

PROGRAM MANAGER

DRI Report • NDP Report

NAVSTAR GEMS Project • Open Systems

Performance-Based Business Environment

Joint Countermine ACTD • GSA Supply Schedules

Dr. Jacques S. Gansler Sworn In Nov. 10

Pentagon's Seventh Under Secretary of Defense (Acquisition and Technology)



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TOP PRIORITIES

Force Modernization, Paying For It, Supporting It Logistically

PROGRAM MANAGER

Vol XXVII, No. 1, DSMC 142

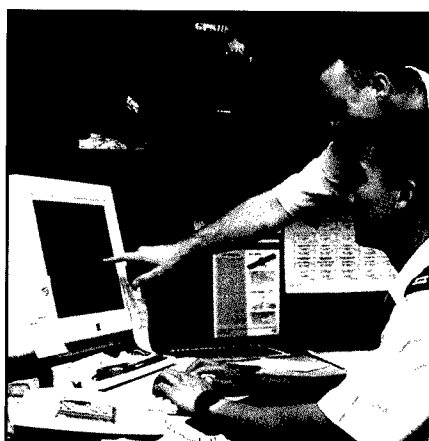


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OASD Public Affairs News Release

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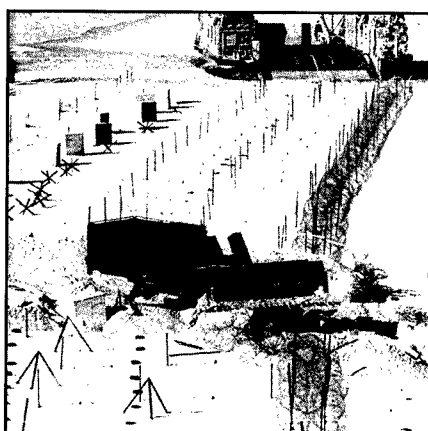


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Cover: Dr. Jacques S. Gansler (left) is sworn in as Under Secretary of Defense for Acquisition and Technology by Secretary of Defense William S. Cohen. Also participating in the swearing in ceremony, which took place at the Pentagon on Nov. 10, was Gansler's wife, Leah. Some photos appearing in this publication may be digitally enhanced.

Special Report



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Correction

Please note that the dates for the next PEO/SysCom Commanders/PM Conference have changed since publication of our November-December 1997 *Program Manager*. The Seventh Semiannual PEO/SysCom Commanders/PM Conference will now be held at the Defense Systems Management College, Fort Belvoir, Va., April 14-15, 1998.



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GANSLER SWORN IN AS UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY

Immediate Release

November 18, 1997

Jacques S. Gansler was sworn in Nov. 10 as the seventh Under Secretary of Defense for Acquisition and Technology. The Under Secretary serves as the principal assistant to the Secretary of Defense for acquisition; research and development; logistics; communications; information systems; advanced technology; international programs; environmental security; nuclear, chemical, and biological programs; and the defense technology and industrial base.

Prior to his appointment by President Bill Clinton, Gansler was Executive Vice President and Director for TASC Inc., an applied information technology company in Arlington, Va. He previously held positions as Deputy Assistant Secretary of Defense (Materiel Acquisition); Assistant Director of Defense Research and Engineering (Electronics); Vice President, I.T.T. Program Management, Singer Corporation; and Engineering Management, Raytheon Corporation.

Gansler has served on numerous special committees and advisory boards, [including] tenures as Vice Chairman, Defense Science Board; Chairman, Board of Visitors, Defense Acquisition University; Director, Procurement Round Table; Chairman, Industry Advisory Board of Visitors, University of Virginia; Chairman, Board of Visitors, University of Maryland, School of Public Affairs; member of the Federal Aviation Administration Blue Ribbon Panel on Acquisition Reform; and senior consultant to the "Packard Commission" on Defense Acquisition Reform.



Gansler is the author of *Defense Conversion: Transforming the Arsenal of Democracy*, *Affording Defense*, and *The Defense Industry*. He is also a contributing author on 12 books on national security, research and development management, and public administration, as well as numerous journal papers, newspaper articles, and Congressional testimony.

From 1984 to 1997, Gansler was also a Visiting Scholar at the Kennedy School of Government, Harvard University. He is an Honorary Professor, Industrial College of the Armed Forces; and formerly was Visiting Professor at the University of Virginia.

Gansler holds a Bachelor's degree in Electrical Engineering from Yale University; a Master of Science degree in Electrical Engineering from Northeastern University; a Master of Arts degree in Political Economy from the New School for Social Research; and a Doctorate degree in Economics from American University.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at <http://www.defenselink.mil/news> on the DefenseLINK News Home Page.

Statement of Dr. Jacques S. Gansler
Under Secretary of Defense (A&T)-designate
before the Committee on Armed Services, United States Senate

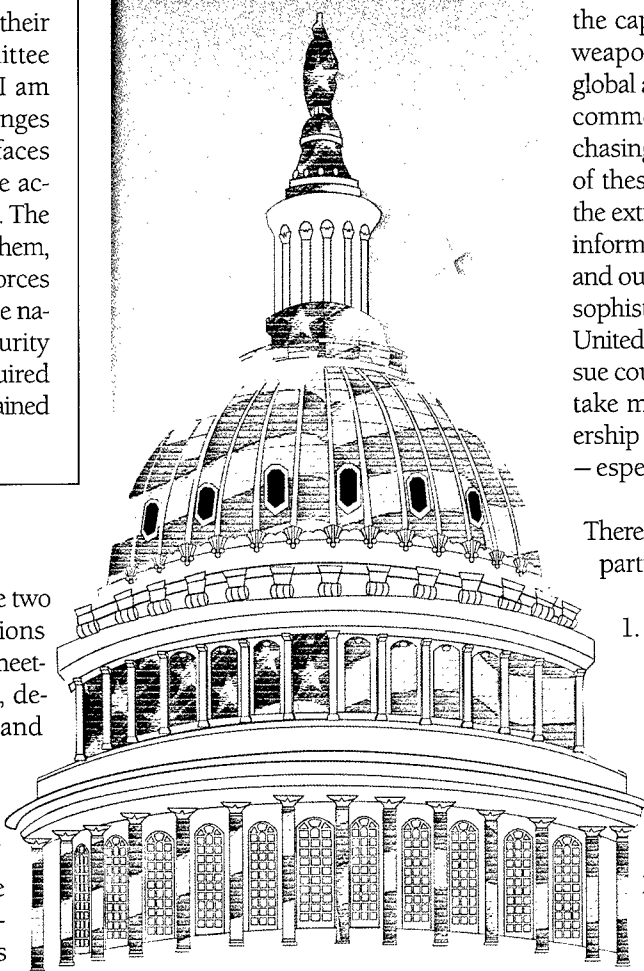
October 1, 1997

Mr. Chairman and members of the Committee, I am both honored and awed to appear before you today as a candidate for the position of Under Secretary of Defense (Acquisition and Technology). Specifically, I am honored to be considered for a job that I believe is the culmination of my 40-plus year career in the defense acquisition and technology field — in industry, government, and academia. For this honor, I would like to sincerely thank President Clinton and Secretary Cohen for their nomination, and this Committee for your consideration. Yet, I am awed by the incredible challenges the Department of Defense faces over the next few years in the acquisition and technology arena. The two major challenges, as I see them, are: modernizing America's forces with the "right" weapons for the nation's early 21st Century security needs; and paying for this required modernization within a constrained budget.

**Modernizing for
21st Century Warfare**

Let me very briefly touch on these two issues and some of the key actions required to address them: First, meeting the challenge of specifying, developing, equipping, training, and supporting America's forces with the weapons and other essential military systems, required to meet the projected threats of the early 21st Century. As the Quadrennial Defense Review indicated, these projected threats

forces with the "right" weapons... and paying for this required modernization within a constrained budget."



range from actions by terrorists, transnational actors, and rogue nations, through major theater warfare, and on up to nuclear war. Importantly, we must recognize that these projected future threats may not attempt to match the overwhelming U.S. superiority on a plane-for-plane, ship-for-ship, or tank-for-tank basis, as was the case with the Cold War model; rather, enemies may use asymmetrical approaches, including weapons of mass destruction (chemical, biological, and nuclear) against our troops, our infrastructure, and our homeland.

Additionally, they do not need to have the capability of developing their own weapons. They can buy them on the global arms market and, increasingly, the commercial market — while also purchasing the required training in the use of these weapons (including achieving the extremely damaging effects of global information warfare against our forces and our infrastructure). To counter these sophisticated, asymmetrical threats, the United States must not only actively pursue counterproliferation efforts, but also take maximum advantage of our leadership position in advanced technology — especially in the information field.

There are five areas that I believe require particular attention:

1. Near-term achievement of an integrated, secure, and "smart" command, control, communications, and intelligence (C³I) infrastructure — the backbone of the Revolution in Military Affairs.
2. Development and deployment of long-range, all-weather, low-cost, precise, and "smart"

weapons — to achieve maximum fire power with minimum loss of life.

3. Achievement of rapid force projection and global reach of military capability.
4. Development and deployment of credible deterrents and, if necessary, military capability, against projected early 21st Century threats — such as biological, chemical, nuclear, and information warfare, as well as large numbers of low-cost cruise missiles.
5. Achieving interoperability with our allies — an essential requirement for coalition warfare.

Paying for Modernization

The second major issue is how to pay, within a constrained budget, for this required weapons modernization. Essentially, what is required is the realignment of overall DoD resources to reflect 21st Century military needs. Specifically, we must implement a "Revolution in Business Affairs" within DoD — thereby achieving the needed performance gains at far lower costs. To do this, the government must take full advantage of the technologies and management lessons that U.S. commercial industry has evolved over the last decade, as it returned to its leadership position in worldwide commerce.

Today, the United States clearly has the strongest military in the world. Yet, we have put off force modernization over the last decade — allowing the procurement account to fall by over 70 percent. The challenge is not only to replace the aging equipment, but also to develop and deploy the new systems required for the early 21st Century. Thus, we must continue a strong R&D effort while also buying far more of the advanced communication and intelligence systems, offensive and defensive "smart" weapons, biological and information defense, etc., required for projected future conflicts. Based on current budget projections, however, all of this must be done without a significant increase in the overall DoD budget.

"Today, the United States clearly has the strongest military in the world. Yet, we have put off force modernization over the last decade — allowing the procurement account to fall by over 70 percent."

Here again, five areas require specific attention:

1. We must aggressively pursue and fully implement the acquisition reform initiatives which the Congress and the Department worked so hard to develop over the last several years.
2. We must restructure the defense industrial base in order to achieve civil/military integration: to broaden the industrial base (for greater efficiency and competitiveness) and to take full advantage of the commercial information technology revolution.
3. Since far too much (currently around 65 percent) of the total DoD budget goes to the "support" area, there must be a significant shift of DoD resources from support to modernization and combat — a conversion of "tail" to "teeth."
4. We must drastically transform the current DoD logistics elements of the acquisition system, in order to achieve much faster response at much lower cost. "Focused logistics" is one of the four major objectives of the Chairman of the Joint Chiefs' "Vision 2010" — and advanced information systems are the key to this transformation.
5. To achieve efficient and effective modernization of the DoD acquisition system, we must focus on enhancement of the acquisition workforce. As we become in-

creasingly more dependent upon the good judgment and discretion of our acquisition personnel, superior education and training become even more critical.

Conclusion

Let me end these remarks on a personal note. Eleven years ago, I had the privilege of appearing before this Committee with Dave Packard and Bill Perry (two individuals I greatly admire). At that time, the three of us presented the findings and recommendations of the so-called "Packard Commission." In response to that effort, this Committee began a process of very significant change in the DoD. The positions of Vice Chairman of the JCS and Under Secretary of Defense for Acquisition (as it was first titled) were created, and the Committee took other actions that greatly strengthened both our Joint warfighting capability and our acquisition efficiency and effectiveness. Since then, this Committee has played a major role in passing the Federal Acquisition Streamlining Act and the more recent Clinger-Cohen Act. Each of these actions has been a critically important step in transforming the DoD to meet its 21st Century national security role. However, in spite of these gains, today's rapidly changing world situations, defense budget constraints, and exploding global technological advances lead to conditions that offer enormous challenges to the DoD's acquisition process. If confirmed, I look forward to working closely with each of you in addressing these challenges. Indeed, I will be truly honored if you give me the opportunity to serve my country in this way.

Mr. Chairman, I appreciate having the opportunity to testify today, and I look forward to answering any questions you or other members of the Committee may have.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at http://www.acq.osd.mil/ousda/testimonies/gansler_confirmation.htm on the ACQWeb Home Page. ACQWeb is the online home of the Office of the Under Secretary of Defense for Acquisition and Technology.

Gansler Delivers Keynote Address at Executive Acquisition Symposium

Realizing Acquisition Reform

Editor's Note: In one of his first speeches as the new Under Secretary of Defense for Acquisition and Technology, delivered three days after his confirmation, Dr. Jacques S. Gansler presented the keynote address at the Valley of the Sun Partnership Group's Executive Acquisition Symposium, Nov. 13, 1997, in Phoenix, Ariz. His remarks expand on force modernization and paying for modernization — areas he pinpointed as requiring particular attention in his Nov. 10 Statement before the Committee on Armed Services, United States Senate.

Thank you for inviting me here today to this critically important symposium on industry/government partnering. I firmly believe it is only through partnering that we can achieve our joint objective of acquiring goods, services, and better performing weapons in a smarter and faster manner, while simultaneously reducing cost and improving quality. Local initiatives, such as the Valley of the Sun's Information Sharing Group's effort to exchange details of process improvements under the Department's Single Process Initiative, are exciting examples of the benefits of such government and industry partnering.

While I have only been in this job a very short time, I can honestly say I have spent the last 45 years preparing for it; and, thus, I have formed some opinions — which I would like to share with you today — about how we should move forward. Specifically, over the next few years I see



“We can profit by working together, industry and DoD. One way is through joint training, such as the case study on JDAM [Joint Direct Attack Munition] that the Defense Acquisition University and the Boeing Learning Center are developing.”

FY98 ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS ANNOUNCED

Immediate Release

November 21, 1997

The Department of Defense (DoD) today announced the first increment of nine new fiscal year (FY) 1998 Advanced Concept Technology Demonstration (ACTD) programs designed to evaluate mature technology to meet warfighter needs. The President's FY98 budget includes \$81.1 million for ongoing and new FY98 ACTD programs. This amount leverages over \$2 billion in underlying DoD, military services, and Defense Agency science and technology investments.

More than 75 proposals were submitted by the military services, theater commanders, and Joint Staff. Review of the proposed ACTDs was conducted by the military services and unified commanders, with final reviews and recommendations from the Joint Requirements Oversight Council (JROC) and Office of the Secretary of Defense staff. The JROC also recommended prospective user sponsors and lead services/agencies for the programs. A total of 17 finalists were rank-ordered by the JROC.

The list of approved ACTDs supports operational concepts as defined in Joint Vision 2010: Dominant Maneuver; Precision Engagement; Full Dimensional Protection; and Focused Logistics. According to Joseph Eash III, Deputy Under Secretary of Defense for Advanced Technology, "We made a conscious effort this year to directly support the four key operational concepts outlined in Joint Vision 2010. In this way, we will continue to ensure ACTDs support the needs of the warfighter to the greatest degree possible."

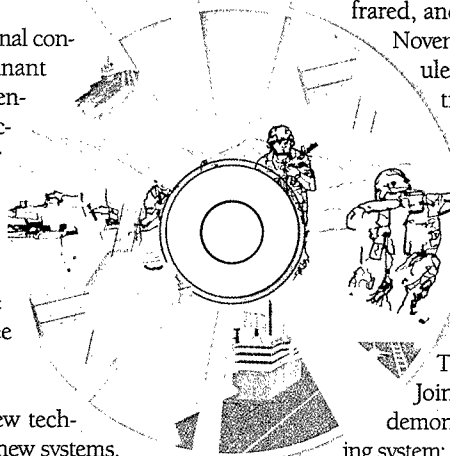
Marrying new operational concepts with new technologies, ACTDs are aimed at rapidly fielding new systems, generally within two to four years. The ACTD is DoD's approach to capturing and harnessing technology and innovation rapidly for military use at reduced costs. ACTDs are designed to directly foster an alliance between the technologists and the warfighters, eliminating barriers and improving the management of these critical efforts. Some 42 ACTDs are now under way, addressing key Joint Warfighting challenges.

ACTDs focus on three principal objectives: to gain an operator's understanding and evaluation of the military utility of new technology applications before committing to acquisition; to develop corresponding battlefield concepts of operation and doctrine that make the best use of the new capability; and to provide residual operational capability to the forces.

The evaluation of military utility is the heart of the ACTD process. After the proposed solution to the military need has been designed, fieldable prototypes are fabricated in sufficient quantity to permit operational utility to be determined. This is typically accomplished by evaluating a minimum operational capability in force-level field ex-

ercises against realistic opposing forces. The evaluation of utility includes effectiveness of individual units, suitability for use by the troops, and overall impact on the outcome of the conflict. As a result of these exercises, the user is able to refine both his concept of operations and his operational requirements for the system, and to assess the overall value of the proposed concept to warfighting capability. This process significantly improves the quality of subsequent acquisition decisions. It also allows the residual systems that were evaluated in the ACTD to remain in the field after the evaluation is completed, providing an early interim capability.

One recent success story demonstrating immediate operational impact is the Predator unmanned aerial vehicle (UAV) deployed with U.S. forces in Bosnia. The Predator is a fully autonomous, relatively low cost UAV that takes advantage of available technology to provide continuous, near all-weather day/night coverage with optical, infrared, and radar sensors. The Predator ACTD began in November 1993 with an ambitious 30-month schedule. In March 1996, the Predator was flying operational missions protecting allied forces. At the conclusion of the ACTD in September 1996, the system was transferred to the U.S. Air Force's newly formed 11th Reconnaissance Squadron, where it remains today, providing improved information to the NATO Stabilization Force. In August 1997, the Predator entered production less than four years after ACTD initiation.



The first increment of approved FY98 ACTDs are: Joint Biological Remote Early Warning System — demonstrates a networked biological threat early warning system; Information Assurance, Automated Intrusion Detection Environment — provides a capability to detect coordinated computer network attacks; Joint Continuous Strike Environment — optimizes use of joint and combined weapons suites on time-critical targets; Joint Modular Lighterage System — moves warfighting materiel from ship to shore in heavy sea states; Link 16 — creates interface between major air and ground tactical data link systems; Precision Target Identification — demonstrates laser radar and advanced forward looking infrared system to obtain precise target location and identification; Unattended Ground Sensors — enables continuous surveillance of critical targets and local weather reporting in denied areas; Theater Precision Strike Operations — provides significantly improved theater-level, near-real-time, synchronized counterfire/precision strike capability; and Line-Of-Sight Anti-Tank System — demonstrates a high-speed, multi-target, anti-tank system for early entry forces.

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"It is no longer adequate to simply assume that someone who once took an acquisition or a logistics course is currently up-to-date. As advanced technology and acquisition reforms become far more widespread, it will be necessary for the workforce to receive continuous updating in their training. Fortunately, much of this can now be done through the use of computer-based, distance learning — far more efficiently and effectively than the historic, more traditional approaches. Smart, well-educated personnel are the key to successful implementation of the DoD's Revolution in Business Affairs over the coming years."

—Dr. Jacques S. Gansler
Under Secretary of Defense
(Acquisition and Technology)
November 13, 1997



the focus on the two critical questions of *what we buy* and *how we pay for it*. Let me begin by first addressing these two broad issues, and then end with some personal thoughts about what actions we in government and you in industry should initiate in the coming months.

Modernizing for 21st Century Warfare

First, meeting the challenge of specifying,

developing, equipping, training, and supporting America's forces with the weapons and other essential military systems, required to meet the projected threats of the early 21st Century. As the Quadrennial Defense Review [QDR] indicated, these projected threats range from actions by terrorists, transnational actors and rogue nations, through major urban and theater warfare, and on up to nuclear war. Importantly, we must recognize that these projected future threats

may not attempt to match the overwhelming U.S. superiority on a plane-for-plane, ship-for-ship, or tank-for-tank basis, as was the case with the Cold War model; rather, enemies are likely to use asymmetrical approaches, including weapons of mass destruction (chemical, biological, and nuclear) against our troops, our infrastructure, and our homeland.

Additionally, they do not need to have the capability of developing their own weapons. They can buy them on the global arms market and, increasingly, the commercial market — while also purchasing the required training in the use of these weapons (including achieving the extremely damaging effects of global information warfare against our forces and our infrastructure).

To counter these sophisticated, asymmetrical threats, the United States must not only actively pursue counterproliferation efforts, but also take maximum advantage of our leadership position in advanced technology — especially in the information field. Finally, as was stressed by the Chairman and Joint Chiefs in "Joint Vision 2010," the key to the United States being able to handle the likely scenarios of 21st Century warfare will be our ability to truly achieve integrated, multi-Service (Joint) operations — at all

levels; and, increasingly, on a multi-national basis.

In this new threat environment, it is critically important to recognize that many of the likely military needs are not simply extensions or subsets of current operations and equipment. Clearly, there are numerous military system developments and procurements currently underway, which must be continued: activities on ballistic missile defense, next-generation platforms, and weapons/system upgrades, etc. However, with our present position of military superiority, we have the opportunity to devote a more significant share of our resources to the areas of perceived deficiencies and new technological opportunities for meeting the requirements of future military conflicts.

There are five areas that I believe require particular attention:

1. Near-term achievement of an integrated, secure, and "smart" command, control, communications, intelligence, surveillance, and reconnaissance (C³ISR) infrastructure — on a multi-Service basis and encompassing both our strategic and tactical needs. This is the critical element of an effective 21st Century warfighting capability and the backbone of the Revolution in Military Affairs. It is the key to our strategy of information "dominance."
2. Development and deployment of long-range, all-weather, low-cost, precise, and "smart" weapons. This will allow us to achieve maximum fire power on targets (either fixed or mobile) from air, land, or sea with minimum loss of life; and it will allow us to take full advantage of the advanced C³ISR systems (for example, by providing continuous targeting (including in-flight) from remote platforms).
3. Achievement of rapid force projection and global reach of our military capability. With the uncertainty over where our forces will be required, and the need for extremely rapid re-

sponse to a crisis anywhere in the world, this capability — when combined with the first two elements [described previously] — will provide the United States with overwhelming military superiority.

