could be used to improve the acquisition process remains valid. However, the RMCB team experienced difficulties obtaining supportable baseline data during the FSD phase with which to make production estimates. This was largely attributable to the unknowns of manufacturing new technologies. Our experience in estimating production aircraft, using the RMCB approach, when manufacturing processes were not defined,

did not yield higher confidence in estimates over other conventional estimating practices.

To use the RMCB technique successfully, the contracting authority needs to create a partnership with the prime contractor, assuring the manufacturer that the objective is to affirm efficiency and affordability in the manufacture of the aircraft. The RMCB could be viewed as negative by many contractors since it is extremely revealing in contractor practices. If the contractor sees RMCB as a tool used by the government to continually obtain cost reductions via renegotiations of the contract, then RMCB will not work. A shift in the cultural mind-set would be necessary to achieve real success with RMCB.

It is important to understand that "management by cost" is a tool to control a program. Interim results may not always be politically correct. If the cost analysis indicates an increase

FIGURE 3. Cost Performance Tool Comparison

Description	Cost Schedule Control System Criteria (CSCSC)	Recurring Manufacturing Cost Baseline (RMCB)	Should Cost (SC)
Basis for cost estimate	Contractor reporting cost information	Bottoms-up analysis, drawing based at the component level, bill of material	Cost estimating relationships
Time frame	Monthly/quarterly reports	Continuous	One-time effort
Level of detail	Negotiated on individual case basis.	Maximum	Minimum
Orientation	Uses historical information to predict final cost.	Uses work measurement to estimate.	Uses any data available over a short period of time.
Timing	Used during actual contract to estimate completion costs. Delay to set up and understand.	Used during FSD to estimate future costs of FSD and production. Updated continuously. Used during production for cost improvement. Delay to set up.	Prior to major milestone decisions and/or negotiations.
Team Skills	Accounting/audit	Industrial engineering	Multifunctional
Accommodation	Past information to indicate budget problems by exceeding cost thresholds.	Process to improve quality and efficiency in manufacturing. Can be used to establish Cost Performance Report (CPR) work unit budgets.	Snapshot analysis at an instant in time.
Noteworthy	Dependent on contractor's accounting and estimating systems.	Independent of contractor accounting system.	Dependent on openness of contractor. Similar to fact-finding.
Authority	DoD Instructions 7000.2 and 7000.10	MIL-STD 1567A	FAR 15.810 ⁷

in program costs, the program manager needs to consider alternatives, such as decreasing requirements or requesting an increase in budget from the decision authority. Stopping detailed cost analysis efforts or ignoring overrun reports will not correct the problem. Most likely, the problem will reappear shortly and be harder to manage. Dealing with the problem as early as possible in the acquisition cycle is best.

The concept of baselining is expensive, since it requires a team of experienced people to collect and process vast amounts of information. Additionally, RMCB is not intended to replace other tools, but rather supplement their benefit. Figure 3 compares several cost-performance tools. Using baselining when the production process cannot be defined adequately is not effective. It may be wise to wait until pilot production, when more information is known about tooling and assembly, before actively pursuing this detailed approach to cost management.

Endnotes

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3. MIL-STD 1567A, "Work Measurement," 30 January 1987.

4. "DOD Should-Cost Program," Office of the Inspector General, Department of Defense, Audit Report No. 85-120, September 1985.

5. Baker, Ronald L., "Heads Up on Overhead," *Program Manager*, March-April 1985, p.24.

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TAILORING AUTHORITY

In a 23 August 1994 memorandum to the Secretaries of the Military Departments and Directors of the Defense Agencies, the Honorable R. Noel Longuemare addressed the subject of "Tailoring Acquisition Procedures and Documentation for Acquisition Category (ACAT) II, III and IV Programs." Secretary Longuemare outlined several core issues that must be formally addressed at the appropriate milestone for every acquisition program. The issues bear repeating:

- Why is the program needed?
- Has the need been validated?
- What specific capabilities are necessary?
- When do the necessary capabilities need to be introduced to the field or fleet?
- How much will the program cost?
- Is the program affordable and fully funded?
- Have alternative solutions been reviewed, and why was this solution selected?
- How will the needed capability be developed and/or procured?
- Is the system/item producible?
- Can it be supported?
- How was design stability verified before entering low-rate initial production?
- How was the system determined to be operationally effective and suitable before entering full-rate production?

"It is important the Milestone Decision Authority (MDA) rigorously address these issues before making program decisions. The specific form or number of program documents should be determined by the MDA. As long as tailoring is consistent with any applicable statutory requirements, the MDA has full authority to reduce or eliminate any procedures or documents that he or she deems unnecessary."

MANAGING DOWNSIZING IN THE MILITARY

Army Employment Assistance Centers Are Established

Susan J. Harvey

"The Secretary of Defense shall establish permanent employment assistance centers at appropriate military installations...."

This requirement of law, codified in 10 USC 1143(b), is part of specific direction from Congress to the military services on taking care of individuals affected by the long-term reduction in military forces. How has the Army implemented the law? How do employment assistance centers, decidedly a new concept for the military but common in the private sector, operate in a military environment? How effective are they in helping military transitioners find a job?