4. Development and deployment of credible deterrents and, if necessary, military defense against projected, less "traditional," early 21st Century threats — such as biological, chemical, and nuclear weapons, urban combat, information warfare, and large numbers of low-cost ballistic and cruise missiles. These are areas of growing concern and likelihood; and we can no longer put them into the "too hard" category. They must be addressed as priority issues.

5. Achieving interoperability with our allies — an essential requirement for coalition warfare. As events over the last few years have shown, coalition warfare is likely to be the normal case; and thus, we must work closely with our allies to assure that their technologies represent a strong complement to our forces, i.e., that they are participants in the Revolution in Military Affairs, and that the C³ISR systems and advanced weapons that we are each utilizing are fully interoperable.

Paying for Modernization

The other major challenge is how to pay, within a constrained budget, for this necessary modernization. Essentially, what is required is the realignment of overall DoD resources to reflect 21st Century military needs. Specifically, we must continue and greatly expand our efforts to implement a "Revolution in Business Affairs" within DoD and its industrial base — thereby achieving the needed performance gains at far lower costs.

To do this, the government must take full advantage of the technologies and management lessons that U.S. commercial industry has evolved over the last decade, as it returned to its leadership position in worldwide commerce.

Today, the United States has clearly the strongest military in the world. Yet, we

have put off force modernization over the last decade — allowing the procurement account to fall by over 70 percent. However, the challenge is not simply to replace the aging equipment but to develop and deploy the new — and often very different — systems required for the early 21st Century.

Thus, we must continue a strong R&D effort, while also buying far more of the advanced communication and intelligence systems, offensive and defensive "smart" weapons, biological and information defense, etc., required for projected future conflicts. Based on current Administration and Congressional budget projections, all of this must be done without a significant increase in the overall DoD budget.

In this area — of getting more capability without a budgetary increase — I would like to emphasize the truly outstanding job done by the complete DoD acquisition community (from Secretary Perry on down) during the last Administration, in beginning the required acquisition reforms. Our challenge is [to] keep up the momentum and build upon this foundation. To do this successfully, we also need your commitment and assistance.

Here again, five areas require specific attention:

1. Aggressively pursuing and fully implementing the acquisition reform initiatives which the Congress and the Department worked so hard to develop over the last several years. Many critical efforts were started. Let me simply note some: program stability; "cost as an independent variable" (including total ownership costs); short acquisition cycles; advanced concept technology demonstrations [ACTDs]; purchasing commercial subsystems and parts (to improve performance and reliability while lowering costs); "modernization through sparing"; "best value" Service procurements; commercial standards; performance-based specifications; minimum "flow down" of unique defense requirements to the

lower tiers; contractor logistics; electronic commerce; incremental developments and deployments; open systems architecture; "single process initiative"; integrated product and process developments; past performance evaluations; and, particularly, "teaming" with industry.

All of these must be aggressively pursued — with detailed action plans and metrics — and fully implemented if the DoD is to achieve its desired objectives of "faster, cheaper, and better" development, production, and support of weapon systems, as well as goods and services.

2. Broadening the defense industrial base. While the many mergers and acquisitions have been both necessary and desirable (to reduce the excess capacity as the DoD downsized in the post-Cold War era), there is a growing concern that we may end up with only sole-source producers in critical defense sectors — thus eliminating the innovation, cost, and responsiveness benefits of competition. However, a solution likely lies in a broadening of the defense industrial base to include commercial firms. These often represent the state-of-the-art (for example in many information-intensive fields), and yet are much lower-cost and have much shorter development cycles.

In many cases the DoD can directly utilize commercial systems, subsystems, and components; but, in other cases, the solution lies in an integrated ("flexible") production line of a few defense-unique items along with the high volume of commercial items (themselves often tailored for a variety of customers). Thus, increased levels of civil/military industrial integration is a direction in which the DoD must move.

A complement to this would be a shift to a more global industrial base — one created by industry forming international teams for bidding on the military equipment required for coalition warfare.

The broad objectives of this reengineering are to transform DoD logistics from one based on Cold War scenarios to one incorporating best commercial practices, advanced information systems, and rapid transportation to provide highly responsive logistics support at significantly reduced costs to our forces in the 21st Century.

In general, the DoD's future focus on the three areas of maintaining competition, achieving civil/military integration, and taking full advantage of the global marketplace, will result in achieving an industrial base which will provide the required 21st Century equipment at much lower cost and much more rapidly, yet with the required state-of-the-art performance.

3. Since far too much (currently around 65 percent) of the total DoD budget goes to the "infrastructure" area, there must be a significant shift of DoD resources from support to modernization and combat — a conversion of "tail" to "teeth." This infrastructure area is the one that commercial industry found they must attack if they are both to improve their performance and simultaneously lower their overall costs.

The key elements in this reduction of support costs can come from widespread application of commercial technology and products, advanced information technology, and competitively sourcing all non-inherently governmental functions. The last of these could annually provide many tens of billions of dollars worth of potential additional business opportunities to competitive U.S. industries. All of the empirical

evidence indicates that the results of these competitions will be dramatic improvements in performance, along with over a 30-percent reduction in costs.

Naturally, such actions will not be easy to achieve. However, as Secretary Cohen has stated, unless there is a significant increase in the DoD budget's "top line," there is no choice; either we continue to maintain and pay for the current, unneeded, and inefficient infrastructure or we modernize our forces — we can not afford both!

4. We must drastically transform the current DoD logistics elements of the acquisition system, in order to achieve much faster response at much lower cost. "Focused logistics" is one of the four major objectives of the Chairman of the Joint Chiefs' "Joint Vision 2010." Here, the first of the actions is obvious — obtaining much higher reliability equipment at much lower cost. "Modernization through sparing," particularly with commercial parts and subsystems, is a key here. While "Modernization through spares" and similar actions to enhance reliability will reduce logistics support requirements, those initiatives must be supported by an overall reengineering of logistics processes.

The broad objectives of this reengineering are to transform DoD logistics from one based on Cold War scenarios to one incorporating best commercial practices, advanced information systems, and rapid transportation to provide highly responsive logistics support at significantly reduced costs to our forces in the 21st Century.

Achieving this requires major reductions in cycle times — to include procurement and production lead time, repair cycle time, and order and ship time. These cycle time reductions will also enable us to reduce infrastructure and current inventory levels by tens of billions of dollars.

U.S. world class commercial firms across a wide range of industries have already done this, and we must aggressively pursue similar actions throughout DoD.

5. Last, but certainly not least, to achieve efficient and effective modernization of the DoD acquisition system, we must focus on enhancement of the overall acquisition workforce. Clearly, the key to the success of all of the required changes are the people within the government who are responsible for their successful implementation.

As we move to more sophisticated processes that require decision-making empowerment down to lower levels in the acquisition workforce, we must assure that we have the right types of people for the government's role (e.g., more systems thinkers and good managers, rather than detailed designers); and, then, it is essential that the training and education of these people be the best possible. This is an area that must receive increased and continuing emphasis.

It is no longer adequate to simply assume that someone who once took an acquisition or a logistics course is currently up-to-date. As advanced technology and acquisition reforms become far more widespread, it will be necessary for the workforce to receive continuous updating in their training. Fortunately, much of this can now be done through the use of computer-based, distance learning — far more efficiently and effectively than the historic, more traditional approaches. Smart, well-educated personnel are the key to successful implementation of the DoD's Revolution in Business Affairs over the coming years.

I might note, incidentally, that there is a need for a similar emphasis on continuous education and training on the industrial side — both to capitalize on industrial "best practices" as well as government acquisition reforms. And here too we can profit by working together, industry and DoD. One way is through joint training, such as the case study on

JDAM [Joint Direct Attack Munition] that the Defense Acquisition University and the Boeing Learning Center are developing.

Actions for Government and Industry

The first and most obvious requirement for modernization is the generation of funds to invest. This problem will become even more critical in the next budget cycle, since the top line is essentially fixed by agreement of Congress and the President. So the only way we will be able to generate added dollars is through savings, and the most obvious area for this is in the operations and maintenance (O&M) arena.

The QDR found the potential for — and the Secretary is committed to — shifting \$17 billion annually from O&M into modernization by 2001; with greater shifts in the outyears. To do this, we have to focus on reducing O&M costs through equipment reliability improvements, the introduction of modern information systems, outsourcing, and logistics reengineering. Analysis has shown that the potential for making these savings is very real, but it will be extremely difficult and require cooperation not only from within the DoD and the defense industry, but also the Congress.

One of the problems we have historically had is the fact that O&M is annually underfunded, and then money has to be taken from the acquisition accounts during the year. This results in extreme program instabilities and gross inefficiencies. Thus, the obvious step — which was taken in this year's budget cycle by Secretary Cohen — was to insist upon full funding for O&M. In the short term, this will actually reduce the total dollars available for modernization, but it will force the DoD to recognize the high cost of O&M and to immediately begin to address this issue.

A second cause of program instability has been the horizontal cuts that have annually been taken on all programs (in the budget process), thus resulting in added inefficiencies. The preferred al-

ternative, which we must face up to, is the termination of lower-priority programs when there are not enough dollars available — thus maintaining the program stability and efficiency on the higher-priority efforts. This raises the importance of the issue of "what we buy."

The speeches given by all of the DoD leaders, and those in industry, emphasize the importance of the Revolution in Military Affairs for America's leadership in the 21st Century; but a look at the budget shows that we continue to fund many of the older platforms at the expense of the C³I systems, the smart weapons, the digital battlefield equipment, etc. — all required to actually realize the Revolution in Military Affairs. Thus, there needs to be a significant shift in budget allocations if we are to maintain U.S. military superiority in an era in which our potential adversaries can gain significant benefits through asymmetrical and lower-cost investments.

Then, in the area of "how we buy," the government needs to recognize the short cycle times associated with the equipment required for the Revolution in Military Affairs, and the fielded military performance and cost benefits that come from planning short cycle times. It is simply wrong for the DoD to be utilizing development cycles that stretch to 16 to 20 years solely to "save on annual expenditures levels." We must shift to the commercial model of incremental product improvements with short cycle times, and continue our R&D efforts at technological advancements which can then be inserted rapidly when proven out.

One major initiative that was begun in the last Administration and which needs far greater emphasis in the next few years is that associated with the costs of weapons as a military requirement. This truly will result in our doing business in an entirely different way — from the requirements process through the design and manufacturing process, and even through the supporting industrial structure that is required to achieve not only

lower initial costs, but lower life-cycle costs.

Finally, from the government's side, additional steps are required for the government to encourage firms that are not currently defense suppliers — and yet are world-class in their areas of specialization — to become players in the defense world, at either the prime or lower tiers. Here, I think the biggest area that has not been addressed is that associated with government-unique cost accounting and auditing requirements. To encourage commercial firms to enter into our business, we are going to have to shift to price-based contracting.

To achieve this in all areas and yet still have adequate assurance that the government is getting the best buy for its money, will require us to maintain some form of explicit competition in all of our activities — perhaps current system enhancements vs. new systems, or alternative ways to achieve the same mission, or starting a next-generation prototype, etc.

All of these initiatives cannot be fully implemented unless we maintain the support of Congress. As business people, we understand that when changes are made, we need to be tolerant of mistakes that are made along the way of implementing change. Congress is not as patient. One of my top priorities will be to work with Congress to recognize the long-term benefits of reform and the need to maintain flexibility in implementation. I hope you can also make your opinions known.

I will also devote a lot of time working with Congress on achieving program stability. As I mentioned before, this issue is a very important part of our efforts to fund modernization. If the DoD is ever to achieve stability on its priority programs, then the budget which it submits to the Congress needs to be supported by the industry. Since the future budgets will be "zero-sum games," industry attempts to "add" money for programs that are not in the DoD budget simply means that those dollars will come from other programs; and thus introduce in-

One of my top priorities will be to work with Congress to recognize the long-term benefits of reform and the need to maintain flexibility in implementation. I hope you can also make your opinions known.

stability throughout the total acquisition arena — often in programs in other divisions of the same company.

Turning now to a specific industry effort, I think enormous progress has been made over the last few years in not only the working relationships between the government and industry — through such things as integrated product teams and other forms of partnering — but also industry has done a good job in attacking the excess capacity and inefficiencies through the steps that you have taken in consolidation and business practice reengineering. I also think that industry has responded well to the government initiatives in the acquisition reform area — many of which were, in fact, suggested by industry. All of these efforts must be continued and fully implemented — we still have a long way to go.

However, let me suggest an area that I believe industry can focus on, over the coming months, to significantly help in the required changes. Namely, looking down from the prime-contractor level to the lower tiers of the defense industry; here, there is growing concern with regard to the prime's dealings with their suppliers. Essentially, we need you to take the same perspective with respect to your suppliers as we have tried to take in our acquisition reform initiatives with you. At the lower tiers, there is even a greater opportunity for full commercial integration of operations and of suppliers. One of the obvious concerns associated with the recent mergers and acquisition tendency has been the fear

of vertical integration; and the resultant elimination of innovation and competition. Here, those who are performing a systems integration role, as a prime contractor, need to strongly consider the potential for obtaining defense-unique subsystems from commercial lines. In order to do this, there must be no special requirements passed down to the suppliers — in terms of process specifications, accounting system requirements, etc. The DoD primes must simply be another buyer of high-quality, high-performance, differentiated items. We believe there are enormous performance, cost, and cycle time benefits to be realized on our future weapon systems through such actions.

Concluding Remarks

Let me end by observing that, unfortunately, we are now facing a time in which we must develop and buy new defense systems, and yet we have insufficient funds available to do so. Thus, we will be facing a very difficult period in the coming years. To this end, Secretary Cohen has started to implement some major reform initiatives, starting with his own staff. On Monday, the Secretary announced his plan, the Defense Reform Initiative, for reorganizing the top levels of the Department to respond better to the needs of this new security and budget environment. The effort focuses on maintaining competition, reducing infrastructure, learning from the best practices of the private sector, and reengineering our business operations to become more efficient and effective.

As U.S. industry found, these changes are necessary, but very difficult to achieve. Nonetheless, we are going to do it! But we cannot do it alone. I firmly believe that the only way for the nation to achieve a strong national security posture is through the required government and industry partnering to effectively implement the broad initiatives associated with all aspects of acquisition reform. This symposium is a critically important part of realizing that objective. I thank you for your participation, and I look forward to working closely with you over the coming years in achieving our joint objectives.

Gansler Delivers Keynote Address at DLA Senior Leaders Conference

What We Buy, How We Buy It, and How We Support It Logistically



"I AM PLEASED WITH [THE DEFENSE LOGISTICS AGENCY'S] SUCCESS IN WORKING TOWARD OUR GOAL OF ACQUISITION REFORM. YOU ARE A VITAL PART IN THAT EFFORT, SINCE, ONLY BY CUTTING LOGISTIC SUPPORT COSTS CAN WE DIVERT DOLLARS TO OUR GOAL OF MODERNIZATION...AS UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY, I STAND READY TO OFFER YOU WHATEVER SUPPORT YOU REQUIRE TO BRING ABOUT THIS REVOLUTION IN THE WAY WE DO BUSINESS."

ARMY LT. GEN. HENRY GLISSON TOOK OVER THE REINS OF DLA EFFECTIVE JULY 25, 1997. DURING THE DLA SENIOR LEADERS CONFERENCE, DR. GANSLER TOLD GLISSON AND HIS SENIOR EXECUTIVES THAT "...IN MANY RESPECTS, I AM 'PREACHING TO THE CHOIR' HERE TODAY. THE DEFENSE LO-

GISTICS AGENCY IS EMBARKING ON SOME IMPRESSIVE LOGISTIC SUPPORT REFORM INITIATIVES THAT ARE ALREADY SHOWING SIGNIFICANT COST SAVINGS...WE ARE OFF TO A GOOD START, AND I COUNT ON YOU, GENERAL GLISSON, AND YOUR FINE STAFF TO KEEP UP THE MOMENTUM."



Editor's Note: In his Dec. 9, 1997, remarks to senior Defense Logistics Agency (DLA) executives, Under Secretary of Defense for Acquisition and Technology, Dr. Jacques S. Gansler spoke of not only force modernization and how to pay for it, but also the importance of how we support it logistically. The following text is an excerpt of his speech, focusing on the logistics aspect of modernizing the forces. (This information is in the public domain and may be accessed from the ACQWeb Home Page at <http://www.acq.osd.mil/ousda/speech> on the World Wide Web.)

I want to thank you, General Glisson, for inviting me here today to meet with your senior Defense Logistics Agency executives. Although I have served only a very short time in my current position as Under Secretary of Defense, my 40-plus years on both the government and industry

sides of the "military industrial complex" have convinced me that our nation's unquestioned military superiority is due, in no small part, to your success in assuring logistic support to our armed forces — at all times and in all places. Our nation will count on you even more as we counter the new threats we face in the first years of the 21st Century, as you meet your challenge to deliver even more rapid and reliable performance at dramatically lower costs!

The Joint Chiefs of Staff made DLA's future role clear in its recent statement on projected global defense requirements — Joint Vision 2010. In its report, the JCS stated that its goal of "seamless joint architecture for force protection" will rely on "our ability to project power with the most capable forces, at the decisive time and place. Logistics must be responsive, flexible, and precise."

This concept of "focused logistics" — the fusion of information, logistics, and advanced technologies — will, if fully implemented, allow our forces to respond quickly to crisis; track and shift equipment, parts, and other supplies even while enroute; and deliver tailored logistics packages and other supplies, with a minimum of delay, to the appropriate level of operations.

When I appeared before the Senate Committee on Armed Services for my confirmation hearing on October 1, I told members that the challenge we face in the Department of Defense acquisition and technology arena during the next few years is threefold: to modernize our current weapons systems; to develop and deploy the major new systems and subsystems required for 21st Century operations; and to support those systems efficiently and effectively — but, to do so at a lower cost and within a drastically reduced cycle time.

We must fully exploit the "Revolution in Military Affairs" – modernizing for 21st Century warfare – and simultaneously engage in a "Revolution in Business Affairs" – by taking full advantage of the technologies and management lessons that have turned around American commerce and industry during the past decade. It is this latter revolution which Secretary Cohen endorsed so strongly in the recently announced Defense Reform Initiative. We must transfer valuable commercial business lessons to the Department of Defense.

The critical issues facing us in Acquisition and Technology over the coming years, therefore, are: *what we buy*; *how we buy it*; and *how we support it logistically*.

The United States has deferred modernization during the past decade, with a procurement account that has fallen by more than 70 percent. We can no longer continue on this path. Not only is the equipment wearing out and becoming obsolete, but technology has changed dramatically. And there are new – and different – threats before us.

These threats range from terrorist actions, transnational actors and rogue nations, major urban and theater warfare, and on up to nuclear war. Our future enemies are unlikely to attempt to match the United States' overwhelming military superiority on a tank for tank, ship for ship, or plane for plane basis. Rather, they are likely to deploy weapons of mass destruction, and/or advanced, low-cost weapons which today can often be purchased on the global arms market and sometimes even from the commercial market, making it possible for them, in theory, to win – or at least cause us significant problems – with fewer dollars. We must not only counter this threat, but stay ahead of it. Thus, we must make our decreasing dollar investment accelerate the pace of modernization. A difficult challenge!

It makes no sense, from any standpoint, either to use out-of-date equipment, spend money updating equipment that is no longer tactically or strategically relevant, or to adhere to traditional military-unique logistic support models.

New weapons and systems must be deployed, for example – including integrated, secure, and "smart" command, control, communications, and intelligence infrastructures; "smart weapons"; and credible deterrents against projected early 21st Century threats such as biological, chemical, nuclear, and information warfare, as well as against large numbers of low-cost cruise or ballistic missiles. What we produce in the next generation must be the most advanced, the most effective, and the most flexible obtainable. It must be deployed on a much faster cycle in order to make the best use of the continuing advances in technology. The United States must fully exploit its leadership in advanced technology and achieve truly integrated, multi-Service operations, at all levels; and, increasingly, on a multi-national basis.

Another major priority is to bring about rapid force projection and global reach of military capability. Your critical role in this overall effort will be to remain fully adaptive to the rapidly changing requirements of our armed forces and the new weapons systems, subsystems, and equipment they will need to meet the changing threat to our homeland. Our increasingly dispersed and mobile forces will require enhanced logistic support and response in *hours* rather than weeks.

All this, of course, requires fundamental changes in our acquisition and other combat support programs. The message of the Secretary's Defense Reform Initiative is clear. We must upgrade our current systems, develop new systems, and improve our support – all with no major increase in the Defense procurement budget.

During my confirmation hearing, I listed five priorities for achieving this goal and which require immediate and specific attention. Two dealt explicitly with logistic support. Let me briefly describe all five.

We must pursue aggressively and fully the acquisition reform initiatives of the past few years; and add to these where appropriate. Inventory management re-

form; an increase in the use of commercial practices and distribution systems to satisfy materiel requirements; more competitive sourcing of current in-house work; and greatly expanded purchase of common-use, commercially available items, are just a few of the ways in which the Defense Logistics Agency can further this initiative.

We must work to bring about far greater civilian/military industrial integration. We seek a greatly expanded partnership with a revived and prospering commercial industry – not a partnership in which we become simply the pawns of commercial products and processes, but a dynamic and vigorous engagement that, through R&D, creates technically advanced products and systems with common applications and that, through use of flexible manufacturing, allows production of defense-unique items on the same lines with high-volume commercial items.

Civilian/military integration in the acquisition process is the key to the success of such a partnership. We must take full advantage of the commercial information technology revolution, specifically as it applies to efforts to modernize our logistic support network; and learn from the successes of commercial package transfer services and rapid produce-to-order manufacturing firms, ways we can reduce dramatically costs and delays in our logistic support.

The Department must shift the major share of its resources from support to modernization and combat. Currently, about 65 percent of the DoD budget goes into the support and infrastructure area. Reducing our support costs will make more of our limited funds available for modernization and deployment of new systems and subsystems.

We must meet the objectives outlined in Vision 2010 by totally re-engineering our DoD logistics system. Focused logistics will help us to achieve much faster response at much lower cost. Advanced information systems – some of which you already have in place – are key to this transformation.

Finally, we must focus on training and educating our acquisition workforce to meet the demands of this massive re-engineering effort. Unless we all know how best to do what we are doing; understand why we are doing it; and comprehend the benefits to be derived from doing it better, acquisition reform will not succeed.