Background

Before the current downsizing, the Army staff considered establishing employment assistance centers to help separating and retiring soldiers in their transition to a new career. As planned, briefed and approved by the Army leadership in the mid- to late-1980s, the program was to be integrated into

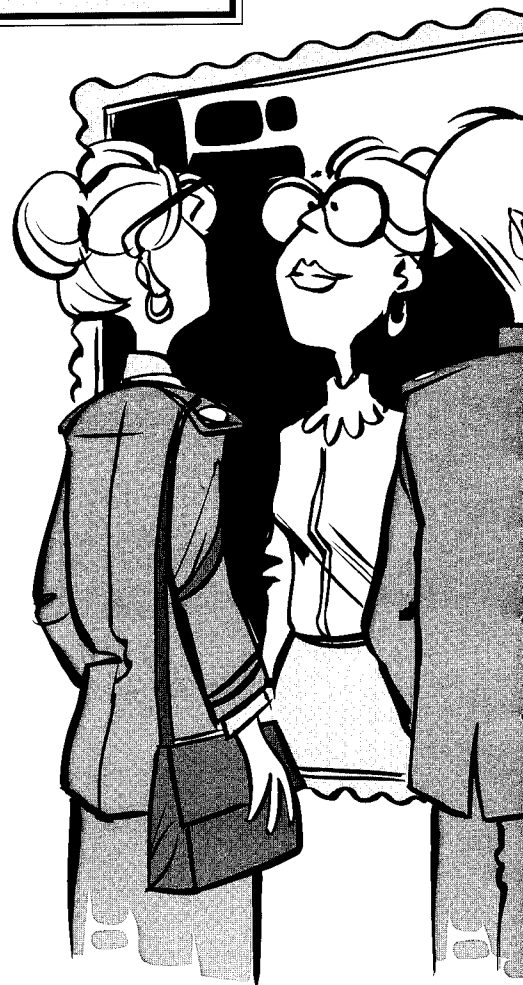
the Army personnel life cycle as a recruiting and retention tool and as an expression of Army intent to take care of its own. It was originally conceived as a multimillion dollar contracted program, and the largest private sector outplacement counseling firms were encouraged to respond to the request for proposal (RFP).

Before contract award, however, funding for the program was eliminated as part of a routine cost-cutting review. Subsequently, the Army transition program was reduced to one headquarters action officer and an experimental program at Fort Bragg N.C., operated by local staff.

Army Transition Program

In the spring of 1990, the transition program was resurrected when the Army found itself faced with the large-scale downsizing mandated by the end of the Cold War. A well-balanced transition program was seen as the key to going through the upcoming changes, while remaining strong both during and after the changes. The leadership committed to providing employment assistance

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The scope and popularity of the program is such that, by the summer of 1994, more than 325,000 clients had been provided services by the JACs, and more than 50,000 visits for services were being made to JACs each month.



as a means of simultaneously meeting Army needs and minimizing the negative effect of force reductions on soldiers. The Secretary of the Army established the Army Career and Alumni Program

(ACAP) to manage the downsizing, and approved establishment of contracted Job Assistance Centers (JACs) throughout the Army as an integral part of the ACAP program.

The ACAP is organized with two components: a government employee-operated Transition Assistance Office (TAO), and the contractor-operated JAC. The TAO serves as the initial reception point for transitioners and, according to Ms. Pauline Botelho, Director of the ACAP program, "serves as the orchestrator of all on-post activities that potentially can assist transitioning personnel and their families."

The post ACAP manager is called the Transition Services Manager (TSM). The TSM directly supervises the activities of the TAO, coordinates all on-post transition-related services, and works closely with the contractor's local JAC manager who, typically, is collocated with the TSM in a common TAO/JAC facility. The TAO counselors meet with transitioning military and civil-service employees (and family members) ideally 180 days prior to separation. At the first session, an Individual Transition Plan (ITP) for each transitioner is developed. The ITP serves as a referral for on-post transition services such as legal and financial counseling, education benefits and testing assistance, and reserve recruiting consultation. The "career" part of the ACAP program includes retention counseling to ensure that eligible military careerists are afforded every opportunity to re-enlist.

After a year-long pilot program involving eight JAC sites, and a respite caused by the Persian Gulf War, a contract was competitively awarded to Resource Consultants, Inc. (RCI) to establish 47 additional JACs throughout the world over a three-month period. This formidable task involved furnishing government-provided facilities with new furniture, a computer network and a comprehen-

sive library, and with recruiting, training, and staffing of the worldwide centers with more than 225 qualified outplacement specialists. This routinely was accomplished by business men and women accustomed to meeting tight deadlines. The requirement included establishing mobile teams equipped with portable automation systems with a mission to travel to remote locations and providing the same level of service as offered at fixed sites. The resulting program served more than 120,000 clients in its first year of operation and was described by Dr. Thomas M. Hale, RCI program manager for the project, as the "largest outplacement counseling effort ever undertaken by the outplacement industry."

The scope and popularity of the program is such that, by the summer of 1994, more than 325,000 clients had been provided services by the JACs, and more than 50,000 visits for services were being made to JACs each month. Most JAC clients leave the Army with lifetime job search skills in addition to finished resumes and targeted job leads. According to Brigadier General Patricia A. Hickerson, Adjutant General of the Army, "Over the past three years the ACAP program has been completely integrated into the Total Army personnel strategy as an integral part of the recruiting, retention, and transition cycle." Thus, the program has been accepted as a permanent part of the Army personnel system, achieving a goal of its original designers.