I know that some of you may fear that a shift of resources from support to modernization means that the Defense Logistics Agency will play a greatly diminished role under the reform initiative announced by Secretary Cohen. On the contrary, the "lean and mean" strategy envisioned in our transformation from "tail to teeth" and our move to a focused logistics program enhance your role in our 21st Century global defense strategy. This is not a going-out-of-business sale for logistics; it's simply going modern. And going modern means going *better, faster, and cheaper*.

Going better will require the transformation of logistic functions to incorporate advanced information systems and capabilities; modular support systems and packages able to be deployed for any contingency. We must support an overall re-engineering of our logistic support capability, after abandoning the traditional model of transferring supply and maintenance responsibility from industry to government after delivery. We must incorporate the best commercial practices available, especially in the area of inventory management and control, in order to shorten dramatically the logistics tail and put more of our scarce dollars into modernization and combat capability.

Going faster means taking advantage of global electronic networks; commercial distribution systems such as Caterpillar, for example, which resupplies domestic commercial dealers in one to two days and overseas dealers in 100 countries in two to four days at the most (or they pay for it!); and global package delivery systems, like FEDEX and UPS, which handle millions of overnight packages each day (compared with military requisitions,

which during the height of Operation Desert Shield, peaked at 35,000 deliveries per day).

Going cheaper means buying less, increasing our competitive sourcing, and achieving major reductions in cycle times — in procurement, production, repair cycle time, and order and ship time. These reductions will also help us to cut infrastructure costs and current inventory levels by billions of dollars. Domestic world-class commercial firms have already done this, and we must pursue similar aggressive actions throughout the Department. We should also consider ways to improve integration of equipment design and manufacture with post-delivery logistic support, in order to reduce the current level of support costs as a percentage of overall cost. We must begin to consider "Total Cost of Ownership" in our systems and equipment.

In our maintenance requirements, we must shift to the use of functional specifications — the form, fit, and function [F³] of the item — rather than its detailed design. This makes it easier to replace and produces significant cost savings. And, as noted, we must also begin to design dual-use products, processes, information systems, and logistic support systems that meet common requirements of the military and commercial industry. This can bring about significant savings and increased efficiency, as well as improve yields, cut costs, and spread the power of our limited investment dollars.

I know that, in many respects, I am "preaching to the choir" here today. The Defense Logistics Agency is embarking on some impressive logistic support reform initiatives that are already showing significant cost savings. Your use of "prime vendor" and "direct vendor" delivery practices has cut the delivery time on medical supplies from 30 days down to 24 hours in 98 percent of the orders. Direct delivery from vendor to customer — often using Internet or electronic ordering technology — has made it possible for military hospitals to cut the logistics tail to pieces by drastically re-

ducing inventories, achieving cost savings in their operations, and ordering only what they need for current use. Defense Logistics Agency medical supply inventories have been reduced by more than 70 percent since [fiscal] 1991, with savings of \$396 million.

As you know, DLA is currently adapting this program for use in subsistence supplies procurement and delivery, utilizing local commercial sources on an as-needed basis for food supplies and even for more sophisticated hardware items and repair and maintenance.

We are moving ahead aggressively on other fronts. We have revised DoD regulations to authorize purchases from local commercial suppliers rather than through central supply services when such purchases produce the best value. This reduces reliance on our central supply system to those cases where the Department can leverage its buying power to produce lower costs.

DLA is also using electronic ordering and billing systems to cut down on cost and paperwork and has even established an Electronic Commerce Mall on the Internet to facilitate clothing and equipment purchases.

All this is impressive and shows that we can count on DLA for support in our acquisition reform initiatives. Your efforts so far are demonstrable evidence of your commitment to significant cost savings and the goal of "focused logistics" set by the Joint Chiefs of Staff. I am pleased with your agency's success in working toward our goal of acquisition reform. You are a vital part in that effort, since only by cutting logistic support costs can we divert dollars to our goal of modernization, with new systems and subsystems specifically designed to meet new threats. As Under Secretary of Defense for Acquisition and Technology, I stand ready to offer you whatever support you require to bring about this revolution in the way we do business. We are off to a good start; and I count on you, General Glisson, and your fine staff to keep up the momentum.

B-2's COMBAT CAPABILITY ENHANCED

Capt. Bruce Sprecher, U. S. Air Force

Released

November 21, 1997

WHITEMAN AIR FORCE BASE, Mo. (AFNS) — “A powerfully exciting couple of weeks.” That’s how Col. Bill Percival, 509th Operations Group commander, characterized the 509th Bomb Wing’s activities earlier this month.

During that time, the wing prepared and launched sorties in support of an air power demonstration at Eglin Air Force Base, Fla., and successfully tested two new weapon systems and a new B-2 automated mission planning system. The two tests, both flown over the Utah Test Range Nov. 6, give the B-2 increased flexibility in putting bombs on target.

While Joint Direct Attack Munitions have been dropped by crews at the Air Force Flight Test Center at Edwards AFB, Calif., this was the first time the munitions were employed using operational maintainers, loaders, crews, and an operational bomber.

The JDAM is a very cost-effective weapon, according to Percival. It shares the same bomb body as the Guided Attack Munitions, which killed all 16 targets from high altitude last year; however, the JDAM guidance system costs significantly less.

The projected use of JDAM by fighters and bombers throughout the Department of Defense resulted in lower production costs. Another important achievement was testing the Bomb Rack Assembly on a separate flight the same day.

“The rack assembly opens the B-2 to the whole class of cluster bomb units and 500-pound weapons, including mines,” said Percival. “CBU’s work extremely well against armored columns or troop concentrations. All of a sudden,

our weapons delivery flexibility has been increased dramatically.”

Testing the computer’s ability to drop a partial load was another milestone for the bomber, according to Percival. During the tests, two passes were made on a target with weapons dropped on each pass. The mission also became the first time the crew performed in-flight re-planning of a target.

Percival explained that the rack assembly adds to the B-2’s ability to complement the bomber force.

“The B-2 with the BRA could be very effective during the halting phase of an invasion. The B-2’s characteristics of stealth and long range give it the ability of penetrating the enemy’s air defenses and delivering its massive payload against advancing armor,” he said.

Dropping the JDAM from the B-2 also allowed the wing to test the newest version of the aircraft’s mission planning hardware and software. The mission planning system fully integrates all data regarding the functions of the bomber with the threats of the battlefield and the criteria for the munitions, which in turn allows crews to successfully enter the target area and put bombs on target. This mission planning system works with the new Air Force standard of mission planning software being incorporated into all Air Force aircraft.

Editor’s Note: Sprecher works in the 509th Bomb Wing Public Affairs Office, Whiteman AFB, Mo. This information, courtesy Air Combat Command News Service, is in the public domain and may be accessed at <http://www.af.mil/news> on the World Wide Web.

Gore Lauds DoD Reforms

LINDA D. KOZARYN

WASHINGTON — Vice President Al Gore praised the Defense Department Nov. 10 for its plan to become “leaner, more competitive, and more efficient in its business practices.”

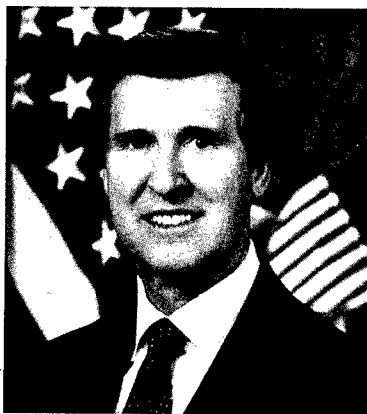
Gore was at the Pentagon along with Defense Secretary William Cohen, Deputy Defense Secretary John Hamre, and Army Gen. Henry H. Shelton, Chairman of the Joint Chiefs of Staff, for the roll-out of a new defense reform initiative.

Based on the findings of the Defense Reform Task Force, headed by Hamre, the plan’s goal is to save money for modernization muscle by cutting fat — excess staff, redundant functions, and infrastructure.

Replacing aging military equipment is an urgent national requirement, Gore said. “We have the money we need to keep America’s military forces fully modern and fully capable, but we are spending too much of our defense money on the wrong stuff,” he said.

Gore said the “wrong stuff” includes too much paperwork and “an industrial age bureaucracy that is too expensive and too slow to keep pace in the world today.” Businesses cannot survive like that, and neither can national defense, he said.

Cohen announced his decision to downsize and restructure his headquarters staff. Gore noted he and the defense secretary had agreed, “Big, all-powerful, all-



COHEN:

“HOW DO WE STREAMLINE, REFORM, AND REENGINEER OURSELVES TO PROVIDE THE NECESSARY DOLLARS WHICH WILL KEEP US ON THE VERY FRONT END OF TECHNOLOGY AND TO ALLOW OUR TROOPS TO REMAIN THE SUPERIOR FORCE THEY ARE TODAY?...WE NEED TO MAKE SURE WE HAVE THE RESOURCES NECESSARY TO PREPARE FOR THE FUTURE.”



SHELTON:

“WE NEED TO HAVE AGILE ORGANIZATIONS THAT HAVE BEEN TRIMMED IN SIZE, THAT CAN MOVE QUICKLY, THAT HAVE THE BEST INFORMATION TECHNOLOGY AVAILABLE SO WE CAN DIRECT AND SUPPORT OUR ARMED FORCES AND OUR JOINT OPERATIONS IN THE BEST POSSIBLE MANNER.”

GORE:

“INFORMATION TECHNOLOGY IS CHANGING EVERYTHING FROM THE WAY WE BUY EQUIPMENT TO THE WAY WE FIGHT.”



knowing corporate headquarters operations are a thing of the past. Today’s world needs fast-moving, fast-thinking, fully empowered front-line workers and front-line fighters.”

Shelton said the military’s senior leaders agreed with the reform initiative. He said, considering the smaller force, the Department needs to rebalance its “tooth-to-tail” ratio to be sure funds are available for modernization and joint operations.

“We need to have agile organizations that have been trimmed in size, that can move quickly, that have the best information technology available so we can direct and support our armed forces and our joint operations in the best possible manner,” Shelton said.

Gore particularly hailed DoD plans for incorporating private industry practices. “Government should emulate the best in business, learn from them, and adopt their best business practices,” he said.

“Information technology is changing everything from the way we buy equipment to the way we fight,” Gore said. “It is the key to America’s future strength as a defense leader, just as it is the key to America’s future as a business leader.”

Preparing for the future is one of the biggest challenges DoD leaders face, Cohen said. “How do we streamline, reform, and reengineer ourselves to provide the necessary dollars which will

keep us on the very front end of technology and to allow our troops to remain the superior force they are today?...We need to make sure we have the resources necessary to prepare for the future."

Cohen said DoD will apply such successful private enterprise activities as creating a paperless environment by 2001. Holding up a foot-high stack of finance regulations in one hand and a CD-ROM in the other, Cohen illustrated the past and future. "By next July," he said, "all of these regulations will either be on CD-ROM or on the Internet."

Cohen said a revolution in the department's business affairs is needed to keep pace with the revolution in military affairs. "What we are doing is providing a corporate vision for the Department of Defense," he said. "We want to ensure we continue to lead in a world of accelerating change."

Cohen announced the following decisions:

- DoD is seeking congressional approval to do two more rounds of base closures, in 2001 and 2005. Projected annual savings for each round is \$1.4 billion.
- The Office of the Secretary of Defense staff will be cut 33 percent from about 3,000 to 2,000 over the next 18 months.
- Field agencies will be cut 36 percent, from about 8,000 to 5,000 over the next two years.
- The Joint Staff and activities controlled by the Chairman of the Joint Chiefs of Staff will be cut 29 percent, from about 2,600 to 1,800.
- Unified command/combatant command headquarters will be cut by about 10 percent, from about 18,000 to 16,200.
- Defense agencies will be cut 21 percent, from about 120,000 to 95,000, over five years.
- The On-Site Inspection Agency, the Defense Special Weapons Agency, and the Defense Technology and Security Administration will consolidate to become the Threat Reduction and Treaty Compliance Agency.
- By January 2000, DoD will privatize all utilities — electric, water, waste water, and natural gas. The Defense Fuels Supply Center will become the Defense Energy Management Center to manage energy, not a power infrastructure.
- More government work will be opened to competition from private industry. Plans call to compete such areas as payroll, retiree pay, personnel services, leased property management, and defense reutilization centers.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at <http://www.dtic.mil/afps/news> on the American Forces Press Service Home Page.

May I Have This Dance...



Photo by Richard Nartox

THE ADVANCED PROGRAM MANAGEMENT COURSE (APMC 97-3) GRADUATION DINNER-DANCE ON DEC. 10 AT THE RADISSON PLAZA HOTEL, ALEXANDRIA, VA., GAVE SENIOR DSMC STAFF AND FACULTY AN EXCELLENT EXCUSE TO "DANCE THE NIGHT AWAY" AFTER GRADUATING OVER 300 STUDENTS FROM APMC 97-3. FROM LEFT: AIR FORCE COL. SAM BROWN, DEAN, ACQUISITION PROGRAMS DIVISION, AND WIFE, WILLA; TIM SHANNON, ACTING DEAN, FACULTY DIVISION, AND WIFE, MARY; ARMY BRIG. GEN. RICHARD A. BLACK, FORMER DSMC COMMANDANT, AND WIFE, MARY; RICHARD H. REED, PROVOST AND DEPUTY COMMANDANT, AND WIFE, KARLA. (KARLA IS THE DSMC COLLEGE REGISTRAR.)

SECRETARY COHEN RESHAPES DEFENSE FOR THE 21ST CENTURY

Immediate Release

November 10, 1997

Secretary of Defense William S. Cohen today announced a sweeping program to reform the "business" of the Department of Defense, from corporate headquarters at the Pentagon to the many agencies that support servicemembers and their families. The Secretary was joined by Vice President Al Gore, who endorsed the effort as exemplifying the objectives of the National Performance Review. They were also joined by Chairman of the Joint Chiefs of Staff Gen. Henry H. Shelton and Deputy Secretary of Defense John J. Hamre, whom Secretary Cohen tasked to coordinate the reform effort last May.



This Defense Reform Initiative will aggressively apply to the Department those business practices that American industry has successfully used to become leaner and more flexible in order to remain competitive. The resulting savings will help fund the "Revolution in Military Affairs," including the development and procurement of a new generation of information-based weapons systems needed to ensure American military superiority in the future. Equally important, the Defense Reform Initiative is aimed at ensuring that DoD support elements are agile and responsive enough to support the warfighters, who are rapidly applying new technologies to change the way they fight.

The Defense Reform Initiative has four pillars: (1) reengineer by adopting the best private sector business practices in defense support activities; (2) consolidate organizations to remove redundancy and move program management out of corporate headquarters and back to the field; (3) compete many more functions now being performed in-house, which will improve quality, cut costs, and make the Department more responsive; and (4) eliminate excess infrastructure.

"American business has blazed a trail and we intend to emulate their success," Cohen said. "We have no alternative if we are to have the forces we need as we enter the 21st Century."

Reengineering: Examples of the Secretary's decisions to get results by using best business practices include: instituting a paper-free contracting process for major weapons systems by January 1, 2000; creating paper-free systems for weapons support and logistics; shifting to the use of electronic catalogues and electronic "shopping malls"; ending printing of defense regulations by July 1, 1998, after which they will be available only on the Internet or CD-ROM; and replacing "just in case" military logistics with the modern business "just in time" mindset.

Consolidating: The Office of the Secretary of Defense will be reduced in size by 33 percent over the next 18 months. Defense Agency personnel will be cut by 21 percent over the next five years. Personnel in Department of Defense field and related activities will be reduced by 36 percent over the next two years.

In addition to cutting the size of staffs, the reform plan will lead to the establishment of a number of new organizational arrangements. Among them is the formation of a Threat Reduction & Treaty Compliance Agency to address the challenges of weapons of mass destruction. The new agency will be formed by consolidating three existing agencies: the On-Site Inspection Agency, the Defense Special Weapons Agency, and the Defense Technology Security Administration.

Other decisions by the Secretary include establishing a Chancellor for Education and Professional Development to raise the quality of civilian training and professional development to world-class standards, and enhancing the role of

the National Guard and other Reserve elements in domestic emergency response. A National Guard General Officer will serve as the Deputy Director of Military Support Operations [DOMS], and the number of Reserve personnel on the DOMS staff will be increased. These and other organizational changes in the Department's structure are outlined in the Secretary and Deputy Secretary's white paper on the Defense Reform Initiative.

Competing: The third pillar of the reform plan is competition. Across the Department the question will be posed: who can carry out defense support functions better, the government or the private sector? Within the Department of Defense, experience has shown that competition has yielded both significant savings and increased readiness. Regardless of who wins a competition—and historically the public sector has won about half of DoD competitions—the Department wins with higher quality and lower costs. Past competitions are yielding savings of \$1.5 billion a year.

In response to the Quadrennial Defense Review, the Department initiated competitions involving more than 34,000 positions in Fiscal Year 1997 and will pursue competitions for 30,000 positions in each of the next five fiscal years. This annual effort represents more than a tenfold increase over Fiscal Year 1996 and a threefold increase over any year in the previous two decades. The Department will build on this experience. By 1999 the Department will evaluate its entire military and civilian workforce to identify which other functions are commercial in nature and could be competed. In particular, candidates for competition include the following functions: civilian and retiree payments, personnel services, surplus property disposal, national stockpile sales, leased property management, and drug testing laboratories.

The Department of Defense will continue to pursue public-private competitions for depot maintenance to the full extent allowed by law.

Eliminating: The fourth pillar of the Defense Reform Initiative eliminates unneeded infrastructure. Since the end of the Cold War, the Department of Defense has reduced its military forces significantly, but infrastructure cuts lag behind. The defense budget has been cut by 40 percent, and military personnel will have declined by 36 percent by 2003. At the same time, after four rounds of base closures, the Department's domestic base structure has declined by only 21 percent.

Consequently, the Department needs to make more infrastructure reductions. Money is being wasted on keeping open excess bases. Resources can and must be directed to more effective uses, in particular to support the warfighter. The Department will call on Congress to authorize two additional rounds of base closures, one in FY 2001 and one in FY 2005. Once completed, each round will provide annual savings of \$1.4 billion.

In addition, Secretary Cohen announced that by Jan. 1, 2000, the Department will privatize all utility systems (electric, water, waste water, and natural gas) which it currently owns and operates with limited exceptions. The Department's goal will be managing energy, not power infrastructure. To do this, the Defense Fuels Supply Center will be re-formed into the Defense Energy Management Center and tasked to develop a blueprint for regional demonstrations of integrated energy management within the next six months.

In announcing this Initiative, Secretary Cohen and Deputy Secretary Hamre thanked the Defense Reform Task Force, which they formed in May 1997 to recommend changes in the Department's organization, as well as American business leaders who shared insights from their own reform efforts.

To implement the initiatives announced today, Secretary Cohen is creating the Defense Management Council, chaired by Deputy Secretary Hamre, and including senior civilian and military officials of the Department. The Secretary also tasked the Council to apply similar reform initiatives to other elements of the Department, including the three military departments.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at <http://www.dtic.dla.mil/defenselink> on the DefenseLINK News Home Page. Access <http://www.defenselink.mil/pubs/dodreform/report.html> to view the entire Defense Reform Initiative Report in pdf format.

BRADLEY LINEBACKER ROLLS OUT ON TIME AND WITHIN COST

Dale James

REDSTONE ARSENAL, Ala. (Army News Service, Nov. 21, 1997) — Roll out for the M-6 Bradley Linebacker air defense system — the Army's first successful Weapons Rapid Acquisition Program, or WRAP — was scheduled to take place Nov. 18 at York, Pa.

At a time when production delays, cost overruns, and uneven performance in the field have become all too commonplace with today's complex high-tech weapons systems, the M-6 represents a triumph of sorts, according to Maj. Clarence Johnson, assistant project manager.

Under the fast-tracking impetus of WRAP, it took a mere 15 months for the Linebacker to go from WRAP approval in January 1995 to fielding in April 1996.

That compares with the 12 to 18 months to award a contract and the three to five years for engineering development it can take to field a new weapons system under normal development procedures.

The Linebacker, noted Johnson, is "on time, on budget, and on schedule.

"Best of all, he added, "it works." The system passed its Initial Operational Test and Evaluation without a hitch and boasts the first successful engagement of a tactical cruise missile.

Strictly speaking, the M-6 is not a "new" weapons system. Rather, it is a mating of existing technologies aimed at correcting real-world shortcomings in the BSFV-MUA, an unwieldy acronym for the fielded Bradley Stinger Fighting Vehicle Man-Portable Air Defense System Under Armor.

Whew.

The new system was originally dubbed the BSFV-E, for Bradley Stinger Fighting Vehicle — Enhanced. When that, too, proved a bit cumbersome, it was gradually replaced by the much more punchy and satisfying "Linebacker."

Designed to operate in forward combat areas, the Linebacker is capable of shooting down both rotary- and fixed-wing aircraft, as well as cruise missiles.

The M-6 can trace its genesis to Operation Desert Storm. At that time, teams of soldiers armed with MANPADS were

transported by Humvee. The thin-skinned Humvees, however, were never designed as front-line vehicles.

Recalled Johnson, "Back during Desert Storm somebody looked around and said, 'What are all these Humvees doing out here?' Then they got the bright idea, 'Hey, let's put these guys in the back of the Bradleys.'"

The Bradley was outfitted with Stinger missile racks and thus was born the BSFV-MUA. But it proved to be a flawed solution at best. In order to fire, MANPADS teams still had to stop and dismount — exposing themselves to enemy fire and limiting the mobility of the Bradley.

The M-6 resolves those problems by replacing the Bradley's TOW launcher with a four-missile Stinger launcher. This permits the crew to conduct effective Stinger engagements under the protection of armor.

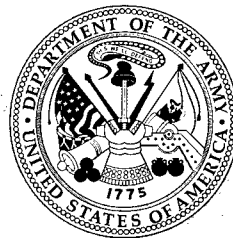
The M-6 also incorporates the FAAD C³I system, which allows Ground Based Sensor to pass air track information even while on the move. The resulting track information, continuously and automatically oriented, is displayed to the commander.

A "slew-to-cue" capability enables the M-6 to automatically slew to an incoming air threat so that the target appears in the gunner's sight field of view.

"This is great stuff," enthused Johnson. "The Bradley is a proven system, it's been proven in Desert Storm. Instead of building a system from the ground up, we piggy-backed on that existing technology and made it better.

"Now, you've got a system that works, and you got it very quickly."

Editor's Note: James works in the Public Affairs Office, Redstone Arsenal, Ala. This information is in the public domain and may be accessed at <http://www.dtic.dla.mil/armylink/news> on the World Wide Web.



Cuts Not Easy, But Necessary, Hamre Tells Defense Managers



DEPUTY SECRETARY OF DEFENSE JOHN HAMRE

DOUGLAS J. GILLERT

tive, he said, depends on "an integrated team" effort, guided by a new "board of directors."

The Deputy Secretary will head the new Defense Management Council that will serve as a board of directors to whom other components and agencies in the defense structure report. Besides Hamre, council members will include the Vice Chairman of the Joint Chiefs of Staff, DoD and Service Under Secretaries, and Service Vice Chiefs of Staff. Hamre said the council will steer DoD toward performance-based business practices that cut costs and streamline efficiency.

Meeting monthly, the council will immediately launch the departmental shape-up program, producing initial results possibly within the next three months. Hamre said he expects personnel transfers identified in the reform initiative to be completed "as soon as possible," and all cuts to be made within the next 18 months.

In all, DoD will downsize by about 30,000 positions through restructuring, transferring organizations or functions, and eliminating positions. Another 120,000 jobs will be opened to bids by private industry, according to an earlier report on the reform initiative. Details of the cuts and the complete text of the Defense Reform Initiative are on the Internet at [<http://www.defenselink.mil/pubs/dodreform/report.html>].

While cutting DoD's size and otherwise streamlining operations are at the heart of defense reform, reducing the threat of conflict worldwide is equally important. He said the newly created Threat Reduction and Treaty Compli-

ance Agency will consolidate the efforts of several agencies, providing a single Assistant Secretary of Defense to oversee counterproliferation, cooperative threat reduction, and treaty compliance.

Another key to DoD's future success lies in the field of professional education, Hamre said. The reform initiative creates a Chancellor for Education and Professional Development that Hamre said mandates full accreditation of all DoD professional education programs by Jan. 1, 2000. The measure calls for maximum use of civilian university programs, but more significantly it requires organizations to measure the performance of graduates, Hamre said.

"In other words, was the education we paid for worthwhile in terms of output?" he said.

The reform initiative calls for the reserve components to serve as a "9-1-1 force" to respond to emergencies, Hamre said. The Directorate of Military Support will serve as the command center overseeing increased reserve component peacetime operations, he added.

Hamre reiterated Cohen's call Monday for two additional rounds of base closures in 2001 and 2005, but said Congress may agree only to one. Some additional changes and reductions in the reform initiative will require legislative action, Hamre said he's confident Congress will act favorably.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at [http:// www.dtic.mil/afps/news](http://www.dtic.mil/afps/news) on the American Forces Press Service Home Page.

WASHINGTON — Newly mandated cuts won't be easy but are necessary to "eliminate the fat and save the muscle," Deputy Secretary of Defense John Hamre told Pentagon senior managers Nov. 13.

Hamre said DoD must be reshaped to meet new challenges. Among the initiatives he outlined were the creation of a new management council, a new threat reduction and treaty compliance agency, improved professional development education programs, and a greater role for the reserve components in DoD responses to domestic emergencies.

He briefed the senior managers on the defense reform initiative announced at the Pentagon Nov. 10 by Vice President Al Gore and Secretary of Defense William Cohen. The initiative outlines a business strategy to guide DoD into the 21st Century.

At the heart of the strategy are significant personnel cuts and transfers, coupled with a realignment and consolidation of responsibilities to make the Department "more agile and flexible," Hamre said. Success of the initia-

Cohen's Defense Reform Initiative Report

What's Ahead for Acquisition Education, Training, and Professional Development?

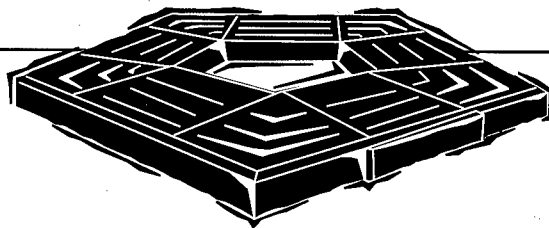
Editor's Note: The following text contains excerpts from Secretary of Defense William S. Cohen's November 1997 Defense Reform Initiative Report. These excerpts discuss a Secretary of Defense Reform Decision and an ongoing Department action designed to elevate acquisition education, training, and professional development to world-class educational standards. Access the full report at <http://www.defenselink.mil/pubs/dodreform/report.html> on the World Wide Web.

Defense Reform Initiative Report

November 1997

Chapter 2, Changing the Organization, pp. 20-21

SECDEF REFORM DECISION: *Establish a Chancellor for Education and Professional Development to raise the quality of civilian training and professional development to world-class standards and ensure that by January 1, 2000, no course is offered to DoD civilian employees unless certified by a recognized accreditation authority.*



World-class Education

The American military has proven itself to be the finest fighting force in the world. Thus, it is with good reason that the Department considers itself to be a world-class organization. But it is a world-class organization despite rendering second-rate education, training, and professional development to its civilian employees. Among the lessons of corporate America is that every successful organization finds its people to be its most important asset, and reflects their importance in a strong, corporate-sponsored program of continuous training and professional development. DoD has many educational programs and institutions, but their quality is mixed. Only one-fifth of OSD-sponsored educational institutions are accredited by a recognized academic accreditation association, and only five of 37 educational and professional development programs have at least some courses certified for college credit by the American Council on Education. Faculties are often not challenged, and students are not inspired.

A world-class organization must aspire to world-class educational standards. Accordingly, the Department will establish a Chancellor for Education and Professional Development to develop and administer a coordinated program of civilian professional education and training throughout the Department; establish standards for academic quality; eliminate duplicative or unnecessary programs and curriculum development efforts; and ensure that DoD education and training responds to valid needs, competency requirements, and career development patterns. In particular, the Chancellor will be charged with ensuring that by January 1, 2000, every DoD institution will be accredited or actively pursuing accreditation, and no educational program or course will be taught unless it is fully certified by recognized accreditation authorities for each respective field. To achieve this goal, one of the Chancellor's first initiatives will be to institute a system of performance evaluation for every faculty member, course, and program.

The Chancellor will operate through a consortium of DoD institutions offering programs of professional development (similar to the approach currently used by the Defense Acquisition University). Membership in the consortium will be mandatory for DoD institutions offering training and professional development programs; however, the initial focus will be on those elements of professional education under the cognizance of OSD staff offices. At the same time, the Chancellor will seek to open in-house programs to competition by the private sector to ensure that DoD training and professional development programs offer value to the Department, as well as quality.

Since these are managerial as distinct from policy-making functions, the Chancellor for Education and Professional Development will not be assigned to OSD, but to the National Defense University. However, he or she will operate independently of the President of the University and will report to the Secretary of Defense through the Under Secretary of Defense (Personnel and Readiness), who is responsible for exercising overall policy oversight of military and civilian training and professional development throughout the Department.

Defense Reform Initiative Report

November 1997

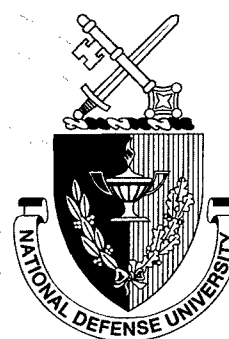
Appendix C-3, Acquisition & Technology Secretariat,
pp. 62-63

(Appendix C-3 provides further discussion of the decision described earlier in this article.)

DEPARTMENT ACTION: *Transfer management of the Defense Acquisition University (DAU) and the Defense Systems Management College (DSMC) to the National Defense University (NDU) with oversight by the new Chancellor of Education and Professional Development.*

The DAU provides professional education and training for DoD civilian and military acquisition personnel by coordinating DoD acquisition education and training programs throughout the Department to meet the career development requirements of the acquisition community. The DAU includes the DSMC, which conducts advanced courses of study, and conducts research and studies in defense acquisition management. The DAU and DSMC are organizationally located in the Defense Logistics Agency for administration and support. The President, DAU reports to the USD(A&T), who exercises managerial control and supervision through the Director for Acquisition Education, Training, and Career Development (AET&CD). The Commandant, DSMC reports to the President, DAU.

In accordance with the effort to remove operational functions from OSD and in keeping with the establishment of a Chancellor for Education and Professional Development at the NDU, the DAU, the DSMC, and the Director (AET&CD) are being transferred to the NDU. The duties of the President, DAU and the Director, AET&CD will be consolidated, and the incumbent of this new position will report to the Chancellor.



DEFENSE SECRETARY COHEN ENDORSES PANEL'S KEY CONCLUSION THAT FUNDAMENTAL INFRASTRUCTURE REFORM IS ESSENTIAL TO TRANSFORMATION OF U.S. MILITARY

Immediate Release

December 1, 1997

Secretary of Defense William S. Cohen today endorsed the National Defense Panel's (NDP) call for accelerating the transformation of U.S. military capabilities using savings generated by aggressive business reforms and additional base closures. The Secretary praised the report for its focus on the fundamental challenge facing the Department of Defense: to meet the demands of shaping the international environment and responding to the full spectrum of crises in the near term, while at the same time transforming our forces to address the challenges of an uncertain future. Cohen said, "I especially support the NDP's view that fundamental reform of the Defense Department's support infrastructure, including two additional BRAC [Base Realignment and Closure] rounds, is key to an effective transformation strategy." He noted that the thrust of the NDP's recommendations are consistent with those reached in the Quadrennial Defense Review (QDR) and the recent Defense Reform Initiative (DRI).

Secretary Cohen also announced that, working closely with the Chairman and the Joint Chiefs of Staff, he will take a direct role in leading the Department of Defense effort to build a coherent, long-term strategy for transforming U.S. military forces to meet future challenges. His goals for this effort, like those of the NDP, are to integrate all DoD transformation activities and to accelerate the transformation process. This process must harness advanced technology through the development of new operational concepts to produce fundamentally different forces for the future.

Cohen noted that the extent and pace of the Department's transformation efforts depend critically on the availability of resources to invest in necessary research, development, testing, experimentation, and procurement. He was therefore particularly pleased with the Panel's support for the infrastructure initiatives put forward in the recently published Defense Reform Initiative. He hastened to add that efficient business practices and reduced overhead not only free up needed resources, but also contribute directly to the transformation of the Department's support structure. "The old philosophy was the bigger eat the smaller," he stated. "Now, it is the fast eat the slow. We're going to be fast. We're going to be lean. We're going to be very competitive." To achieve a transformation of the Department's business practices that keeps pace with the Revolution in Military Affairs (RMA), Cohen called attention to the DRI's plans to re-engineer business practices, consolidate organizations to remove redundancy, encourage competition to reduce costs and improve quality, and eliminate excess support structures.

Secretary Cohen applauded the long-term focus of the NDP report, which examined the period from now until 2020, and its insightful characterization of the future. "The NDP paints a compelling and, I believe, accurate picture of a future in which terrorism, information operations, and weapons of mass destruction play a more prominent role, even posing direct threats to the U.S. homeland." He stated that we should expect challenges to our ability to project power abroad and our assured access to space. He credited the Panel for calling greater attention to our military preparations for urban operations and is particularly interested in exploring the Panel's recommendations on homeland defense, new roles for Guard and Reserve forces, and changes in the Unified Command Plan.



Secretary Cohen noted that, to contend with many of these challenges, DoD already has underway an ambitious program of transformation efforts to exploit the Revolution in Military Affairs. The Services, Joint Staff, unified commands, and Office of the Secretary of Defense are all aggressively involved in experimenting with new approaches to conducting military operations. Research and development, wargames, field exercises, and simulations are contributing to the development of these new approaches.

"Using Joint Vision 2010 as our conceptual template, we must ensure our methods for conducting Joint military operations are just as 'cutting edge' as the technology we deploy, so that we make the most of that technology. The NDP's ideas will be an important contribution in advancing the already significant work being conducted by the Defense Department," Cohen said.

Cohen plans to build upon the Panel's recommendations to give greater focus and energy to the many Department-wide transformation activities. Toward this end, he has asked the Deputy Secretary of Defense to chair an RMA oversight council comprised of the senior leadership of the Department that would meet regularly to review the Department's current and planned transformation activities and recommend areas that could benefit from greater "Jointness."

In making these announcements, Cohen noted that the NDP's emphasis on a transformation strategy was consistent with that of the QDR strategy of shape, respond, and prepare. He pointed to the considerable emphasis given in the QDR to preparing for an uncertain future, which, he noted, represents a significant innovation on earlier defense planning.

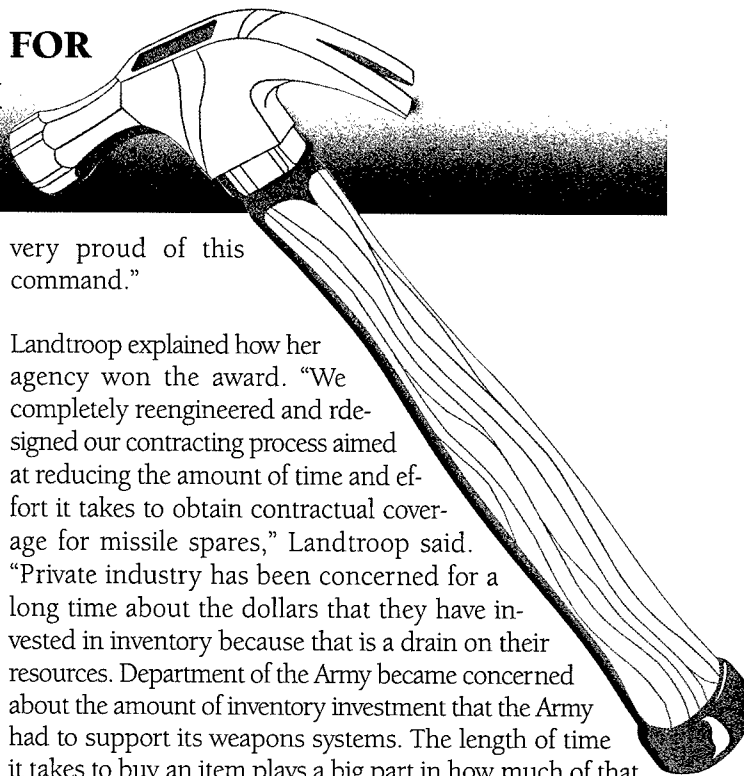
Echoing the Panel's report, Cohen stressed that "the Department of Defense does not have the luxury to choose between shaping and responding in the near term and transforming itself for the future. We must do both." He said that he will be aggressive in exploring the Panel's recommendations for longer-term change.

The National Defense Panel report is being issued today. As outlined in the National Defense Authorization Act for Fiscal Year 1997, the Secretary of Defense will provide comments to Congress on the National Defense Panel report by December 15, 1997.

Editor's Note: This information is in the public domain and may be accessed at <http://www.dtic.dla.mil/defenselink> on the DefenseLINK News Home Page. To read the full text of the NDP report, access <http://www.dtic.mil/ndp/> on the World Wide Web.

ACQUISITION TEAM HONORED FOR HAMMERING OUT REFORM

Debra Valine



REDSTONE ARSENAL, Ala. (Army News Service, Dec. 5, 1997) — It's a first for Aviation and Missile Command. AMCOM's Acquisition Center, Missile Logistics Procurement Directorate, received the Hammer Award Nov. 24 for efforts to streamline operations and cut costs. Gen. Johnnie Wilson, Commander of Army Materiel Command, on behalf of Vice President Al Gore, presented the award.

Dianne Landtroop, Director of Missile Logistics Procurement Directorate, Acquisition Center, accepted the award on behalf of the 120 employees on the team. Thirteen branch chiefs also received certificates.

The Hammer Award acknowledges significant contributions in support of the President's National Performance Review. This is a special recognition to government teams who have emphasized customer support, cut red tape, and substantially improved their work processes.

"You all are helping to create a government that works better and costs less," Gore said in a videotaped statement. "You cut lead time by 45 percent, which translates to a cost cut to taxpayers of \$500 million. You worked with the Navy and Air Force and other agencies to find out how they reduced costs. Across the board, you have done a great job to reduce the amount of time and money. In redesigning the process, you identified soldiers as your customers. But taxpayers benefit from the reduced cost to do business. The Hammer Award is a token of our appreciation."

Wilson said he could not think of a better place for leading the way in acquisition reform than AMCOM.

"Missile Logistics Directorate's receipt of this prestigious award is no small feat," Wilson said. "Acquisition reform is a priority. Your efforts here in putting customers first sets an example for all of America to emulate. This sets a standard for the 21st Century. You streamlined business and improved efficiency. You have the right to be proud."

Maj. Gen. Emmitt Gibson, Commander of AMCOM and Redstone Arsenal, told the crowd at the auditorium the award honored the contributions of so many people in the Missile Logistics Directorate.

"This award is the most prestigious award that can be given to a government agency," Gibson said. "I think it is fitting that this AMCOM agency is getting this award today. I am

very proud of this command."

Landtroop explained how her agency won the award. "We completely reengineered and redesigned our contracting process aimed at reducing the amount of time and effort it takes to obtain contractual coverage for missile spares," Landtroop said. "Private industry has been concerned for a long time about the dollars that they have invested in inventory because that is a drain on their resources. Department of the Army became concerned about the amount of inventory investment that the Army had to support its weapons systems. The length of time it takes to buy an item plays a big part in how much of that item you have on the shelves.

"If you can reduce that time, then you can reduce the amount of money the taxpayers have to invest. We accepted the challenge three years ago. We visited Air Force, Navy, and other Army agencies such as the Defense Logistics Agency. We looked for the best, most effective process, brought those items back here, changed them somewhat, and adapted them to fit the commodity that we buy," Landtroop said.

"One of the real cornerstones, we believe, is the culture change that we have had," she continued. "We now work very closely with the contractor community to develop new initiatives and to improve the way we do business. Three of those contractors are here today to share in this moment with us: Raytheon Company, Boeing, and Northrop Grumman.

"Over the past two years, we have had integrated processes themselves with each of those three companies," Landtroop said. "We have been able to reduce the administrative lead time by more than 50 percent, and there has been a reduction in the inventory investment by approximately \$500 million. We are real proud of ourselves; we have worked hard. Change is always hard, even good change. This group of people has not only accepted this change, they have absolutely made it work to the benefit of the Army."

Editor's Note: Valine is a writer assigned to the Public Affairs Office, Redstone Arsenal, Ala. This information is in the public domain and may be accessed at <http://www.dtic.dla.mil/armylink/news> on the World Wide Web.

COHEN RESPONDS TO NATIONAL DEFENSE PANEL REPORT



THE SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1000

December 15, 1997

Honorable Strom Thurmond
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

In accordance with Section 924 of the National Defense Authorization Act for Fiscal Year 1997, and after consultation with the Chairman of the Joint Chiefs of Staff, I offer the following comments on the report of the National Defense Panel.

The National Defense Panel has performed a significant service to the Nation, both in recommending long-term changes to the Defense Department and in providing valuable advice to me during the recent Quadrennial Defense Review (QDR). The Panel is to be commended for its longer-term focus on the many security challenges that lie ahead. I strongly endorse its key recommendation to accelerate the transformation of U.S. military capabilities using savings generated by far-reaching business and acquisition reforms and additional base closures. This recommendation alone will greatly assist the Department of Defense (DoD) in charting a viable, fiscally responsible path to meeting the challenges of the early part of the next century.

As I have stated frequently in my dialogue with the Congress, and as events of recent months have repeatedly confirmed, the fundamental challenge facing the Defense Department, indeed the Nation, is to continue to meet the challenges of shaping the security environment and responding to the full range of crises in the near term while at the same time transforming our forces and capabilities to meet the demands of an uncertain future. The Panel correctly states that we do not have the luxury to choose between these sometimes competing demands. We must do both. In the Panel's words, "the United States needs to launch a transformation strategy now that will enable it to meet a

In Brief

Reforming Outdated Business and Acquisition Practices	✓ Agree
Training and Professional Development	✓ Agree
Increased Outsourcing and Privatization	✓ Agree
More Agile Acquisition System	✓ Agree
Abandoning Two-War Force Capability	x Disagree

In response to the National Defense Panel (NDP) Report, Secretary of Defense William S. Cohen sent this letter of Dec. 15, 1997, to leaders of House and Senate committees that oversee the Pentagon.

COHEN RESPONDS TO NATIONAL DEFENSE PANEL REPORT

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range of security challenges in 2010 to 2020. Yet we must do so without taking undue risk in the interim."

The extent and pace of our transformation efforts will depend critically on the availability of resources to invest in necessary research, development, testing, experimentation, and procurement. In this regard, I envision two inter-locking revolutions in military and business affairs. I am, therefore, particularly pleased with the Panel's support for the infrastructure reforms put forward in the Department's recently completed Defense Reform Initiative. Efficient business practices and reduced overhead not only free up resources, they also contribute directly to the transformation of the Department's support structure. As I have said elsewhere, the old philosophy was the big eat the small. Now, it's the fast eat the slow. My goal is for the Defense Department to be fast and lean. We must be competitive.

Our men and women remain the key to the Department's long-term success. They form the core of our defense capability, and they will continue to do so in the highly technological military of the future. I fully agree with the Panel that "under no circumstances should we reduce the quality or training of our people." Recruiting and retaining the best people our country has to offer, committing ourselves to their continual professional development, providing them with challenging and fulfilling careers, and ensuring they and their families can enjoy a high quality of life must remain our top priorities.

Confronting Our Military Challenges, Today and Tomorrow

The NDP offers a number of important recommendations concerning our future security challenges, our current strategy and force posture, and several of our ongoing defense programs. Several of the Panel's more important recommendations deserve comment.

The Panel provides a compelling depiction of our future security challenges, though I would emphasize that there is considerable uncertainty regarding the specific form these challenges might take. As the NDP report points out, the world of 2020 will likely pose a wide array of military challenges, some different from today, some quite familiar. Terrorism; information operations; nuclear, biological and chemical weapons; missile proliferation; and a host of transnational dangers may play a more prominent role, even posing direct threats to the U.S. homeland. These changes in the security environment will likely require concomitant changes in defense planning.