The JAC: The Army Employment Assistance Center

The JAC provides a full range of outplacement counseling services similar to those found in private industry. Once a client is referred to the JAC from the TAO, the client is scheduled for a full menu of services starting with the three-day Department of Labor-sponsored Transition Assistance Program (TAP) workshop. In locations where there is no TAP, such

as the 15 JACs located in foreign nations, a JAC workshop is provided. Following the workshop, the client receives detailed one-on-one counseling during which job search objectives are translated into action, and the client is introduced to other JAC services such as the library and automated tools provided by the center.

The masters-degree-level counselors operate the JAC and are trained to assist the transitioner in developing a job-search strategy with a view toward capitalizing on skills acquired in the military and using acquired skills to develop opportunities in their post-military career. Given the nature of the working world today, "JAC clients, both military and civilian, may well face a lifetime of career and job transitions that go beyond the draw-down," says Ms. Katie M. Cohen of the ACAP headquarters staff. Accordingly, the JAC philosophy is built on the principle of empowerment. "We give clients the information, skills, and guidance necessary to succeed in today's job market. They're encouraged to assume responsibility for this and all future job searches." Graduates of the program, Cohen explains, take with them a set of skills "that will serve them for the rest of their working lives."

The JAC also provides a sophisticated array of automated tools to facilitate the job-search process. While automation is common in most transition centers in industry, the Army program is unique because of the absolute dependence of the counselor on the computer, and vice versa. Because of the need to handle client loads in excess of 100,000 per year, the automated system is integrated with workshop materials and counseling protocols to maximize client throughput.

For example, the automated resume writer prompts users to refer to worksheets introduced in the workshop to facilitate data entry, and automatically produces a laser-quality



The Job Assistance Center at Fort Belvoir, Va., is typical of the permanent employment centers that the Army has established throughout the world.

functional or chronological (or both) resume with vital information such as name, address and telephone number already contained in the system. From the counselor's perspective, the network is essential for tracking client progress through the system. Client records in the automated system track services provided on each visit and permit the continuation of counseling with a minimum of time lost in reconstructing where the client is in the job search process. With client loads that often exceed 2,000 clients per month in large centers, automation is key to providing efficient service.

In addition to the service tracking provision, the automated JAC management information system (JAC-MIS) includes software tailored to the Army transitioner. Included in the system are as many as 10 client terminals where clients can directly access the resume writer, an automated cover-letter writer, and a database of more than 15,000 employers and service providers who are part of the Army Employer and Alumni Network (AEAN) and have committed to helping the Army transitioner find a job.

The network of employers is connected with a quarterly newsletter published by RCI for the Army and

regular support from Army leadership. Database quality is maintained through twice-monthly updates and a regular schedule of verification and reverification of data.

The JAC-MIS also contains the DoD Outplacement Referral System (DORS) computer software. The JAC-MIS generates a DORS mini-resume from data entered into the resume writer and other input, and automatically transmits the mini-resume to the Defense Manpower Data Center (DMDC) in Monterey, Calif. From there, it is accessed by potential employers registered in the DORS system. Clients who prefer to create their own formatted resumes may use the Word Perfect 5.1 word processing software that is resident on the JAC-MIS.

Other computers in the JAC contain America's Job Bank, an automated listing of Department of Labor-generated jobs; the Transition Bulletin Board, a DoD collection of job openings; Executive Search software, a listing of search firms covering a range of salary levels; and Quick and Easy, a multiuser SF 171 software package. The JACs often provide other software packages unique to the local area. Hot leads and actual job announce-

U.S. Army photo

ments received from employers are transmitted daily to JACs from RCI corporate headquarters, ensuring that clients have ready access to job opportunities from even the most remote sites like the JAC at Camp Casey near the Demilitarized Zone in South Korea. According to Dr. Edward Jones, JAC manager at Ft. Bliss, Texas, "the hot lead system is one of the most important products of our program. We can always count on the bulletin boards where the daily hot leads are posted, to be the most popular service at the JAC."

The most unique benefit of the JAC program is the standard level of service throughout the system. Dr. Hale, RCI program manager, relates that, "standardization of JAC services was important to the Army, and we worked hard to make one center indistinguishable from another." Standardization is such that a client on leave in St. Louis, Mo., from Fort Clayton, Panama Canal Zone, will find the same computer system, level of service, library materials, and general office configuration in the St. Louis JAC as in the Fort Clayton JAC. One Army transitioner, former Army Major Craig Costello of Springfield, Va., related, "I started my transition at the Stuttgart, Germany JAC, continued with it at the Yongson JAC while visiting my wife's parents in Seoul, Korea, polished up my resumé at the Ft. Myer JAC before some important interviews, and was able to relate my success in landing the job of my choice to the Stuttgart JAC staff by the time I returned to Germany."

The JAC-MIS permits the easy accumulation of client statistics from all JACs into a central server at RCI corporate headquarters. The RCI also maintains a 24-hour hot line for hardware and software problems and has a quick response repair team that keeps the more than 1000 computers and related electronic equipment in the system operating at a 99+ percent reliability rate.