COHEN RESPONDS TO NATIONAL DEFENSE PANEL REPORT

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The most important step in addressing these challenges is for the United States to continue to play a leadership role in the international community. This in turn depends on close and cooperative relations with nations that share our values and goals and on our ability to influence those who can affect U.S. national well-being. Overseas presence and extensive engagement activities are essential to our success in this area. We are working hard to strengthen and adapt our alliance relationships and develop new partnerships to meet new challenges. Enhancing interoperability with allied and coalition forces is another especially important component of these efforts.

I share the Panel's concern that our ability to rapidly and effectively project and sustain U.S. military power to distant regions may be challenged in the future. Our potential enemies will look to exploit our vulnerabilities through a range of asymmetric approaches that focus on denying us access to key regions and imposing large numbers of casualties early in the conflict. For our own part, it is important that we exploit our own warfighting advantages to the maximum extent possible. The Panel's insights will be useful as we pursue a dual-track approach: first, acting to protect facilities and infrastructure that enable our forces to deploy rapidly in crisis, to secure long-term agreements with our allies and partners that provide ready access to critical overseas infrastructure, airspace, and territorial waters, and to ensure our mobility and support forces are properly sized, trained, and equipped to perform their missions under what will likely be very different, very demanding future circumstances; and second, exploring technological developments and innovative operational concepts that would enable us to project our military power effectively even when confronted by an enemy that seeks to deny us critical access to a region.

I share the Panel's concern about the vulnerabilities of our space systems. Securing unimpeded access to space will be vital to all future military operations. As the Panel points out, the next 20 years will bring a dramatic expansion in space operations of all kinds, especially in the commercial sector. Military competitors, enabled by commercially available space systems, will obviously seek to reduce our current advantages in space. This challenge requires that we have adequate space control capabilities and better integration of our defense and intelligence community operations. I also agree that we must have a robust science and technology program, take best advantage of increasingly innovative commercial practices, and seek to secure private industry cooperation in addressing our security challenges in space.

“I share the Panel's concern that our ability to rapidly and effectively project and sustain U.S. military power to distant regions may be challenged in the future.”

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I agree with the Panel that we need to better prepare ourselves to conduct operations in urban environments. As we have seen in Somalia, Haiti, and Bosnia, many of our efforts to achieve stability will bring our forces into urban areas. The same will hold true for larger-scale conflicts. The Services already are embarked upon efforts to improve our ability to operate in cities. We will look to build upon the Panel's recommendations as we focus upon this important challenge.

I believe the Panel incorrectly characterizes our approach to sizing military forces. Contrary to the Panel's characterization, we size our forces against a range of requirements, not only to fight and win major theater wars. In fact, for many elements of our forces, the requirements for major theater war are less demanding than for day-to-day peacetime activities. This has been demonstrated by recent experience and by analyses conducted during the QDR. In accordance with our strategy, our force structure is designed to meet three broad requirements: to provide adequate overseas presence and conduct a wide range of peacetime activities that help promote peace and stability in key regions; to conduct the full range of smaller-scale contingencies; and, in concert with allies, to deter and defeat large-scale, cross-border aggression in two distant theaters in overlapping time frames. The force structure outlined in the QDR provides the capabilities necessary to meet these requirements.

Given America's enduring global interests and today's serious security challenges on the Korean Peninsula and in Southwest Asia — challenges that are explicitly recognized by the Panel — I believe that maintaining a capability, in concert with our allies, to fight and win two major theater wars in overlapping time frames remains central to credibly deterring opportunism and aggression in these critical regions. Moreover, this level of capability helps ensure that the United States maintains sufficient military capabilities over the longer term to deter or defeat aggression by an adversary that proves to be more capable than current foes or under circumstances that prove to be more difficult than expected. Obviously, if threats of large-scale regional aggression were to grow or diminish significantly, it would be both prudent and appropriate for us to reevaluate our theater warfighting requirements, while at the same time ensuring that we retain the capabilities necessary to shape the international environment and respond across the full range of potential operations.

I believe the Panel recommends the correct path for pursuing a national missile defense system. I also agree that we should seek further reductions in nuclear forces, and we intend to do so upon ratification of the START II treaty.

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The inconsistency the Panel perceives between the Services' visions and some of their procurement plans merits consideration. I have called for a measured modernization program that, together with streamlining the Department's business practices, will allow us immediately to exploit the most promising technologies. Information technologies will clearly be in the forefront of our activities. Guided by our joint and Service visions, I expect our acquisition plans to change over time as new operational concepts and supporting technologies mature.

The Panel also made a number of observations about specific Service programs, questioning, in some instances, projected procurement quantities. Such quantities are revalidated and revised many times in the life of a program and, hence, will be subject to periodic review. The Panel's recommendations to add or accelerate programs to enhance our transformation efforts, particularly those requiring additional resources to implement, will be considered in future Departmental reviews.

Embarking on a Transformation Strategy

I read with interest the Panel's proposals to accelerate our ongoing transformation activities to exploit the Revolution in Military Affairs (RMA). The Defense Department has recognized similar challenges and is already pursuing many of the actions identified in the report. (The attached annex identifies many of our ongoing transformation activities.) However, in the face of very real near-term demands to protect U.S. interests and within the constraints of available resources, we must pursue this transformation prudently. We have therefore developed a process encompassing a wide variety of joint and Service-unique activities to enable us to fundamentally transform our military capabilities.

Joint Vision 2010 serves as the template for our transformation activities. It embraces information superiority and the technological advances that will transform traditional operational warfighting concepts into new concepts, via changes in weapons systems, doctrine, culture, and organization. It provides common direction for the Services, combatant commands, Defense Agencies and military-related businesses as they refine their own complementary visions and prepare to meet an uncertain and challenging future.

Guided by our joint and Service visions, I expect our acquisition plans to change over time as new operational concepts and supporting technologies mature.

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I welcome the Panel's emphasis on joint experimentation and am particularly interested in those recommendations that focus on infusing greater "jointness" into our ongoing efforts. Accordingly, I will explore its suggestion to create a joint battlelab for experimentation and joint exercises, to establish a joint national training center, a joint urban warfare center, and a joint concept development center, and to integrate existing service battlelabs and facilities where appropriate.

Supporting our efforts to realize a vision of future warfare, the Joint Staff and the Services have created several battlelabs to develop and assess new concepts and capabilities to carry out critical missions to meet current and future challenges. These battlelabs serve as our test bed for exploring ways to ensure our 21st century forces are effective across the spectrum of future military operations. In addition to these battlelabs, we employ a variety of war games to improve our understanding of the security environment and the relative merits of alternative means of meeting critical military challenges over the longer-term.

Experimentation is another critical tool for gaining insights and refining new operational concepts. Warfighting experiments evaluate the impact of various concepts, doctrines, technologies, and organizations on the warfighting capability of joint and combined forces. We also employ larger-scale Advanced Warfighting Experiments (AWEs) to further explore emerging operational concepts and new technologies.

We also have funded an aggressive science and technology (S&T) program to ensure that our future forces have the competitive combat edge provided by superior technology. Four recent publications — the *Defense Science and Technology Strategy*, its supporting *Basic Research Plan*, the *Defense Technology Area Plan*, and the *Joint Warfighting Science and Technology Plan* (JWSTP) — lay out our S&T vision, strategic plan, and objectives. The JWSTP takes a joint perspective, looking across the Services and Defense Agencies to ensure that our S&T programs address priority future joint warfighting capabilities.

In an effort to link new operational concepts with new technologies, advanced concept technology demonstrations (ACTDs) are aimed at rapidly fielding new systems to evaluate their military utility — generally within two to four years. The ACTD is our approach to capturing and harnessing technology and innovation rapidly for military use at a reduced cost. ACTDs are designed to foster an alliance between the technologists and the joint warfighters, eliminating barriers and improving the management of these critical efforts.

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Building upon the many Department-wide activities described above, I plan to explore the Panel's recommendations to aggressively implement a transformation strategy. Toward this end, I have asked the Deputy Secretary of Defense to chair an RMA oversight council within the context of the Defense Resources Board to review the Department's current and planned transformation activities, recommend areas that could benefit from greater "jointness," and investigate whether changes in funding or activities are warranted. Our common goal is to better position the Defense Department to ultimately field the fundamentally different forces we will need for the future.

Reorganizing for Future Military Operations

A successful transformation of the Defense Department will necessarily involve organizational changes. The National Defense Panel made several useful recommendations for areas in which the Department can alter its structure to better meet the challenges of the future through: the Unified Command Plan (UCP), new uses for the Guard and Reserve, and changes within the broader interagency process.

The NDP recommended maintaining the current number of combatant commands but suggested that the Department make adjustments in the responsibilities of many and changes in the missions, and hence names, of some. I find these observations to be timely and insightful. As the means by which the missions, responsibilities, and force structure of each combatant command are assigned, the UCP is a cornerstone of the CINCs' ability to meet the defense strategy's fundamental challenge. It is therefore imperative that we thoroughly review and modify the UCP as we transform our forces for the future. It is also essential that we modify the UCP only after deliberate analysis. Changes in responsibilities should come at a rate that can be implemented by the CINCs without an undue increase in risk in the transitional areas of responsibility.

The Chairman of the Joint Chiefs of Staff recently completed a biennial review of the UCP as required by Title 10 and Section 905 of the Defense Authorization Act for Fiscal Year 1997, which directed a review of the impact of the QDR on the UCP. This review was an extensive effort that involved the Joint Staff, CINCs, and Services. Several proposals similar to the Panel's recommendations were reviewed in this cycle.

As the means by which the missions, responsibilities, and force structure of each combatant command are assigned, the UCP is a cornerstone of the CINCs' ability to meet the defense strategy's fundamental challenge.

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Some, including assignment of the newly independent states, strengthening the mission of SPACECOM, and further clarification of ACOM's mission, were recommended for inclusion this year (UCP 97). Since the Panel's full range of UCP recommendations merit thorough analysis, I will ask the Chairman of the Joint Chiefs of Staff to include them for consideration in the UCP review cycle that begins in January 1998 and would look to act on any particularly promising ideas expeditiously.

The Department must approach a transformation strategy from a Total Force perspective. The National Defense Panel correctly states that to achieve transformation, the Active and Reserve Components must work together in an atmosphere of mutual trust. Indeed, the Panel's specific recommendations on the Reserve Components greatly contribute to the national discussion of how best to evolve the Total Force and are consistent with the Department's current efforts to refine the role of our Guard and Reserve components. The Army, in particular, is currently assessing more than 30 initiatives to improve active-reserve force integration. The conversion of Army National Guard combat structure to critically needed combat support and combat service support structure is underway. Additionally, the Army will begin to assess integrated AC-RC divisions by fielding two such divisions in Fiscal Year 1999. Other proposals include increasing reserve force utilization in support of rotational operational missions, developing multi-component units, and addressing the growing threat to the U.S. homeland. The NDP's recommendations will be fully considered as the Department continues to shape the Total Force for the future.

The Panel rightly points out that the future security environment will include threats to the U.S. homeland, and I agree wholeheartedly that we must examine the role of homeland defense in our overall defense strategy. I look forward to exploring the Panel's recommendations on new roles for our National Guard and Reserve forces in this area. Recent legislation provides the National Guard and Reserve forces in its domestic chemical/biological counter-terrorism mission. In addition, the Under Secretary of the Army directed an active-reserve Tiger Team to develop a plan for integrating Reserve Components in DoD's response to domestic nuclear, biological, and chemical terrorist attacks. The Tiger Team will report this month to the Deputy Secretary of Defense on its findings. The Department is also leading the implementation of the Domestic Terrorism Preparedness Program, which trains the local trainers and exercises local first responders, including firemen, law enforcement officials, and medical personnel. The program reached 27 cities this year and will cover 22 more next year. Over the next few years, we plan to provide "train the trainer" assistance for first responders in America's 120 largest cities and will provide training to all cities via the Internet, video, and CD-ROM. As we consider these options, we have to balance

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capabilities, tempo, and missions. In considering these recommendations, however, we must bear in mind that the defense of the U.S. homeland involves many agencies of government.

The evolving security environment also has significant implications for how the national security apparatus operates. The distinctions between foreign and domestic policies are less pronounced than in the past. As the Panel points out, the United States faces a panoply of threats that require smooth interaction among diplomatic, military, law-enforcement, and consequence management organizations. I believe our national security apparatus must be flexible and responsive to meet the kinds of challenges that this Nation will face in the foreseeable future. Presidential Decision Directive 56 on Managing Complex Contingency Operations takes a major step in that direction by providing an approach to effectively integrate the operations of all U.S. government actors in a crisis situation. I will recommend to the President that the broader national security community review the Panel's proposals in this area.

Streamlining Support Infrastructure

The National Defense Panel rightly focused on the need for additional resources to fund the transformation process. Change does not come cheaply, and the Department must work together with Congress to ensure that U.S. forces are not held back by a burdensome infrastructure and outdated business and acquisition practices. The recently completed Defense Reform Initiative, endorsed by the NDP, reflects the insights of numerous business leaders who have restructured and downsized their corporations to compete more successfully in a rapidly changing marketplace. These leaders made clear that winning in the new era depends as much on speed and agility as on overpowering mass. This lesson must be learned not only by our fighting forces, but also by the Department's business force, marching together in step to achieve the inter-locking revolutions of military and business affairs.

As we expressed in the Defense Reform Initiative, the Department of Defense's business processes will be guided in the future by four principles:

- *Reengineering:* Adopting modern business practices to achieve world-class standards of performance.

I believe our national security apparatus must be flexible and responsive to meet the kinds of challenges that this Nation will face in the foreseeable future.

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- *Consolidating*: Streamlining organizations to remove redundancy and maximize synergy.
- *Competing*: Applying market mechanisms to improve quality, reduce costs, and respond to customer needs.
- *Eliminating*: Reducing excess support structures to free resources and focus on core competencies.

Three areas of particular interest to the National Defense Panel were outsourcing and privatization, base closures, and acquisition reform.

This year, the Department of Defense is increasing significantly the number of functions that it will compete. Already, the Military Departments and Defense Agencies announced that they will conduct OMB Circular A-76 competitions involving 34,000 positions. In addition, the Department's components will pursue A-76 competitions for functions involving 30,000 full-time equivalents (FTEs) in each of the next four fiscal years, for a total of approximately 150,000 FTEs. This annual effort represents more than a threefold increase over any year in the previous two decades. In addition, DoD continues to pursue public-private competition for depot maintenance work to the full extent allowed by law. The Department is currently reviewing the functions performed by its personnel to identify additional functions that can be made subject to competition.

As recommended in the Defense Reform Initiative and endorsed by the National Defense Panel, the Department will also continue to pursue congressional authorization for two additional rounds of base closures. Our proposal is to conduct these rounds in 2001 and 2005. The relative disparity between current base structure and force size wastes limited resources that should be invested in our transformation efforts. Having streamlined the property transfer and environmental cleanup processes, we are now able to reap the savings from base closures more quickly. Indeed, BRAC 95 sites are closing in two-thirds the time it took to close BRAC 88 bases. This improved turn-around time not only benefits taxpayers, it also allows communities to put these properties back to work for them sooner.

The Department agrees with the Panel's belief that our acquisition system must be more agile. The Department has already made significant strides toward this end and is examining ways to shorten the cycle time required

 The Department is currently reviewing the functions performed by its personnel to identify additional functions that can be made subject to competition. 

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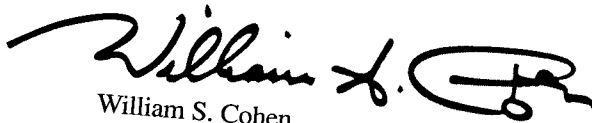
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to introduce new systems, such as by applying lessons from the ACTD process and by fostering dissimilar competition. We believe that further civil/military industrial base integration will allow the Department to access significantly more commercial products and services in a more timely fashion, as the Panel recommends.

* * * * *

Carrying out the wide range of important ideas put forth by the National Defense Panel will require a partnership between the Administration, the Congress, and the American public. We cannot lose sight that the purpose of our military is to credibly deter and if necessary fight and win wars. Our magnificent people and technological capabilities are strengths we must maintain. I look forward to working with the Congress over the coming months to build upon the important recommendations highlighted in this report.

Sincerely,

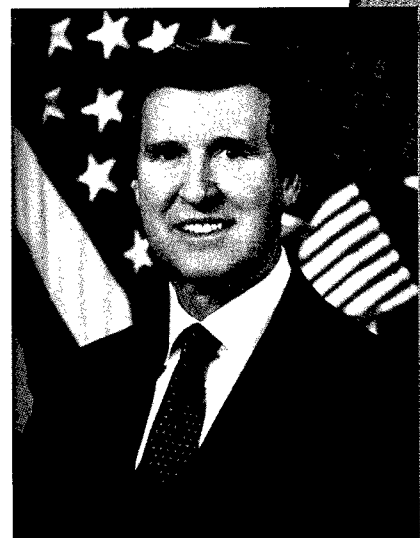


William S. Cohen
Secretary of Defense

Enclosure:

Selected DoD RMA Transformation Activities Annex

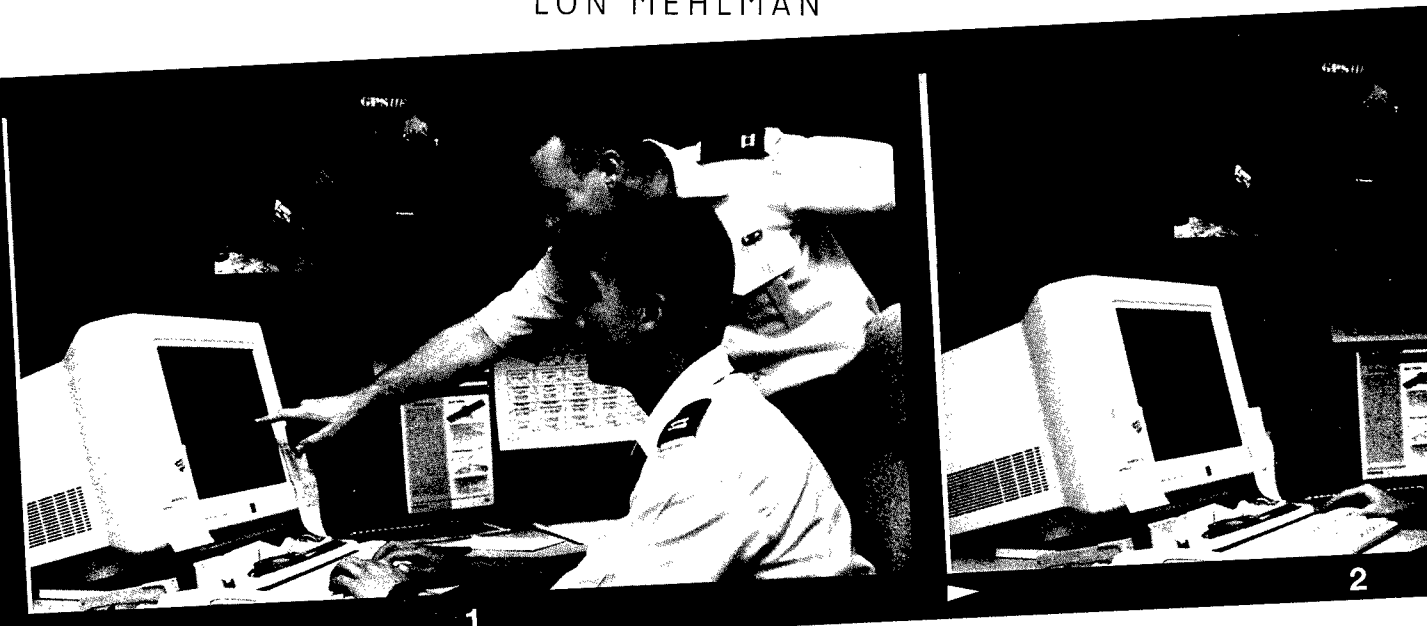
Editor's Note: To retrieve the enclosure to this letter or a copy of the *Report of the National Defense Panel* (.pdf), access <http://www.dtic.mil/ndp/ndprespo.htm> on the World Wide Web.



NAVSTAR GEMS Project — A Total Digital Environment Success Story

Paper-Driven Environment for Acquisition Programs a Relic of the Past

LON MEHLMAN



The Global Positioning System (GPS) Engineering Management System (GEMS), currently under development by the NAVSTAR GPS Joint Program Office (JPO) is an innovative approach to JPO business process automation that combines the DoD's Joint Continuous Acquisition and Life Cycle Support (JCALS) system, best-of-breed industry standard Commercial Off-the-Shelf (COTS) software and hardware, and electronic delivery and access to all unclassified program data to the JPO.

The project began in early 1993 as a means to develop an information infra-

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structure that would support three primary DoD initiatives:

- **Integrated Weapons Systems Management (IWSM)** — an all-encompassing, cradle-to-grave weapon system management concept.
- **Acquisition Reform** — a newer philosophy for weapon system procurement that emphasizes government *insight* into contractor processes rather than *oversight*.¹
- **Digital Acquisition and Operations Across DoD by 2002** — DoD's initiative to move forward to a fully digital environment in all acquisition program and support offices.²

The JPO, by implementing an electronic link called CITIS (Contractor Integrated

Technical Information Service) for all prime contractors who participate in GPS JPO programs, established an electronic link between its GEMS and the information systems used by GPS contractors. CITIS also includes the use of standard data formats, the GEMS shared data service client software, GEMS workstation client software, and other mutually agreed-to COTS software tools.

After developing program data (test reports, engineering drawings, schedules, and other documents), GPS contractors then make that data available for viewing or deliver it into the JPO's Reference Library via CITIS.

The Reference Library is a shared electronic library that maintains version control, access control, and status of the data. Once the JPO receives the data, the JPO Integrated Product Team (IPT) members start the coordination of the documents electronically by routing pro-

1 AIR FORCE CAPTAINS ANDY PHAM (SEATED) AND MIKE SWART REVIEW AN ENGINEERING CHANGE PROPOSAL (ECP) ONLINE IN GEMS.

2 AIR FORCE MAJ. JOHN MORRIS (SEATED), PROGRAM MANAGER, CURRENT SATELLITES, AND CHARLIE GOLDEN, DEPUTY PROGRAM MANAGER, BLOCK IIF USE GEMS TO COMPARE ENGINEERING DATA.

3 THE NAVSTAR GPS BLOCK IIF INTEGRATED PRODUCT TEAM (IPT).



gram data through the JPO via the JCALS Workflow Manager.

Through this process, the JPO achieved electronic delivery of data to and from its GPS contractors in a *totally paperless, digital environment*.

A Brief History

The NAVSTAR GPS JPO is a joint-Service, multi-national organization with over 375 personnel. The office develops, acquires, and sustains a 24-satellite constellation, a worldwide satellite control network, over 80,000 receiver systems, and a nuclear detonation detection system. Designated a priority DoD force enhancement program, the system provides the capability to precisely determine position, velocity, and time, and to pinpoint nuclear events.

The JPO is physically located at four primary sites: Los Angeles AFB, Calif.; Peterson AFB, Colo.; Robins AFB, Ga.; and Patrick AFB, Fla.

In mid-1992, the GPS JPO faced a major problem. At that time, the 375 users comprising the program office used numerous PC-based applications to accomplish various tasks. They also shared printers through serial data switch boxes.

Computer support consisted of several people transgressing the building all day in a futile attempt to "standardize" the software on users' systems and keep the various printers and printer interfaces operational. Systems support was becoming exceedingly difficult, and in fact was spiraling hopelessly out of control.

End-users would access a myriad of various mainframe applications to accomplish their job functions. Although several proprietary systems hosted on proprietary hardware and operating systems were in place (IBMs VAXs, WANGs, HP 3000s, etc.), each system and application was its own "island of information." As a result, even though a physical network was in place, no communica-

tion existed between systems. Because users could not send data from one system to other systems or other users, they had no option other than continuing to use paper.

At the same time, the program office continued generating thousands of pages of paper-based documents and information daily. Air Force leadership, anxious to implement Acquisition Reform initiatives, pressed the leadership of all its program offices to introduce cross-functional IPTs. This created the need for information sharing among geographically dispersed individuals, the need to open new lines of communication, and the requirement for greater and faster access to all program data.

Where Are We Headed?

To document and chart the progress of the GEMS project, the IPT established firm goals and objectives. Its primary objective, however, remained redesign of the GPS JPO's information systems infrastructure to directly support four critical concepts:

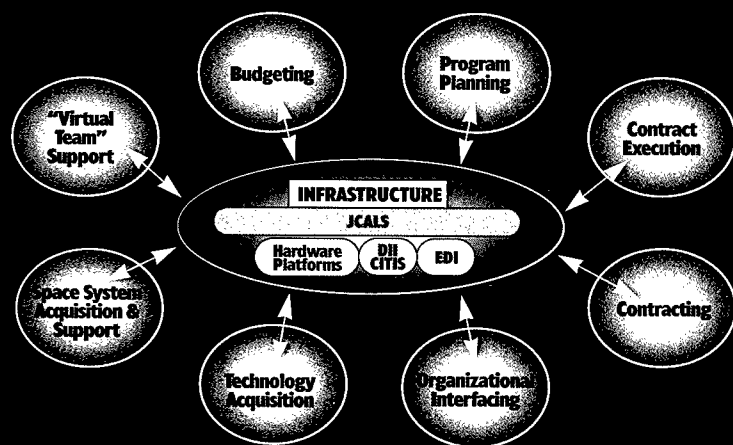


FIGURE 1. Business Processes and the GEMS Project

- IWSM
- Integrated Product Development
- Concurrent Engineering
- Acquisition Reform

All of these concepts, the team believed, were critical to the seamless integration of JPO business processes that could span across the program office and its contractors.

The GPS Block IIF Program, responsible for the procurement of the next generation of GPS satellites, foresaw the critical need for GEMS and fully supported GEMS objectives.

Air Force Lt. Col. Al Moseley, the GPS Block IIF Program Manager, stated, "The Block IIF Program would be the first IPT in GPS, and one of the first in the Air Force and the DoD, to implement a paperless system to meet program and acquisition reform objectives."

Implementation for GPS Block IIF

The GPS JPO implemented its GEMS Information Systems infrastructure in a modular fashion, one process at a time, and rolled it out incrementally to each IPT within GPS. Over the past year, GEMS expanded from a pilot process to receive and review Engineering Change Proposals electronically, to one that now allows users to perform all configuration and data management online, and integrate the cost and schedule management process (Figure 1).

The GEMS configuration and data management tools integrate and automate the JPO data management process. By automating the JPO data management process, users gain access to valuable data management tools capable of generating AF Forms 585 and AF Forms 1423; conducting data calls; conducting data scrubs; and tracking all Contract Data Requirement Lists (CDRL) under review. Moreover, by extracting the required data from the GEMS database, the tools make it easier to board documents at the JPO Configuration Control Board and report on data metrics.

Acquisition Reform, which encompasses reengineering of many acquisition management processes and procedures, calls for a reduction of the number of Contract Data Requirements Lists (CDRL) for a program. One of the management principles of the IIF program is electronic access to all unclassified program data. The GEMS data management tools, originally used to determine which CDRLs the JPO placed on a contract, now help the JPO determine the specific program data generated by its contractors for which it requires electronic access via GEMS/CITIS.

The use of GEMS allowed the GPS Block IIF program to reduce the number of CDRLs placed on contract from 339 to 3 (Figure 2).

The GEMS integrated cost and schedule management tools allow the JPO IPT

leads to receive Electronic Data Interchange (EDI) transactions over the CITIS link for cost and schedule data. This data can then be tracked and analyzed from a user's workstation without redundant data entry. Progress on JPO contracts can be viewed from both an individual IPT's perspective or "rolled-up" to give a JPO-wide perspective.

Benefits

GEMS allows the GPS Block IIF and related programs to immediately begin doing things *better, faster, and cheaper*. In terms of the quality of JPO business processes, measurable improvements have been noted in the following areas:

Shortening the Process Cycle. Prior to GEMS, the processing cycle for authentication of a system specification was 18 to 24 months; the new authentication process is now six months. The reasons for most delays can be immediately detected via the workflow and corrective action taken.

Standardizing JPO Processes. The prior, paper-based JPO processes varied greatly; now the JPO documents most JPO processes, not only in Operating Instructions, but also in GEMS workflow templates. The workflow templates show the proper routing of documents and tasks to the proper offices for each type of process. When action is required on an electronically delivered document, an individual in the office of primary responsibility can select the appropriate workflow process template for a given function, make any necessary adjustments, start a "job," and accurately track the status of the document.

Empowered Team Orientation. The reengineered Block IIF IPT business processes use GEMS. This results in a largely matrixed organization, grouped by IPTs, where each team is responsible for a product and given sufficient decision-making authority. In the old system, JPO employees circulated documents among functional departments. Now, cross-functional project teams handle documents, and the JPO business processes are very well defined and easier to manage.

Facilitation of "Process Change." GEMS paved the way for the creation of "virtual teams" that consist of contractor as well as IIF IPT members working side-by-side in the contractor's plant and in multiple locations. Users quickly communicate issues throughout the group via the infrastructure.

An important byproduct of this enhanced communication is that the organizational culture has become much more receptive to change, and information technology provides the necessary channels to disseminate information and facilitate change.

Stable Configuration Management. The heart of the GEMS system is the Reference Library, which holds most of the GPS program data. Catalogued by several factors (project, organization, type, subtype, date, etc.), the Reference Library allows users easy search and retrieval. In addition, the archive feature of the Reference Library ensures safe, long-term storage of all program data.

Since the Reference Library is the single location for current copies of all program data, multiple versions of documents in circulation is no longer a problem. Authorized individuals gain fast access to the latest version of a document, including updates, from one centralized location.

Flexible Implementation and Usage. The nature of GPS JPO business forces GPS IIF team members to conduct business in many places other than their offices. The wide area network and the CITIS will permit users to view the same data from an equipped contractor's facility or remote JPO office location.

Based on their account privileges, these users retain the same capabilities as if they were sitting in their home office. Because of these capabilities, collocated IIF team members in the contractor's plant are achieving unprecedented partnerships.

Management Insight vs. Oversight. The flexibility of GEMS permits IIF IPT leads to task any GEMS user no matter where they are physically located. GEMS makes all the necessary tools and data readily

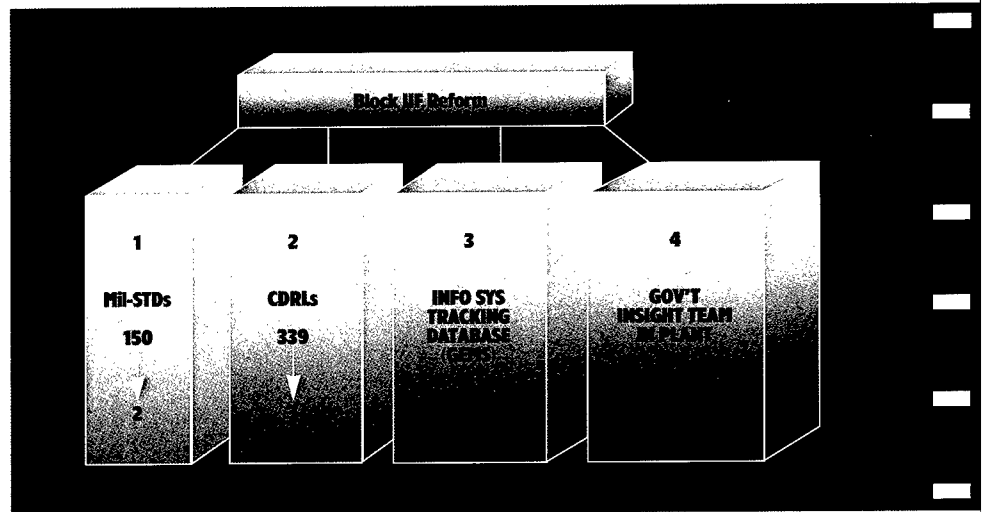


FIGURE 2. GEMS Impact on IIF Program

available for all users to accomplish their work, even when they are not in the home office. The IIF IPT leads have the same insight into job progress as if they were right down the hall.

Authenticating a Block IIF Specification

Authenticating a specification is the process of reviewing the specification for accuracy and completeness by the government and contractor's engineering teams.

An example of how GEMS is streamlining GPS operations is the authentication of the GPS Block IIF System Specification for the new GPS Block IIF satellite. Serving as the technical backbone of the IIF program, this document is the starting point for thousands of derived requirements.

Before GEMS, the authentication process has always been long and costly. Typically, engineers passed paper copies of the specification from one engineer to the next. To stay on top of the process, they continually coordinated comments, scheduled meetings, and checked status. However, this created duplication of effort in that different groups of engineers would review issues that others had already resolved.

Just the cost for reproduction of the document would run into the thousands of dollars before approval of even a draft set of system specifications.

Because of this inability to track and manage the review process, the paper-based method of authenticating system specifications would normally take one to two years after contract award.

Now, using GEMS, the reengineered process is significantly streamlined. Distribution to the entire GPS engineering team is virtually immediate. As soon as users input comments into GEMS, all the reviewers can see the comments on a system specification document at once.

In addition, workflows allow for the management and tracking of the document through the review cycle. GEMS automatically notifies key reviewers if their input is overdue. This keeps the authentication review running smoothly.

Review managers no longer need to sit down with stacks of the same document, note everyone's comments in the margins, and then try to consolidate them. Managers can now review, consolidate, approve, and transmit the results back to the contractor for incorporation.

Further, the streamlined process using GEMS allows the GPS Block IIF IPT to authenticate the IIF system specification six months after contract award. The time savings not only saves substantial money, but also gives the government, as well as contractors, a solid baseline for building the IIF program much sooner than would have been possible with the paper-based process. This, in

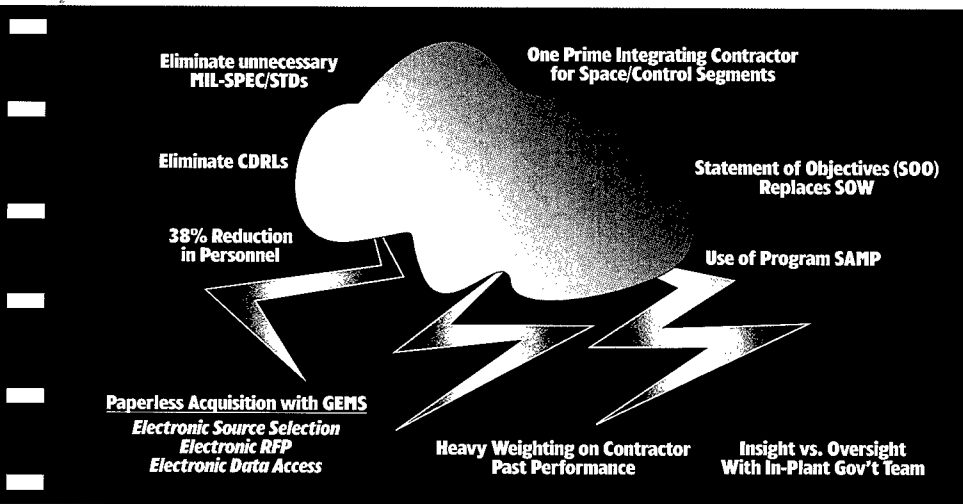


FIGURE 3. GPS IIF and SAF/AQ Lightning Bolts

turn, will help prevent requirements creep, which may save the government even more money in the future by preventing cost overruns.

Lessons Learned

A key factor in the success of the GEMS project was senior management commitment. This is a well-documented success factor for any program that requires cultural change.

Another key success factor was user involvement in the early stages of the project, which helped ensure acceptance of the system.

To ensure clear, consistent communication, a program or project office should eliminate variations in the desktop computer environment to the fullest extent possible. This will accelerate rollout and training, and greatly reduce the burden on the system help desk.

After a program or project office completes design and development of new systems and processes, management should resist the desire to roll out the new systems too quickly for instant payback. A well-managed rollout to individual functional groups will allow for better and more targeted training and will contribute to a smoother implementation.

Implementing electronic access to program data creates several issues related to the "ownership" of program data and

who maintains the data of record. For the IIF program, this was resolved by the concept of a shared data environment between the contractor and the program office databases. Essentially, government as well as contractor IPT members can view data in each database. IPT members can also easily transfer data to be retained by the program office from the contractor's database to the GEMS Reference Library via the electronic link.

Credit also belongs with the implementation methodology: System development and deployment should not be implemented piecemeal during the process reengineering effort (risky integration), nor a monolithic, all-at-once approach (too long to see results), but instead implemented in a modular, layered, bottom-up approach to minimize risk exposure and maximize flexibility.

Filling the Gap

The GEMS-based enterprise infrastructure fills the gap between ordinary office automation and the automation of JPO business processes. Using the DoD's JCALS infrastructure allowed the IPTs of the NAVSTAR GPS JPO to concentrate on deploying modular, process-based applications that can share enterprise data. Unlike systems that do not take advantage of CALS and industry standards, GEMS places no constraints on data reuse, the longevity of data, or the amount or types of data (records, documents or graphics) the system can manage, route, and warehouse. Thus, the

organization retains its investment in applications, business processes, and data.

Because the GEMS business process applications are developed on DoD's JCALS infrastructure, are modular, and use CALS and industry standard data formats, the GPS JPO can easily update the applications and process workflows as it continuously improves its business processes. In addition, the GPS JPO can customize and deploy the applications to other System Program Offices that use the JCALS infrastructure.

Further, GEMS has allowed the GPS Block IIF program and the GPS JPO to immediately implement Acquisition Reform initiatives by permitting fast, timely access to all unclassified program data.

Because of initiatives such as GEMS, the GPS Block IIF program won the 1995 Defense Standardization Program award as well as the Office of the Assistant Secretary of the Air Force for Acquisition's Lightning Bolt Acquisition Reform award — both for leading the way in Acquisition Reform excellence. At this writing, the GPS JPO and the GPS Block IIF team continue their self-imposed challenge to do business better (Figure 3).

The GPS JPO has only just begun to explore the potential for improved organizational efficiency and resulting quality of output using the GEMS infrastructure. A future article will expand on the actual metrics of individual process improvements as the GEMS JPO adds and deploys even more business process modules to the GEMS infrastructure.

Editor's Note: The author welcomes your comments concerning this article. Contact him via E-mail at mehlmald@gps1.laafb.af.mil on the World Wide Web. The Point of Contact for GEMS is Ernestine Reed, SMC/CZEC, (310)363-2943, Los Angeles AFB, El Segundo, Calif.

END NOTES

1. See January-February 1997 *Program Manager* Special Edition on Acquisition Reform.
2. See November-December 1997 *Program Manager*, pp. 62-63.

PAPERLESS REPORTING

WASHINGTON — One idea in Defense Secretary William S. Cohen's Defense Reform Initiative has already saved the Department money. Moving to Internet publishing was one aspect recommended in the report, and officials started with the Defense Reform Task Force report. Officials estimate DoD saved more than \$340,000 since they issued the report Nov. 10.

The written report was 90 pages long. In hypertext markup language —html —the report broke into eight files. In portable document format — pdf — the report was one big file.

Those wishing to read the report can download it through DefenseLINK, the official DoD Website. During the first week of online publication, the report was downloaded 26,243 times. Through four weeks, it was downloaded 57,046 times.

DoD is still saving money, said Air Force Capt. Jim Knotts, DefenseLINK project manager. The report remains on the Internet, and people are still downloading it.

If you are interested, look at <http://www.defenselink.mil/pubs/dodreform/report.html> [on the World Wide Web].

Editor's Note: This information is in the public domain and may be accessed from the American Forces Press Service Home Page at <http://www.dtic.mil/afps/news> on the World Wide Web.



Photo by Richard Mattox

SENIOR MEMBERS OF DSMC'S NAVY CONTINGENT RECENTLY HAD AN OPPORTUNITY TO MEET THE NEW BOSS, NAVY REAR ADM. LEONARD VINCENT, WHO BECAME DSMC'S 14TH COMMANDANT EFFECTIVE DEC. 30, 1997. PICTURED FROM LEFT: NAVY CAPT. ROBERT VERNON, DEAN, SCHOOL OF PROGRAM MANAGEMENT DIVISION; VINCENT, RETIRED ARMY BRIG. GEN. RICHARD A. BLACK, FORMER DSMC COMMANDANT, RICHARD H. REED, PROVOST AND DEPUTY COMMANDANT, NAVY CMDR. WILLIAM VAUGHAN, PRINCIPLES OF PROGRAM MANAGEMENT DEPARTMENT, FACULTY DIVISION.

NCMA Hosts Deputy Secretary Hamre at East Coast Educational Conference

No Mistakes and No Further Spending to Avoid Mistakes — Irreconcilable Differences?

Editor's Note: Deputy Secretary of Defense John Hamre addressed the National Contract Management Association (NCMA) East Coast Educational Conference on Dec. 4, 1997, at the Omni Shoreham Hotel, Washington, D.C. Focusing on the goal of a paper-free contracting process by the turn of the century, he presented several initiatives toward that end. Approximately 300 senior government and private-industry procurement officials attended. The following text is an excerpt of his remarks. (This information, provided by the Office of the Assistant Secretary of Defense for Public Affairs, is in the public domain and may be accessed at <http://www.defenselink.mil/news> on the World Wide Web.)



"WE WANT NO MISTAKES IN THE ACQUISITION PROCESS, AND WE DON'T WANT TO PAY FOR THE INFRASTRUCTURE IT TAKES TO PROVIDE NO MISTAKES...IT'S NOT POSSIBLE TO RECONCILE THESE TWO INHERENTLY CONTRADICTIONARY GOALS WITHOUT IT BEING A TEAM EFFORT BETWEEN THE GOVERNMENT AND THE PRIVATE SECTOR. AT ITS CORE IS THINKING FUNDAMENTALLY ABOUT NEW WAYS OF DOING BUSINESS, WHERE...WE TRUST EACH OTHER."

I'm here because I am paying a debt. I had agreed to meet with you all earlier, and I had to drop out on that at the time, and so I'm back now, I hope, with a stronger and richer message than I was going to have before. At that time, I was the Comptroller and was going to try to exhort you into helping me, and now I'm in a different position where people seek my support rather than avoid my meetings.

So I would like to at least share with you some of the things that we are planning to do. Obviously, it is enormously important as we interface with all of you, [especially] those of you in the private sector. I know that there are a certain number of folks here who are from government, and so your lives are going to be more upset by me than are the civilians in the room — non-DoD I should say. But nonetheless, all of our lives are going to change fairly dramatically, and I would like to talk about that.

Two things are very clear to me from watching what has unfolded the last several years in Congress, and that is simultaneously we want no mistakes in the acquisition process, and we don't want to pay for the infrastructure it takes to provide no mistakes. Have I got it

right? And I think that's obviously an impossibility in this world; yet, we keep hearing the drumbeat that there is an army of shoppers at the same time that we are castigated for spending too much money on commercially available equipment when we buy for the government. There is so much dissonance in our lives that it's very hard to sort all that out.

Contradiction, Reconciliation, Hopefully Partnership

So we are marching off on a path where we think it makes sense. We are obviously going to be needing all of your help, and probably will have to modify some of our plans and our direction. But, we are going to try and reconcile these two things — these two inherently contradictory and irreconcilable goals. We are going to try as best we can to deal with that, and I would like to talk with you about that because, in essence, it's not possible to reconcile these two inherently contradictory goals without it being a team effort between the government and the private sector. At its core is thinking fundamentally about new ways of doing business, where at its core we trust each other.

My sense is that's not a common word in your vocabulary because you're frequently thrown into battle as the cham-

pions for your respective sides, and the goal is to kill each other, and to all of a sudden say that this new modality is one where the default premise is trust — I think that ultimately is what we're talking about. We are not going to be able to lower the cost, the transaction costs, associated with the acquisition process and minimize — I don't say eliminate — but minimize mistakes unless we can become more thoroughly integrated as partners in this process.

We're Choking on the Process

There are several initiatives that I think are going to typify the challenges we are all going to face and which I would like to discuss. First of all, we have made a commitment as a Department to become a paper-free acquisition process by the turn of the century. Every time I say that, and knowing individuals in the Department of Defense, they turn white as a sheet for good reason. As I said, I used to be the Comptroller and was responsible for the financial management activities of the Department.