Why Contract Out the Employment Assistance Center Function?

The Secretary of Defense is obligated by law to:

...procure each supply or service necessary for or beneficial to the accomplishment of the authorized functions of the Department of Defense (other than functions which the Secretary of Defense determines must be performed by military or Government personnel) from a source in the private sector if such a source can provide such supply or service to the Department at a cost that is lower...than the cost at which the Department can provide the same supply or service.¹

Implementing regulations clearly limit Secretarial prerogatives on performing new services "in house" without regard to costs for functions that are not inherently governmental in nature.² Since outplacement counseling functions are not "inherently governmental" in nature, the Army was required to seek the least costly means of performing the service. Under the guidance of the Secretary of the Army, a task force was established in the spring of 1990 to review the transition issues and to determine the most ef-

fective and efficient delivery systems. The Army considered building in-house infrastructure to perform the employment assistance function. However, it did not make sense to build Army infrastructure at a time when the Army was facing significant downsizing. The Army also needed to launch the employment assistance effort quickly in order to have it in place for soldiers exiting the Army following Desert Storm.

Following a series of cost-and-benefit studies, the Army turned to the private sector where professional outplacement services could be obtained quickly and economically. In alignment with current policy, and working within privatization parameters, the Army then proceeded to use private sector competition to achieve even further economy and to enhance productivity.

Although privatization had been encouraged strongly for several years, the Army decision to turn to the expertise of the private-sector outplacement industry was reinforced by President Clinton's guidance in a memo of September 11, 1993, "Streamlining the Bureaucracy." In response to the memo and consistent



U.S. Army photo

The first step in the employment assistance program is an intensive three-day workshop, which typically includes a self-assessment, the acquisition of resumé writing skills, and uncovering secrets of the hidden job market.

with the Vice President's National Performance Review, the DoD established several objectives and a plan. A key component of the plan was to outsource non-core functions when it made operational and economic sense.

Full and open competition was accomplished by seeking sealed bids in response to a JAC RFP in an open competition. The competition was open to any organization who thought they could perform the specifications of the contract, including nonprofit firms and other government agencies. The selection process required a rigorous review of proposal submissions, the elimination of unqualified bidders, oral interviews, clarifications, and the submission of a Best and Final Offer by qualified bidders. The selected contractor was considered to provide the best value to the government. Annual cost effectiveness reviews are conducted to revalidate this decision prior to the exercise of contract option years.

The tight time schedule of the start-up period, which required establishment of 47 Job Assistance Centers within three months, was dictated by the large surge of deferred transitioners and involuntary releases caused by

the rapid drawdown following the Persian Gulf War. The ability of the selected bidder to perform this task was a major factor in the selection process.

Thus, in 1990, the Army embarked on a path to seriously consider the national and DOD privatization policy in providing an employment assistance delivery system for transitioning Army personnel. Has the contracting effort proven to be an appropriate delivery system? Results of studies conducted on the Army privatized employment assistance efforts indicate that the Army is getting the results sought. So far, due to the decision to outsource the employment assistance function, the Army has realized several benefits:

—The Army found a contractor who could do the work for less cost than could be performed with in-house employees. In part, this was due to the readily available private commercial outplacement sources. Not only was outsourcing cheaper, the contractors were able to provide the program faster than an in-house effort.

—By using a contract as a delivery system and requiring the contractor to perform the job-assistance func-

tion, the Army did not need to get into the outplacement business and remained focused on its primary mission — defense. For example, the Army did not need to invest in training in-house employees. Instead, it was able to tap into the well-developed private sector outplacement industry, with the contractor providing employees with existing expertise.

—The contract provided manpower flexibility and enabled quick responses to reduction-in-force surges and contractions and the unpredictable environment such as that caused by Desert Storm and the Defense Base Realignment and Closure Program. The Army contracted job assistance function did not build infrastructure and was responsive to the enormous change the Army was experiencing. The fluidity and quick response (30 days' notice) to open and close JAC sites and the mobile JAC teams clearly meet the need and offer the capability necessary in today's dynamic Army environment.

Army JAC Value and Effectiveness

Two important indicators measure the value of the JAC to the Army — the value of the program to those who remain in the Service, and the value of the program to those who leave. In the private sector, outplacement programs are initiated to assuage corporate officer guilt feelings or, more commonly, as a defensive maneuver to minimize bad feelings or lawsuits from disgruntled former employees. The Army motive from the early days of the program was to help the soldier achieve an orderly transition to another career, fully understanding that a satisfied veteran who left with good feelings about military service would be helpful to the recruiting effort. The post-Cold War drawdown and subsequent large-scale involuntary releases rendered the job-assistance program even more important.

Through several studies from diverse perspectives, the Army is gath-



Photo by Army Hoyt, Resource Consultants, Inc.

The Army's ACAP program includes fully equipped employment centers and a network of over 12,000 employers who are committed to helping Army personnel in their job search.

ering information on whether the nation is getting the most value for the resources invested. The relevance of a successful transition program to the "survivors" of Army downsizing was examined by two West Point researchers. In a recent article in *Armed Forces & Society*, Leonard Wong and Jeffrey McNally found that "survivors" who believed that the Army was providing effective transition assistance had significantly less decline in organizational commitment than "survivors" who did not believe this.³ Since the ultimate measure of organizational commitment is retention in the organization, the conclusion can be drawn that an effective transition assistance program helps retention more than an ineffective program.

The author and two others closely associated with the JAC program reported on a small-scale evaluation of the effectiveness of receiving full JAC services compared to receiving workshop services only.⁴ Using random sampling techniques, telephonic survey interviews were conducted with more than 100 JAC clients in each of two groups. Two statistically significant findings were observed: those who received full JAC services, both group training and individual assistance, were more likely to be employed after leaving the Army (89.6 percent employed) than those who received only the group-training workshop (80.9 percent employed). Similarly, starting salaries were about 13 percent higher among those who received full services than among those who received only the workshop.

This existing research supports the cost effectiveness of providing full-scale outplacement counseling and job assistance resources services as an addition to the TAP workshop provided by the Department of Labor. Research also supports the value of a successful transition program to downsizing survivors. More importantly, the data suggest that there is considerable lifetime benefit to the transitioner who takes full advantage of available employment assis-



U.S. Army photo

The Army has established employment assistance centers at over 50 locations around the world to help soldiers, Department of the Army civilians and their family members transition to civilian employment after leaving the service.

tance services since higher starting salaries can be expected to compound annually the rest of an individual's working life.

In terms of ongoing program management, extensive information and feedback have been gained through the various tracking components of the JAC system and have provided information upon which to base future program decisions. In the fall of 1992, field commanders at the 55 sites that had JACs were asked to evaluate their JAC programs. Their responses indicated a high level of satisfaction with the JAC-contracted services. In addition, clients have provided continuous feedback. So, by using information from multiple feedback systems in place since the program's inception and taking full advantage of state-of-the-art technology, the JACs have undergone continuous operational improvements.

A large-scale, independent evaluation is being conducted by the Army Research Institute (ARI) to validate former findings and to examine other issues such as unemployment insurance costs and time to find employment that have not been determined. The ARI study will compare the outcomes achieved by JAC clients with

the outcomes of similar nonparticipants. In this way, the study will provide objective data to help determine whether JAC is making a difference for those who received services. When final results are provided in the spring of 1995, the Army will gain additional data from which to identify the program's strengths and weaknesses and make further refinements to provide even more effective and efficient services.

Endnotes

1. Section 2462(a) of Title 10, U.S. Code, "Contracting for Certain Supplies and Services Required when Cost is Lower."

2. DoD Directive 4100.15, "Commercial Activities Program," March 10, 1989.

3. Wong, Leonard, and Jeffrey McNally, "Downsizing the Army: Some Policy Implications Affecting the Survivors." *Armed Forces & Society*, Winter, 1994, 199-216.

4. Hale, Thomas M., Gerald L. Jenkins, and Susan J. Harvey, "An Army-Unique Program: Job Assistance Centers," *Military Review*, March, 1994, 71-74.

CREATING SUCCESSFUL ENTREPRENEURSHIP ONE PROGRAM AT A TIME

LOGSA Builds its Reputation as Friend, Not Foe, to PMOs

Gretchel L. Hignite

Lt. Gen. William H. Forster encouraged members of the Army Acquisition Corps to be risk takers in a speech presented at the Army Acquisition Career Management Workshop, September 15-17, 1993. He is quoted in the January-February 1994 issue of "Army Research, Development and Acquisition Bulletin" saying, "It's time to be bold, imaginative, inquisitive and do it right the first time."

Evolution

The U.S. Army Materiel Command (USAMC) Logistics Support Activity (LOGSA) Acquisition Logistics Center (ALC) implemented that advice before it was given. Our change was evolutionary. In the early 1980s, LOGSA ALC (formerly, the USAMC Materiel Readiness Support Activity, Readiness Division) was a premiere USAMC evaluator of acquisition logistics.

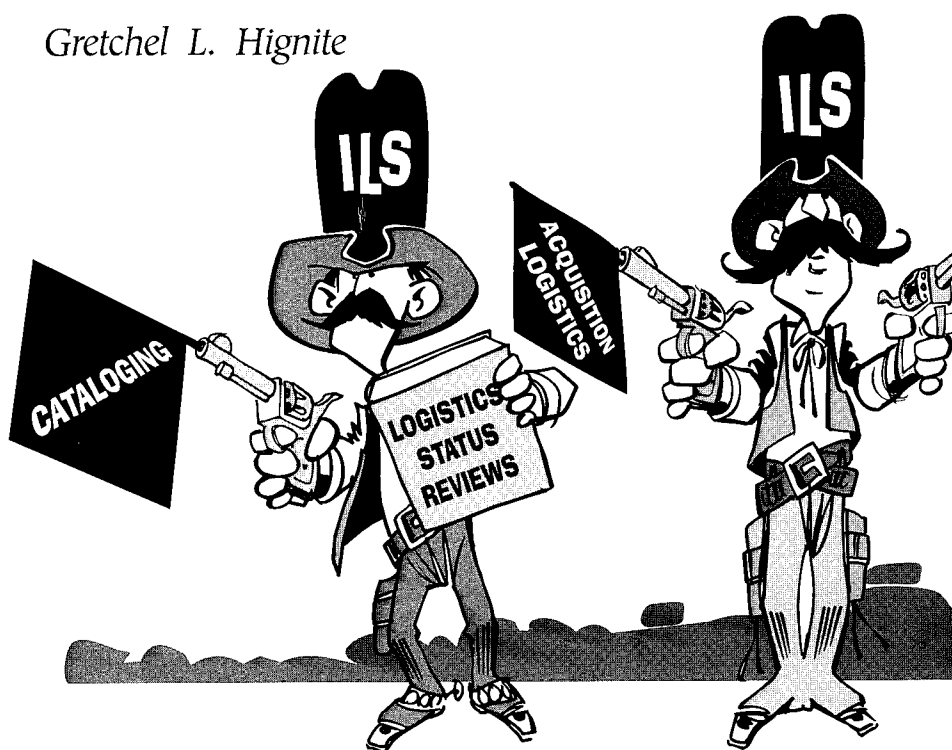
In many circles, we were a "black hat" organization. The "black hat" label was earned unintentionally by our personnel when we performed