I remember the first time I went out to Columbus, Ohio, where we have the large DFAS [Defense Finance and Accounting Service] Payment Center for large contracts. It's a large operation. We

disburse about \$43 million an hour. The first thing you see is these big sorting wheels that were probably built in the 1930s to sort the paper that comes in the door every morning. There are 15 linear miles of shelf space dedicated to contracts/contract mods.

We are choking on the process. Nobody in the Department — I don't mean this critically — nobody is doing financial management; we are busy coping with the wreckage of financial services. And that's not criticizing anybody; that's the way this system has evolved. Frankly, I think that in some ways we are further ahead than some businesses are. I am shocked to find out that I have 3,000 invoices at Columbus — about 1,000 of them are over three years' old, and nobody is asking for their money. It is for a unique set of reasons having to do with fiscal law. We didn't have available funds to liquidate those invoices, and nobody is saying anything, which tells me that industry is just as messed up as we are.

Now, if you are choking on a paper process — and obviously we are choking on a paper process — thinking in very superficial ways about getting rid of the paper forces you to confront underlying ways of doing business. Think about this: 65 percent of all of our payments out at Columbus are for less than \$2,500. Here we have a contract payment operation where, on the average, it costs us 150 bucks to make a payment, on \$2,500, \$1,500 payments. It's Looney Tunes!

So you need to rethink in fairly fundamental ways and force yourself into the process of thinking about a paper-free environment. It's remarkable — it has had an energizing effect on our community. We are having a series of meetings right now, and I had a late meeting last night — you have to bring everybody to the table, the Air Force and Gen. Malishenko from DCMC [Defense Contract Management Command]. We've got to get Gary Amlin from DFAS and Gen. Kelley from DISA [Defense Information Systems Agency]. You have to bring everybody to the table at the same time to figure out solutions to this, but it is energizing to us right now (the opportunities).

And let me just describe one because, ultimately I'm going to ask you to be potentially partners with us on this. There is a very fast way to get to a paper-free environment for large contract operations. You have to segment this market, and I'll talk to you about some of that in a second. But in terms of large contracts, there is a very snappy, fast way to do this.

Why Not Servers in the Billing Offices?

Even though we have all in our respective worlds spent gazillions of dollars with software houses to develop systems to run all this, [there's] one thing: It's all unique — none of it is standardized, and it's painful to try to put it in an EDI [Electronic Data Interchange] interface. Some of you have been working on that problem. One thing has been normalized in this environment over the last 25 years, and that's the instructions that the computer finally sends to the printer. You all want to be able to swap printers, huh? So it turns out, that's one thing in the office-automation world that has been normalized.

Now, if you can put a server in between the computer and the printer, and steal a set of electrons on the way to the printer, you can get an image of that document. You don't have to turn it into paper. Now, we in the Department of Defense, on the average, when we write a contract will print up to 17 copies of it. Only one went out to Columbus, Ohio, in that 15 linear miles of shelf space. God only knows where all the other stuff is.

If you adopt this approach, where you are putting a server at that contract-writing shop and getting an image of that contract, you can then use standard Internet tools and call that contract up. You come up with an automated indexing mechanism through which you can get that contract. You can now get an enterprise-wide imaging solution, and nobody has to change their business practices. It's revolutionary when you think about it.

You know how hard it is to get people to change business practices. I mean, the hardest problem about converting to EC-EDI [Electronic Commerce-Electronic

Data Interchange] is that you all may want to do it so that you can get your payments faster, but if the rest of your private sector trading partners aren't interested in it, it forces you to bifurcate your billing processes, and nobody wants to do it. So it's like the Mach level, the speed of sound. We can't break that barrier when it comes to EC-EDI because we are forcing you to confront something that you would rather not deal with.

But you can do it this way very inexpensively, and the return on investment, just in the finance world alone...right now, the finance world (DFAS) is buying the servers and putting them in locations, and we get a return on investment from file-clerk savings alone within five months. It's dirt cheap, and anybody can join onto the identified solution when they are ready to, when they get the confidence that they no longer have to look at that sheet of paper to do their business.

Now, one of the things, ultimately that I want to broach with all of you is the subject of us putting a server in your billing offices and not ever turning that invoice into paper. Let us pull it from a server that we would own and put in your organizations so that we can pay you electronically. Now, this is the first you're hearing about this, but I really want you to start thinking "outside of the box," like we're thinking outside of the box.

I want us to become integrated in an enterprise-wide solution to this process where we are genuinely partners, and we'll follow up with you in talking about this.

Why Not Payment Upon Receipt/Delivery?

The second part of this segmentation of the problems is we are increasingly going to try to adopt what I call "hybrid tools" in the contract-payment business. Now, I don't know how many of you are used to producing something and then calling a DCMC inspector and saying, "Okay, come some time, look at this, and then we'll sign the DD-250"; and then, of course, that just triggers the whole paper process for us to eventually pay you, once we can marry up all these

sheets of paper. It's not at all clear to me why instead of it being a DD-250, it can't be a credit card payment authorization, just like when you're buying a pizza: Pay on receipt. Pay at time of delivery. There is no reason we can't do it.

Now it forces you to go through some fairly fundamental rethinking about the business process, about, for example, source acceptance. We've created a whole modality of working with the private sector on source acceptance, but you have to rethink. This is on our side of the equation, and we, the Department of Defense, have to rethink. It also is, frankly, going to force through, I think, a more interactive approach in internal controls with you all, so that if we are, in essence, taking delivery and paying on location, then we have confidence in the liabilities that come with that and your responsibilities that come with that. We can, both sides, streamline our business process so you are no longer having to cut DD-250s and are no longer having to cut invoices, and you get paid right away.

But there come obligations with that — obligations of confidence, internal controls, of working together. So I think this is another avenue we're going to be exploring with you in the next couple of months.

Why Not Less Source Acceptance?

Third is this issue of source acceptance of goods. I personally think we, the Department of Defense, have to think/rethink our whole basis for source acceptance. This is one area where there are probably some of the starkest differences between how the government does business with vendors and how the private sector does business with vendors — this area of source acceptance. It's not uniform. It's not at all uniform, but it is startlingly different.

We may have to adopt in the Department more flexibility in our approach to the area of source acceptance, but currently we have 200,000 items for which we require source acceptance. Far too many of those items are there because of relatively minor issues that occurred early

on in receipt of that product; then we have embedded [source acceptance] and never gone back to think about it again.

We have under way right now a systemic review to look at our source acceptance procedures. I think it's going to take us another six or eight months before we can get a final bead on it, and we will review — we are committed to doing a 100-percent review — of source acceptance goods over the next three years.

What we have attempted to do in our business, of course, is ignore the transaction costs associated with source acceptance because they were never paid by the customer who ultimately was getting the goods. Source acceptance was a free commodity in the Department of Defense, and of course, any time you get something that's free, you either tend to abuse it, overuse it, or ignore it. So finding ways of bringing the transaction costs associated with source acceptance into the acquisition process is going to be a high-priority for us over the next year.

Why Not Fix the GFE Default Mechanism

Finally, an issue that probably is going to have some impact on all of you, and that is, what is going to be our approach to government-furnished equipment [GFE]? We have an enormous amount of government-furnished equipment in the custodial care of contractors. It is, frankly, being poorly managed. As a large-scale process/business practice, it's being poorly managed. I'm not saying that you, as companies, are doing a poor job; or us, the government, we're doing a poor job. It isn't that. I'm not saying there are any venal or wicked people that are doing bad things; I'm saying that the process is one that is not systemic toward thoughtful management.

And so invariably we end up repeatedly buying things that we don't need, or we tend to keep things and keep them on the books much longer than their economic utility. The default mechanism is always save it, and that's certainly not the mode that you have in your world. (You know, at all costs, save that 286 processor. I don't know where

we're going to put it, but we're going to have it.)

The default mechanism is all wrong in government-furnished equipment. This is a very complex problem to solve. It's going to require that we change the starting position on how we treat new things with new contracts as well as how we systematically go about the process of liquidating what's there. It's a very complicated problem; and, again, we have tended to ignore this because the transaction costs were relatively invisible in our system. So finding a way to make them explicit is going to have to be our criteria/part of our action plan over the next year.

Trust, Mutual Interdependency, Open Venues

I hope what comes across to you is that we are taking a very far-ranging look at this area, and in all honesty, cannot accomplish what we need to get done by ourselves. It will be impossible to do these things without, frankly, the active participation and support of our private-sector partners. We really do have to think about ourselves in quite different ways — no longer as adversaries in every dimension, but frankly as partners, as we together try to reconcile the inherent contradiction of the two large, political pressures we're all facing: We don't want any mistakes, and we don't want to spend anything on having no mistakes. To try to reconcile that means we're going to have to be working together on all of these things.

I'm very open to your suggestions, to your comments. I think we want to create open venues to hear these problems out. Five years ago, FacNet was the solution to everything. We now know that's not the solution to everything. Three years ago, EC-EDI was the answer to everything. We now know that isn't the answer to everything. We're going to have to break up this problem into pieces, and we're going to have to find ways with you where it makes sense to accomplish a goal all of us are interested in — to make as seamless as possible the interdependency of our mutual systems so we can trust each other, use each other's information, and carry out our business.

DoD as NPR Reinvention Impact Center

As a result of The Vice President's designation of the Department of Defense as a National Performance Review Reinvention Impact Center, Secretary of Defense William S. Cohen recently forwarded to The Vice President the Department's 12 acquisition goals, reprinted here for the benefit of our readers.



The Vice President
The White House
Washington, DC 20500

THE SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1000

Dear Mr. Vice President:

Enclosed are the Department's three-year acquisition goals as a designated National Performance Review Reinvention Impact Center (RIC). Our initiatives cover the three main areas contained in the Blair House Papers and are intended, as well, to serve as input to our initial agency performance plan under the Government Performance and Results Act. These goals are consistent with the vision, strategy, and plan articulated in the Report of the Quadrennial Defense Review and will constitute the hallmark of what the DoD Acquisition RIC will achieve during the second term of the Administration.

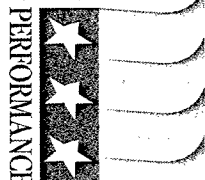
Sincerely,

Enclosure:
As Stated

cc:
Director, OMB

"DoD ACQUISITION" REINVENTION IMPACT CENTER GOALS

NATIONAL



REVIEW

Delivering Great Service

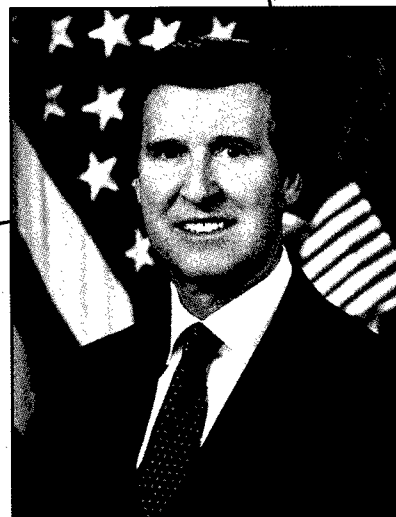
- | | |
|--------|-------------------------------|
| Goal 1 | Reduce Cycle Time |
| Goal 2 | Responsive Logistics |
| Goal 3 | Purchase Cards |
| Goal 4 | Continuing Education/Training |

Fostering Partnership

- | | |
|--------|--|
| Goal 5 | Increase Procurement |
| Goal 6 | Surplus Property & Housing Privatization |
| Goal 7 | Decrease Paper Transactions |
| Goal 8 | Environmental |

Internal Reinvention

- | | |
|---------|-----------------------------|
| Goal 9 | Streamline Workforce |
| Goal 10 | Life Cycle Costs Accounting |
| Goal 11 | Reduce Inventory |
| Goal 12 | Minimize Cost Growth |



Open Systems — Fielding Superior Combat Capability Quicker

Joint Task Force Talks About Understanding and Implementing a Successful Open Systems Approach

TRISH BRYAN

Dr. Paul G. Kaminski, [then] Under Secretary of Defense for Acquisition and Technology, in one of his many speeches outlining the Department of Defense's (DoD) acquisition reform initiatives, said, "At DoD, it's our responsibility to make sure that we always have access to cutting-edge technologies and products. Open systems help prevent us from being locked into proprietary technology." He went on to say that this was one of many reasons why the Department's senior leadership is thoroughly committed to the open systems approach.

Because of that commitment, he formed the Open Systems Joint Task Force in 1994 to establish an open systems approach as the foundation for all weapons systems acquisitions within the Department of Defense.

A New Way of Thinking

The open systems approach is an integrated technical and business strategy that defines key interfaces for a system or piece of equipment. It calls for the project manager to...

- adopt standard interfaces; and
- acquire (not develop) components, while still...
 - integrating components; and
 - using and supporting the system.

As a standards-based technical approach as well as a preferred business strategy,

DICK McNAMARA AND LARRY YUNG DISCUSS THE APPLICATION OF OPEN SYSTEMS IN THE NSSN AND CRUSADER PROGRAMS.



"As a standards-based technical approach as well as a preferred business strategy, the open systems approach serves to enable improved weapons systems performance, lower life-cycle costs, and fielding of superior combat capability quicker."

Bryan is an Analyst at BRTRC Technology Research Corporation, Fairfax, Va.

"Our most compelling story is showing program managers and senior project staff real-life examples where open systems are being used successfully."

—Lennie Burke

*Director,
Open Systems
Joint Task Force*



the open systems approach serves to enable improved weapons systems performance, lower life-cycle costs, and fielding of superior combat capability quicker.

In an effort to broaden the scope of knowledge and promote the use of an open systems approach, the Task Force provides training, workshops, case studies, assessments, and technical assistance to Program Offices.

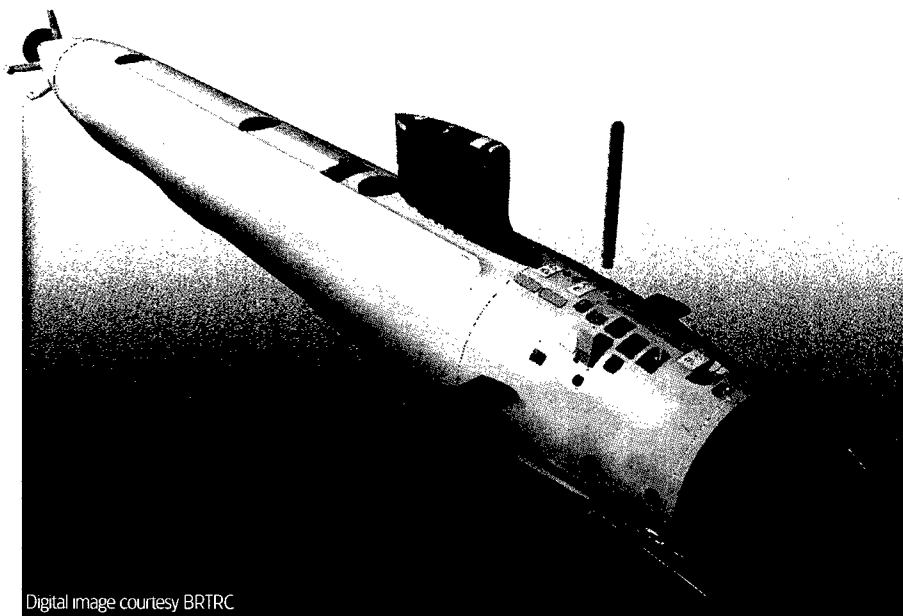
The Open Systems Joint Task Force

For the benefit of *Program Manager* readers, the Open Systems Joint Task Force Director recently met with three acquisition managers to discuss the obstacles, benefits, and ultimately, the successful implementation of the open systems approach for their individual programs.

H. Leonard "Lennie" Burke, Director, Open Systems Joint Task Force: Over the last four years, the Open Systems Joint Task Force has briefed a lot of people on the open systems approach, developed educational workshops, and generally gotten the word out that open systems reduces life-cycle costs and improves performance in new and legacy weapon systems. Yet, our most compelling story is showing program managers and senior project staff real-life examples from programs [like those managed by many of *Program Manager's* readers], where open systems are being used successfully.

To further that effort, I've assembled several people with experience implementing open systems to talk about why they chose

ACQUISITION MANAGERS, MARINE COL. JIM FEIGLEY, LENNIE BURKE, DICK McNAMARA, AND LARRY YUNG MEET TO DISCUSS THE OPEN SYSTEMS APPROACH AS IT AFFECTS THEIR RESPECTIVE PROGRAMS.



Digital image courtesy BTRC

an open systems strategy, what obstacles they encountered, what recommendations they have for other program managers. Let's begin with a brief description of each one's program and how it incorporates open systems.

Richard "Dick" R. McNamara, Technical Director of the New Attack Submarine Command, Control, Communications, and Intelligence (C³I) System Program Office: I represent the Navy's New Attack Submarine, the next generation replacement for the SEAWOLF. The SEAWOLF was capable but too expensive, so affordability was "Job No. 1" for the NSSN. To make sure it was affordable, we adopted a Commercial-off-the-Shelf (COTS) and open systems approach to the ship's C³I systems early in the design and acquisition process.

We also established an open systems definition development process in which the Navy and industry jointly defined COTS applications and specific open systems standards and profiles that we later used in our competitive procurement for the C³I system. Our choice of COTS and open systems gives us the greatest flexibility to do technology insertion downstream and, at the same time, ensure that the NSSN remains current, capable, and affordable.

Lock "Larry" F. Yung, Chief, Command, Control, Communications, and

"It took an intensive effort with industry and some critical item testing early on; but, we eventually gained confidence that open systems would add value and reduce costs in our program."

—Dick McNamara

*C³I System
Technical Director, NSSN*

THE NAVY'S NEW ATTACK SUBMARINE (NSSN) IS THE NEXT GENERATION REPLACEMENT FOR THE SEAWOLF-CLASS SUBMARINE. THE NSSN WILL BE THE NAVY'S UNDERSEA WEAPON OF CHOICE FOR THE 21ST CENTURY. WITH UNSURPASSED QUIETING, STATE-OF-THE-ART COMPUTER TECHNOLOGY, AND PRECISION TARGETING CAPABILITY, THE NSSN WILL BE THE MOST ADVANCED WEAPONS DELIVERY SYSTEM IN THE WORLD.

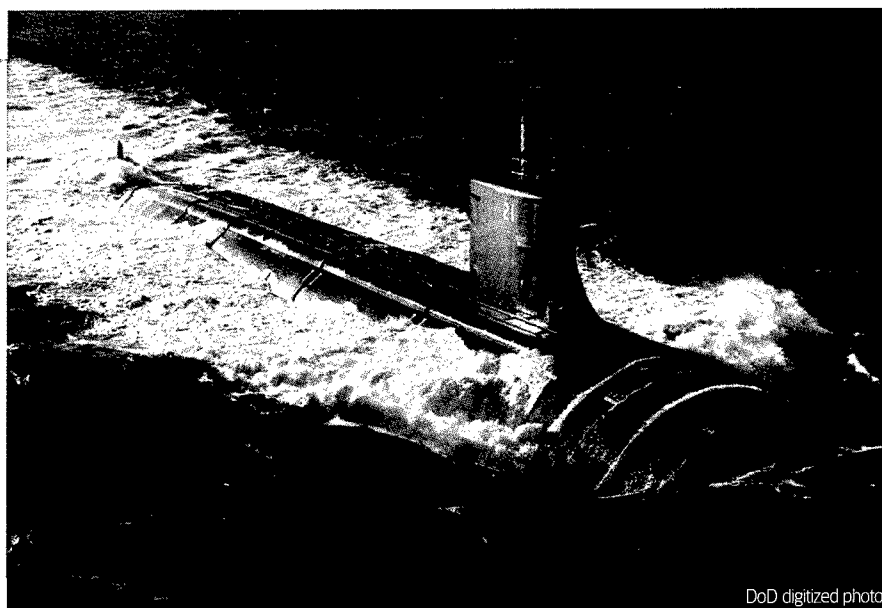
Computers (C⁴I) Product Development Team for the Crusader: The Crusader is a cannon artillery weapon system consisting of a self-propelled howitzer and companion resupply vehicle. It's a new-start program with both vehicles under the same project manager to minimize interface problems and to maximize the possibility of reuse of hardware and software between the vehicles.

With regard to open systems, we spelled it out in the contract. We wanted the software to port between the two vehicles; we wanted the contractor to use Army C⁴I Technical Architecture standards; we wanted redundancy written into the design so if one processor fails, the function can be picked up by another. From our perspective, there was every advantage to be gained by pushing our contractor to adopt an open systems strategy.

Marine Col. James "Jim" M. Feigley, Direct Reporting Program Manager for the Advanced Amphibious Assault Office: AAV is a self-deploying, fully tracked, armored amphibious personnel carrier designed to get Marine infantry units from ships to inland objectives as quickly as possible. Once ashore, it moves troops and provides direct fire support. Basically, the AAV is part high-speed landing craft; part armored personnel carrier.

Two factors drove our decision to implement an open systems approach. First, we needed to keep pace with technology. To do this, we identified elements that were technically volatile, primarily electronics, and made sure the system

THE FASTEST, QUIETEST, MOST HEAVILY ARMED NUCLEAR-POWERED ATTACK SUBMARINE IN THE WORLD, SEAWOLF (SSN 21), WAS COMMISSIONED ON JULY 19, 1997, AT ELECTRIC BOAT SHIPYARD IN GROTON, CONN. SEAWOLF IS THE FIRST "TOP TO BOTTOM" NEW ATTACK SUBMARINE DESIGN SINCE THE SKIPJACK CLASS IN THE EARLY 1960S. THE BENCHMARK FOR UNDERWATER EXCELLENCE, THREE SEAWOLF-CLASS SUBMARINES HAVE BEEN AUTHORIZED BY CONGRESS. ITS INHERENT STEALTH, COUPLED WITH STATE-OF-THE-ART SENSORS AND ADVANCED COMBAT SYSTEMS MAKE IT ONE OF THE WORLD'S MOST FORMIDABLE WEAPONS SYSTEMS.



DoD digitized photo

design accommodated new technology as it came along.

Second, we defined the elements that would consume big bucks in the operations and sustainment phase and made some choices up-front that would reduce the overall cost of ownership. Open systems architecture made sense as a way of addressing both of these issues. Plus, from a user perspective, it gave us the opportunity to provide the Marine with a system that can be consistently modernized and updated from an operational point of view.