Mr. Hignite is a supervisory logistics management specialist, USAMC Logistics Support Activity, Redstone Arsenal, Ala.

logistics status reviews and fielded systems reviews for Headquarters, USAMC. Our research abilities, combined with knowledge and skills in acquisition logistics, cataloging, provisioning and supply support, allowed us to locate deficiencies in integrated logistics support (ILS) elements and determine the probable cause. We documented our findings in a formal report and briefing that was presented to the program manager (PM) or major subordinate command (MSC) prior to presentation to USAMC. Seeing deficiencies identified in a formal re-

port developed for USAMC did not endear us to most PMs, thus the "black hat" label. Our reviews became equated to visits by the Office of the Inspector General. We were there to assist them, they were glad to see us, but even happier to see us leave.

Although part of our mission was to review and report on the status of developmental and fielded systems, we did not enjoy the "black hat" label and offered various PMs our assistance in correcting their problems. Our offer was looked at with some



We were the good guys there to help them, but they thought we were a "black hat organization" there to cause trouble.



skepticism for several years, but in 1986, a PM finally accepted our offer.

In 1986, we started our evolution by assisting the PMs, Advanced Field Artillery Systems and Armored Family of Vehicles (AFV), develop their logistics requirements. One of our current managers acted as the AFV ILS manager early in the systems life cycle. The evolution from evaluation to assistance had started.

While we were evolving from adversarial relationships to partner

relationships, we were also moving from a workforce of equipment specialists with in-depth knowledge of equipment and one to two years of college to a workforce of logisticians with B.A. degrees, plus graduate work. The workforce change was necessary because our work requirements were changing. We no longer needed personnel with in-depth equipment expertise as much as we needed personnel with writing and analysis skills in order to accomplish the various studies that had become significant to our mission.

Our skills, abilities, and knowledge requirements had changed over time. This, coupled with an inability to recruit because of the Army

rightsizing effort, drove us to rely more heavily on acquiring qualified personnel through the School of Engineering and Logistics (SEL) Intern Training Program, Red River Army Depot, Texas. Interns did not affect our end strength immediately, and they had received significant training. Thus, the SEL Intern Training Program was considered an exceptional resource for our personnel requirements. Most of our interns had B.A. or B.S. degrees and some had M.A. or M.S. degrees. Once we had acquired personnel with basic logistician skills,

we improved their skills with further process-specific training.

The Winds of Change

When the 1990s arrived, we were in a position to ride the winds of change, and our management thrived on the chaos that came out of rightsizing and base realignment and closure. We were positioned as experts in logistics management and kept that edge through innovation. We developed an artificial intelligence, personal computer resident program — designated the Logistics Planning and Requirements Simplification System (LOGPARS) — to write logistics planning and requirements documents. The evolution of that system is ongoing, and it is being used by all Services and other federal agencies. We also updated the Department of Defense (DoD) logistic support analysis process and trained visitors from other nations and other U.S. agencies in the process. When our opportunity to work with PMs as a partner came, we were ready; and, from the outset, our support was a significant success.

Successful Entrepreneurship One Program at a Time

In December 1989, we were presented a unique opportunity to provide acquisition logistics assistance to the PM for signal warfare (SW). The opportunity was unique because one of our core missions always had been evaluation of acquisition logistics after its implementation by a PM. In this instance, the PM SW asked us to participate in the initial development of the PM's acquisition logistics requirements and supplement the PM's core ILS managers as consultants or primary ILS managers. We developed a Memorandum of Agreement, and the PM provided funds by Military Interdepartmental Purchase Request. In the first year, we provided one man-year of support.

Opportunity In Chaos

Significant changes were being made in the DoD in the early 1990s,

and organizations were being ordered to rightsize. Because of the rapidity of changes, it seemed as if chaos reigned at times. However, our management understood there is opportunity in chaos and, uncharacteristically for government agencies, decided to move the emphasis of our activity from evaluation to program support based on the success of the PM SW assistance program. At this point, our effort was fledgling, but our vision was future-oriented. We adjusted our mission statement, developed a business plan and vision, and instilled in our employees that we were looking for opportunities to support PMs and major Army commands (MACOM).

The PM, Night Vision and Electro-Optics, our next customer, was brought on board in August, 1991, after they were unable to obtain needed assistance from other sources at a reasonable cost. They could choose our assistance or the assistance of a civilian contractor. The PM evaluated our cost vs. the cost of a contractor and determined we were less expensive. He then determined we were significantly more flexible in meeting changing needs of the PM office, since we could negotiate and implement actions without negotiated contract modifications. Due to the ease of doing business with us, compared to a contractor, we had our second customer. After the second customer, our growth in customer support activities was significant. We now have additional Army, Navy, Special Operations Command, and International Cooperative Program Office customers, and others.

Management Strategy

Our strategy is to evolve as a management activity and become capable of providing management services to any organization. However, we learned from observing commercial management consultants that it is impossible to have every management skill desired by a potential customer on board at all times. Instead, we must warrantee our services to the

customer if they will provide us the opportunity to learn new skills as we progress. For near-term projects, we may need to hire term personnel knowledgeable of a process, such as an annuitant, or a person with special skills, such as an interpreter.

In early 1992, we were afforded an opportunity to test the theory that we could provide most management services that required writing and negotiation. In our evolutionary process, one of our employees was asked to assist the PM, Nuclear, Biological, Chemical Reconnaissance System (NBCRS) by writing documents and negotiating services with the Federal Republic of Germany. The Chemical Biological Defense Command International Program Office did not object; therefore, after some discussion about the process, we agreed to assist the PM. Since then, we have almost completed negotiations with the Federal Republic of Germany for the acquisition of logistics support for the "FOX" NBCRS. The LOGSA may participate in future logistical support efforts and cooperative configuration management of the "FOX" NBCRS through the year 2014 and beyond. We take significant pride in our success with the "FOX" program. It is used as an example for our last theme in this article — An example of "Success Through Process-Specific Training."

Defining Reasons for Our Success

The success of the ALC evolution from adversary to partner was the bold, imaginative vision of our managers and the education, experience and process-specific training of employees. At the right time, and in the right place, our managers moved us from the role of evaluators to the role of partners. They instilled the vision of quality support in their employees and empowered them to market services to prospective customers. In addition, ALC employees were well-educated, dedicated and experienced in acquisition logistics; thus, when

they were empowered to seek out new opportunities, they were successful in the effort.

An Example of Success Through Process-Specific Training

The LOGSA was offered the opportunity to participate in an International Cooperative Program Office project, April 1992. We accepted the opportunity based on an up-front agreement that we would be afforded the opportunity to learn as we worked and attend process-specific training at Defense Systems Management College (DSMC), Fort Belvoir, Va. LOGSA assigned two exceptionally capable action officers to the program, and they were provided information and guidance. They also attended the Advanced International Management (AIM) workshop, DSMC, Fort Belvoir, Va. The AIM workshop provided a step-by-step laydown of the International Cooperative Program process.

As LOGSA ALC action officers moved through the various processes in achieving a successful acquisition of products and services from the Federal Republic of Germany, they followed the process taught in the AIM workshop. By following the process exactly as taught, and applying a significant amount of personal time to the project, they assisted the Program Manager, International Program Office (PM/IPO) in developing the concept and program management plan for establishing a cooperative logistics support international agreement between the United States and Federal Republic of Germany.

The LOGSA PM support team developed specialized program management documentation, such as the international agreement and formal requests for authority to negotiate and conclude the international agreement for the Office of the Secretary of Defense. Another document developed by the LOGSA team was a project industrial base factors analysis. This

described the project's overall net effect, benefits and losses on the U.S. defense industrial base, and a Technology Assessment and Control Plan, which provides a technology security risk assessment of sensitive information identified for potential transfer.

One of the most crucial functions performed by the LOGSA PM support team was staffing the formal international agreement and requests for authority to negotiate and conclude. This was an area where our past experience in the staffing process was extremely beneficial. However, the process-specific training our action officers received at the DSMC AIM workshop was an enabling factor in performing the staffing task quickly and efficiently.

We estimate the knowledge gained at the AIM workshop enabled us to reduce the time required to develop and staff the "FOX" international cooperative program documentation by 6 to 9 months when compared to the widely accepted norm of 24 months.

In addition, the AIM workshop instructors provided additional consulting services to our action officers as they encountered new situations requiring assistance, experience and knowledge of players in the international arena.

The LOGSA, ALC's PM support team, received a significant vote of confidence from the PM when they were selected as members of the U.S. negotiating team. That confidence proved to be well-placed during the negotiations, because the LOGSA PM support team used skills acquired through various process-specific training courses to play a significant role in developing U.S. negotiating strategy, and provided key international technical and managerial support during the formal negotiations in Bonn, Germany.

Summary

The LOGSA, ALC's PM/IPO support team, was so successful with the "FOX" NBCRS that USAMC IPO provided the LOGSA IPO with additional

tasking and endorsement in support of MACOM IPOs when support is needed or desired. The LOGSA ALC emphasis is on customer service, so any project, large or small, will be discussed with a "can do" attitude. Our organization will make every effort to meet a customer's management needs, whenever possible.

The LOGSA is an exceptionally versatile organization with a vision of unparalleled customer service as our objective. We are willing to discuss mutually beneficial opportunities with multiple organizations, and we consider ourselves to be international experts in the management of logistics. If you have a need you would like to discuss, you may contact the author by telephone at (205) 955-9913 or the Chief, Acquisition Logistics Center at (205) 955-9873. You may also write to the Executive Director, USAMC Logistics Support Activity, ATTN: AMXLS-AE, Redstone Arsenal, Ala. 35898-7466.

MAKING THE "PROFESSIONAL CONNECTION"

In a December 20, 1993 letter to Brig. Gen. Claude M. Bolton, Jr., Commandant, Defense Systems Management College, Mr. James W. Dee, Functional Director, Job Referral, National Contract Management Association (NCMA), reiterated his commitment to assist job-seeking candidates and prospective employers in making the "Professional Connection." Excerpts from his letter follow:

In June 1989 NCMA initiated the Job Referral Service (JRS). The JRS strives to connect individuals looking for a job with those employers trying to fill a position. The goal of the program is to find a good match for employees and employers alike. How much does it cost?

For a job-seeking candidate and NCMA member, the JRS is free! Nonmembers pay only \$70.00. The candidate's application and resumé remain on file for six months and are referred to all employers with suitable job openings. For a nominal fee of \$295.00 per position, an employer's job opening is listed with the

JRS. Our NCMA staff employment coordinator then matches the position requirements against 300 to 400 current resumé in our database. For three months, employers can receive all of the resumé that meet the specifications required. The JRS sounds like a great program, but does it work?

Yes, and the program continues to grow gradually and solidly. The service receives 50 to 75 new or renewed registrations from job candidates each month, and 6 to 10 position registrations. Since January 1993, the JRS has registered 94 positions and 750 candidates. While not all employers report job placements, 14 placements have been confirmed this year. The JRS works for the candidate, the employer, and NCMA. In addition, the JRS is a source of non-dues revenue that helps us maintain member benefits.

To learn more about making the "Professional Connection" or to discuss the JRS in more detail, please contact Ms. Marie Schlegel, NCMA Employment Coordinator at 1-800-344-8096 or 1-703-448-9231.

STATEMENT REQUIRED BY THE ACT OF AUGUST 12, 1970, SECTION 3685, TITLE 39, UNITED STATES CODE, SHOWING OWNERSHIP, MANAGEMENT AND CIRCULATION

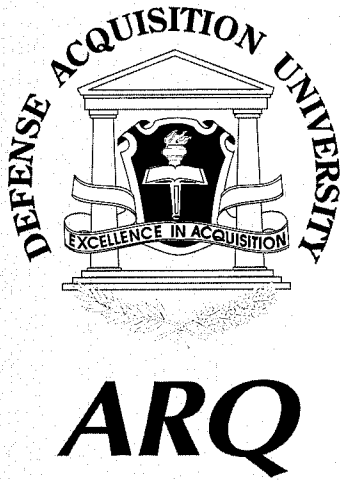
Program Manager, published bimonthly at the Defense Systems Management College, Fort Belvoir, Va. 22060-5565. Number of issues published annually: 6. The Director of the DSMC Press is Greg Caruth, DEFENSE SYST MGMT COLLEGE, ATTN DSMC PRESS, 9820 BELVOIR ROAD, SUITE G38, FT BELVOIR VA 22060-5565. The managing editor is Collie J. Johnson, DEFENSE SYST MGMT COLLEGE, ATTN DSMC PRESS, 9820 BELVOIR ROAD, SUITE G38, FT BELVOIR VA 22060-5565. The Publisher is the Defense Systems Management College, Fort Belvoir, Va. 22060-5565.

The average number of copies each issue during the preceding 12 months:

- A. Total number of copies printed (net press run): 24,450
- B. Paid and/or requested circulation: 1,116
 - 1. Sales through dealers and carriers, street vendors and counter sales: None
 - 2. Mail subscriptions paid and/or requested: 23,000
- C. Total paid and/or requested circulation: 24,416
- D. Free distribution by mail, carrier or other means, samples, complimentary and other free copies: 300
- E. Total distribution: 24,450
- F. Copies not distributed
 - 1. Office use, leftover, unaccounted, spoiled after printing: 34
 - 2. Returns from news agents: None
- G. Total distribution: 24,450

The actual number copies of single issue published nearest to filing date:

- A. Total number of copies printed (net press run): 26,116
- B. Paid and/or requested circulation: 1,116
 - 1. Sales through dealers and carriers, street vendors and counter sales: None
 - 2. Mail subscriptions paid and/or requested: 23,000
- C. Total paid and/or requested circulation: 24,116
- D. Free distribution by mail, carrier or other means, samples, complimentary and other free copies: 1,850
- E. Total distribution: 25,966
- F. Copies not distributed: 150
 - 1. Office use, leftover, unaccounted, spoiled after printing: 150
 - 2. Returns from news agents: None
- G. Total distribution: 26,116



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"We're proud of you and we need you as a brigadier general in the United States Air Force." With these words, Gen. Ronald W. Yates, USAF, Commander, Air Force Materiel Command, promoted Col. Claude M. Bolton, Jr., USAF, Commandant, Defense Systems Management College (DSMC), to the rank of brigadier general in the United States Air Force. The ceremony was held 24 October 1994 in DSMC's Scott Hall, Fort Belvoir, Va. Pictured: Gen. Yates and Mrs. Linda Bolton "pin" General Bolton with his first star insignia.