Burke: *This ability to provide a state-of-the-art system over the life of the system and reduce life-cycle cost that Jim talked about – was it just as important in the NSSN program?*

McNamara: Very much so. Submarines take about seven years to build from the time they are authorized to when they are turned over to the Navy. If we can build a system that delivers in three years using COTS components, we've got about three generations of technology to go through before we assume ownership. So, as you can see, technology refreshment prior to delivery is critical to ensuring a product that is technically up-to-date.

We also challenged industry to streamline the system by using a fixed price incentive production contract in which the

contractor shares with the government, on a 50/50 basis, any cost underruns from their original production bid. Under this arrangement, every component the contractor removes from the system's design reflects potential profit. The contractor now has an incentive to sell us what we asked for, to reduce piece parts, and to exploit new technology as it comes online.

Yung: We've all seen examples of systems electronics becoming obsolete before the vehicle is fielded. That's because we used to pick a technology strategy early in the process. This effectively froze the technology to the system. For example, if we specified a 486 processor, we stayed with a 486 through production because that was what our software ran on. Since so much of our expense was in the software arena, we've learned our lesson. Now, we ask the contractor to keep the design flexible so upgrades can be made easily as new technology is introduced.

As a result of this strategy, maintenance costs have come down; upgrades are much more efficient. We also wait until later in the process to nail down electronics specifics; what took place in Generation I before, now happens in Generation II design or even later.

Burke: *So far, we seem to agree there are a lot of benefits in using an open systems approach. But, I've been told by other pro-*

gram managers that there are a lot of obstacles as well. Let's talk about some of the difficulties you've encountered; a few that come to my mind are lack of a defined process, budget inflexibility, lack of training, politics.

McNamara: The biggest obstacle we faced was ignorance or the perception that open systems and COTS are just the latest fad. As Technical Director for the NSSN C³I System, I took a step back and said... "I'm from Missouri; *show me* how this benefits my program." It took an intensive effort with industry and some critical item testing early on; but, we eventually gained confidence that open systems would add value and reduce costs in our program.

Burke: *That's a good point, Dick. In other words, it's not enough to include open systems in your RFP [Request for Proposal] and just hope for the best; you have to work the issue, invest some time and some money, and have a plan.*

McNamara: Absolutely.

Burke: *Jim, what kind of obstacles did you encounter in the AAV program?*

Feigley: We didn't characterize them as obstacles...we had "challenges." One of them was our ability to communicate what we wanted because everyone has a different impression of what you mean by "open systems." You need to under-



THE CRUSADER IS AN ADVANCED CANNON FIELD ARTILLERY WEAPON SYSTEM CONSISTING OF A SELF-PROPELLED HOWITZER AND COMPANION RESUPPLY VEHICLE. A NEW-START PROGRAM, CRUSADER HAS THE SAME PROJECT MANAGER FOR BOTH VEHICLES TO MINIMIZE INTERFACE PROBLEMS AND TO MAXIMIZE THE POSSIBILITY OF REUSE OF HARDWARE AND SOFTWARE BETWEEN THE VEHICLES.

chitecture - this is an excellent way to keep everyone up-to-speed and make sure the hardware and software are in sync.

Burke: At the Task Force, we describe open systems as *an integrated technical and business strategy*. For example, Dick you talked about how you've ensured that NSSL technology will be up-to-date at time of delivery. Jim, you mentioned your concerns vis-à-vis the potential conflict between building long-term relationships and encouraging multiple sources of supply. Did open systems impact your technical and business decisions, and do you see the two as being related?

McNamara: There's no question that open systems impacted a lot of our decisions. Probably the biggest fear we have is that our prime contractor will pick the wrong standard or wrong path, and we'll be dead-ended. Open systems helps ameliorate the potential of this becoming a reality by encouraging our prime contractors to develop relationships with several vendors so they aren't banking on a single supplier to carry them into the future.

We also let it be known that we represent a significant market; that second-tier competitions will be run, and there are certain criteria we expect vendors to meet. For example, we need to be satisfied they'll be around to provide support over the life cycle of a system if we use their product.

More and more, we find our prime contractors are assuming the role of "integrators," not builders/, developers. It's a different way of doing business, not un-

stand it internally before you try to explain it externally. And, you need to make sure your vision gets down to the people who are charged with day-to-day responsibility of implementing open systems. This is an often overlooked but, nevertheless, critical element if you're going to accomplish what you set out to do.

Another challenge is that open systems can be perceived as a threat. On one hand, we encourage our prime contractors to develop long-term agreements with suppliers to help them improve products and processes. On the other, open systems encourages competition so we can choose the best product at the lowest cost. These concepts are not at odds as long as the contractor performs as expected. In fact, if the relationship is working, the subcontractor has an opportunity to introduce his latest products; if it doesn't pan out, the government has an opportunity to change. It's really a win-win situation for both sides.

Yung: We spent a lot of time educating our people, both contractors and project team members, using a briefing that outlines what we expect in terms of open systems architecture. Since we have different teams working on different parts of the project - for example, one team is evaluating and selecting the operating system, another determines the interfaces, a third develops the electronic ar-

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—Larry Yung
*Chief, C⁴ Product
Development Team,
Crusader*

like when we did "catalog engineering" for analog systems during the '60s. Then we looked up capacitors and diodes, got the price, and ordered. The digital market we're entering now, because of open systems, will bring us back to that way of doing business. Our catalog is on the Internet; open systems is the tool that allows vendors to design and produce timely and high-performance products that can be measured and compared to each other.

Feigley: We are constantly reminded that business decisions impact technical decisions and vice versa. For example, if we identify some system capability we'd like to have but it's too theoretical, too volatile, or too expensive to get it, our technical decision would impact cost. If we make a business decision to keep our options open to the greatest degree possible by having multiple choices for the system architecture, performance could be better or worse depending on our selection.

Right now, we're looking at several choices for our propulsion plant and suspension systems. We've taken the next step and developed tech demonstrators which may look alike on the outside but are very different on the inside. As long as the performance to the user is transparent, there's no reason why we can't use prototypes and other avenues available to us to physically demonstrate the viability of the system before we commit to one configuration over another.

Burke: *Good point, Jim. That also gives suppliers an opportunity to incorporate new technology, innovate to increase performance at lower cost, and still meet that same interface. If they know where the product is going, what your performance requirements are, they can better use their resources to develop a better product in response. This is where the real leverage of open systems comes into play.*

That leads me to another question. Jim, the NSSL and Crusader program's use of open systems primarily focuses on electronics. Is there a different approach with mechanical systems you work with in the AAV program?

Feigley: The nature of mechanical systems makes it a little more difficult to do open systems than with electrical systems. For example, there's a conflict between open systems architecture and mechanical systems as it relates to design efficiency. With electronics, boards are boards, chips are chips; they won't get a lot bigger or a lot smaller, just more powerful.

In a mechanical system, if you want a certain part of the design to have an open systems architecture — like the engine for example — the choice you make can mean there are significant differences in physical size and weight, even though performance may be the same and the price is competitive. You may have to accept a little penalty from a design elegance point of view as it relates to efficient use of space.

McNamara: I should point out that even though my main focus is combat systems, the NSSL uses COTS and open systems to the greatest degree possible on mechanical applications as well. The air conditioning system is industry standard; the diesel generators are commercial quality; and, although our initial purchase of generators was from Caterpillar, our design can accommodate another vendor down the line. Of course, we also encounter some very unique areas like noise quieting for hydraulic valves. Even in these unique areas, we try to minimize the number of variants and stabilize interfaces so that, within our own little domain, we have open systems products.

Burke: *One of the fundamental reasons for using open systems is reducing the cost of ownership. Yet, at the time most of these programs are structured and funded, cost of ownership numbers are just a projection, which some would say are pretty unreliable just because [most of the programs] are so far in the future. Some of you have already referred to up-front decisions and expenditures that were made with total life-cycle cost reduction in mind; how did you "sell" yearly savings in Year 1 of the project?*

Feigley: By making a case that the open systems approach reduces risk. In any

program, there's an element of risk; performance risk, technical risk, cost risk. It's an acknowledged part of the process. One of the best arguments we have is that open systems can reduce risk and, by extension, cost of ownership.

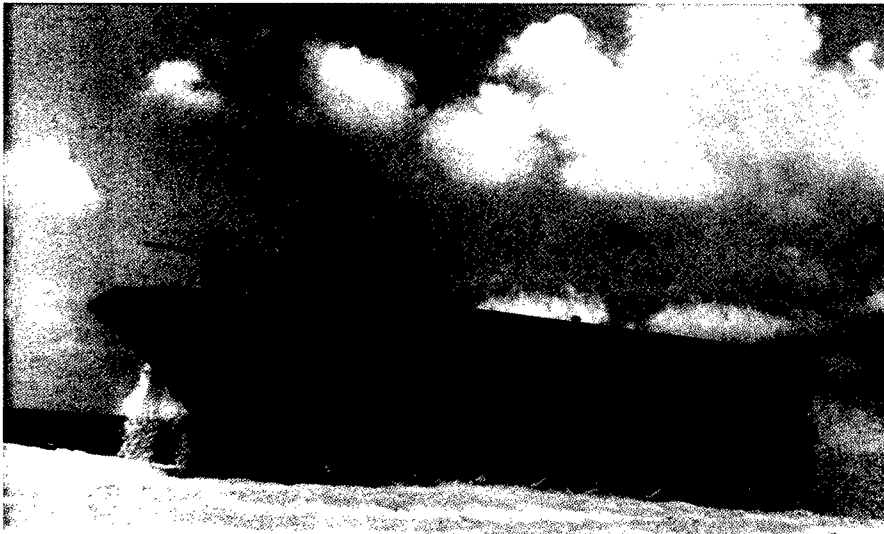
McNamara: We did something called "design to affordability." With design to affordability, we provided a set of common ground rules and then asked each offeror to make some life-cycle projections for their proposed system so we could compare each offeror's implementation over the life cycle. What we found was that approaches focusing on unique, proprietary designs were more expensive over the life cycle and could not accommodate technology insertion as readily as those approaches relying on COTS and open systems.

Burke: *That's another good example of the relationship between the business strategy and the technical strategy.*

McNamara: We've seen very different philosophies in the application of COTS and open systems. Both can be illustrated by what I call the "bathtub curve." On this curve, the initial expense of a new technology is high...you're right at the top. Cost starts to go down as production matures and eventually reaches the bottom of the curve. When the technology gets real old, you start up the curve again, up the other side of the tub toward higher costs. One approach is an off-the-shelf strategy, refreshing technology at 18- to 24-month intervals — always buying the technology at the bottom of the curve and making the design accommodate the new technology. Other philosophies reflect a "push the technology" strategy, which calls for a very high investment in technology at the front end that is intended to forestall any need for refreshment in the future.

Burke: *There's a terrible downside risk on that one if you guess wrong*

McNamara: Absolutely. Frankly, I was surprised to find that such differences existed. It appears to reflect a difference in cultures in industry. One culture is fa-



Digital image courtesy General Dynamics

miliar with COTS and open systems, and recognizes their value for facilitating technology insertion. The other is founded in building unique products optimized for specific purposes.

Yung: In the Crusader program, cost is equally as important as performance, and our contracting process reflects that. We select a contractor first...and then work concurrently with them through the proposal, evaluation, and negotiation phase. Our people actually sit side-by-side with the contractors, helping them identify a concept that will satisfy our requirements. One of the advantages is a tighter cost estimate because we know precisely what we're buying; but, more importantly, we can apply cost as an independent variable (CAIV) as we develop the systems concept, so we can make those cost/performance tradeoffs early in the program when they have the greatest impact.

Burke: Let me share another take on this from a program I was involved in called OSCAR (Open System Common Avionics Requirements), which called for adding capabilities to the AV-8B Harrier II aircraft. If one took the short-term view of the program, the solution was to do some minor software revisions in the mission computer to get the capability they needed. When it was done, the computer would be at 100-percent utilization for cycle time and memory.

"We think stealing good ideas from others is the highest form of flattery; conversely, we believe the Marine Corps mission requires us to take a leading edge system like AAV and backfit it or spread it out to other items and other programs."

—Marine Col. Jim Feigley

*Direct Reporting
Program Manager, AAV*

THE ADVANCED AMPHIBIOUS ASSAULT VEHICLE (AAAV), CURRENTLY BEING DEVELOPED BY LAND SYSTEMS, GENERAL DYNAMICS, WILL BE CAPABLE OF TRANSPORTING 18 MARINES AND A CREW OF THREE OVER WATER AT SPEEDS OF 29 MILES PER HOUR; THE DESIGN USES A PLANING HULL PROPULSED BY TWO WATER JETS. ON LAND, AAV WILL ACHIEVE SPEEDS OF 45 MILES AN HOUR, WITH CROSS-COUNTRY MOBILITY GREATER THAN THAT OF AN M1A1 TANK.

The opposing view was to put a new computer in the airplane and rewrite the operational flight program (software) so it would be flexible in the future. This was obviously the "right" way to go but it would cost more money — around \$60 million — and deliver the same capability in the short term! Obviously we had some convincing to do.

So we showed them the chart that accompanies this article [see next page]. Clearly, if the Marine Corps Aviation didn't care about OSCAR after the year 2000, my argument wasn't going to work. On the other hand, if we did what we'd always done with our airplanes — which is to add capabilities, make performance changes, deal with obsolescence — we could demonstrate tremendous payoffs in the operations and sustainment phase if we put in the new computer.

The extra \$60 million up-front would mean that OSCAR would pay for itself in five to six years. Using open systems and planning for technology insertion, modifications, upgrades, we could smooth out the upward trend of spending that starts in the fifth or sixth year and save money from that point on and continuing throughout the total life cycle. It's a tough sell, but it can be done.

That brings me to another question: How important is the ability to reuse assets within a system and/or to go across a domain to similar platforms and reuse some hardware or software element on both platforms? Larry, what about the Crusader?

Yung: We just embarked on a joint program between Bradley and Crusader to

develop an operating environment that provides all the services or utilities that your operating system or application requires. Our thinking is that if the two vehicles share a common operating system, the application will be transparent to the hardware, and the software can be used by both.

We're taking this a step further by looking at the Force Battle Command Brigade and Below (FBCB2) software being developed for Army XXI, which the Army intends to designate as its standard software to ensure all systems are interoperable and users can communicate. We are doing our best to make sure that our contractor doesn't duplicate a product that's already been developed.

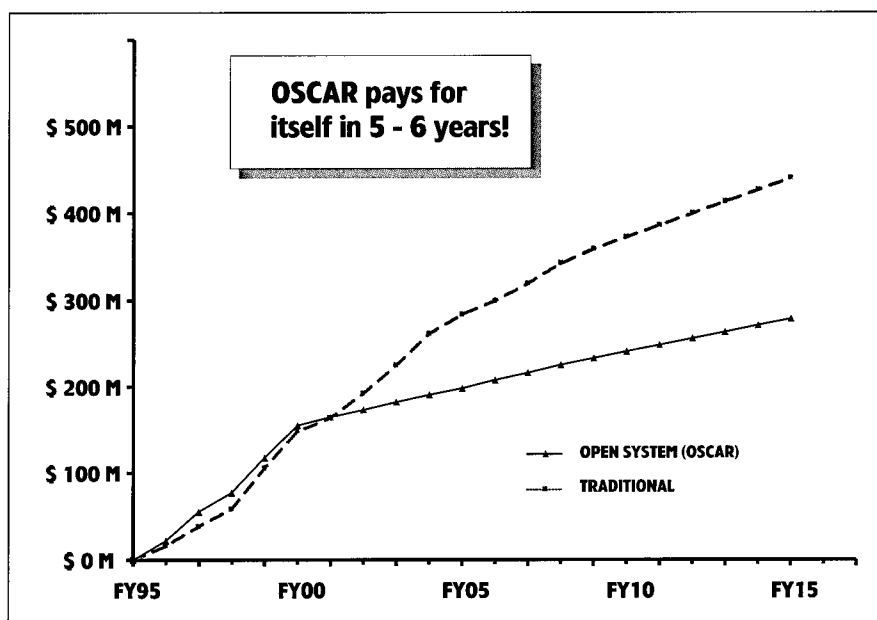
Feigley: We think stealing good ideas from others is the highest form of flattery; conversely, we believe the Marine Corps' mission *requires* us to take a leading edge system like AAV and backfit it or spread it out to other items and other programs.

In our case, we're looking at radios in the Special Forces; we've taken pieces off the Bradley and the Marine Corps' M1 main battle tank. The light armored vehicle is looking at items on AAV that they can use in their systems, and the Navy's newest class of amphibious ships is considering putting our gun on their ship, which means the ship and the vehicle on the ship would have common ammunition, common guns, common spares, etc.

We're seeing a strong impetus to use elements we've developed for the AAV in other weapons platforms because we are out in-front in terms of modernization vis-à-vis other items in the force.

Burke: *Is that centrally managed, or is it up to the entrepreneurial behavior of the program manager to look at cross-platform capability?*

Feigley: In the Marine Corps, we have a clearinghouse called the AAV General Officer Executive Steering Committee. We meet every six to eight weeks and discuss these kinds of issues.



OSCAR Projected Life Cycle Cost Savings

McNamara: The Navy equivalent was the Force Warfare System Engineering Board. There are also a number of executive steering groups being set up where program managers can say, "What have you got that I can use?" Obviously, open system in this context really becomes an enabler; the ability to swap hardware, electronics, software, etc., is a lot easier than it would be if you've got a proprietary system and/or closed architecture.

Burke: *It's relatively easy to do open systems in a new start program versus incorporating the approach into a legacy program. In your experience, is your strategy different with legacy systems, and can open systems still be implemented effectively in programs with big sunk costs in systems design?*

McNamara: I've had some experience because the backfit community for submarines has benefited a lot from the NSSN. The key, I think, is not to use "sunk" cost as an excuse to continue going downstream in the wrong direction. Unless a system is so highly integrated that it simply won't work, you can pick a portion of your system, define an interface, and then work backward from there using COTS and open systems to replicate or upgrade capabilities. The biggest obstacle to overcome in getting open systems into legacy systems is

inertia. It's easier for people to do things the way they've always been done.

Yung: How you sell the concept of moving from closed to open systems is critical. If you tell someone you want to spend \$60 million to do a block upgrade so the system will be "open," it probably won't fly. But, if you approach it from the perspective that the \$60 million will improve performance of the system and — oh, by the way, it will make it easier to upgrade from that point on because it will be an open system — there's a chance it will be implemented.

Feigley: In the Corps, performance is important; but readiness is even more important. You have the best of all worlds if you can make the case that open systems upgrade performance, cost less, and sustain readiness at the highest level.

Burke: *If someone said to you, "I've read every word in this Program Manager article and it sounds great...but where do I start?" — what would you tell them?*

Feigley: From an economic standpoint, I'd give them the "Willie Sutton" philosophy...When he was asked why he robbed banks, he said, "because that's where the money is." Look at the life-cycle cost estimate of your program; see where the big operations and support dollars are, and start there. Forget what's

on the margin and go for the big stuff that can really have an impact on reducing total cost.

McNamara: I would add that once you've decided which areas to attack, you should educate yourself on how to apply open systems. At the risk of sounding like your public relations representative, Lennie, I'd advise program managers to get in touch with the Open Systems Joint Task Force. I know you've got workshops because I've participated in beta testing for some of them. Your literature, espe-

cially the case studies, stimulate thinking about how open systems might be applied to other programs.

Yung: Nothing beats actual experience. You can tell people how well open systems works, but they only develop a level of understanding and commitment after they go through the process. One of the key factors, from my perspective, is having a "champion" — someone who will work open systems day in and day out. I'd also second what Dick and Jim said...identify areas with high volatility,

systems that will be impacted by advances in technology, or where history shows the most upgrades have taken place. Use those to demonstrate why open systems is the right approach.

Editor's Note: For more information on open systems, contact the Open Systems Joint Task Force:

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ABOUT THE TASK FORCE MEMBERS

H Leonard "Lennie" Burke is the Director of the Open Systems Joint Task Force. Burke sponsors and accelerates the adoption of an open systems approach for all DoD weapons systems electronics. Lennie is an expert in the area of avionics, having previously served as Technical Director of the Avionics Division for the Naval Air Systems Command. His understanding of requirements for one of the most demanding environments — military and electronic avionics design — and his in-depth knowledge of open systems policies, processes, and applications qualify Burke as an expert on the open systems approach.

Richard "Dick" R. McNamara has provided technical direction and leadership for complex acoustic, mechanical, and electronic combat and weapon systems for more than 28 years in various positions in the Naval Undersea Warfare Center, Naval Sea Systems Command, Office of the Assistant Secretary of the Navy for Research, Development, and Acquisition, and the Program Executive Officer for Submarines. As Technical Director of the New Attack Submarine Command, Control, Communications, and Intelligence (C³I) System Program Office, McNamara currently plans and directs technical activities of the New Attack Submarine's C³I System and ancillary electronics systems.

Lock "Larry" F. Yung has more than 20 years of experience in development, evaluation, and testing of ground combat vehicle fire control systems. He has supported the Army's M60A3 Tank, Abrams Main Battle Tank, and the Bradley Fighting Vehicle. As the Chief of the Command, Control, Communications, and Computers (C⁴I) Product Development Team for the Crusader, Yung is responsible for development of vehicle electronics, software architecture, operating systems, crew station design, and fire control/battlefield management systems.

Marine Col. James "Jim" M. Feigley currently serves as the Direct Reporting Program Manager for the Advanced Amphibious Assault Office. Commissioned in 1973, Feigley has played a leadership role over the last 10 years in Marine Corps' initiatives to upgrade its fleet of assault vehicles. His areas of special expertise include amphibious tracked vehicles and acquisition management.

ACQUISITION REFORM SATELLITE BROADCASTS — FY 98

D A T E S

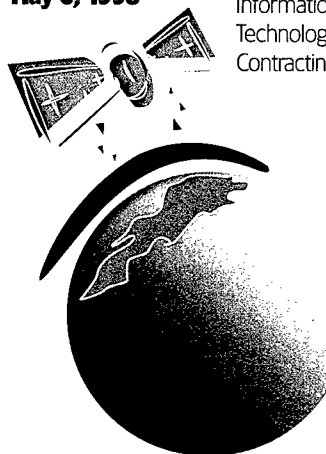
T O P I C S

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Performance-Based Business Environment

PBBE — A Business Vision We Can Live With

LT. COL. DENNIS DRAYER, U.S. AIR FORCE

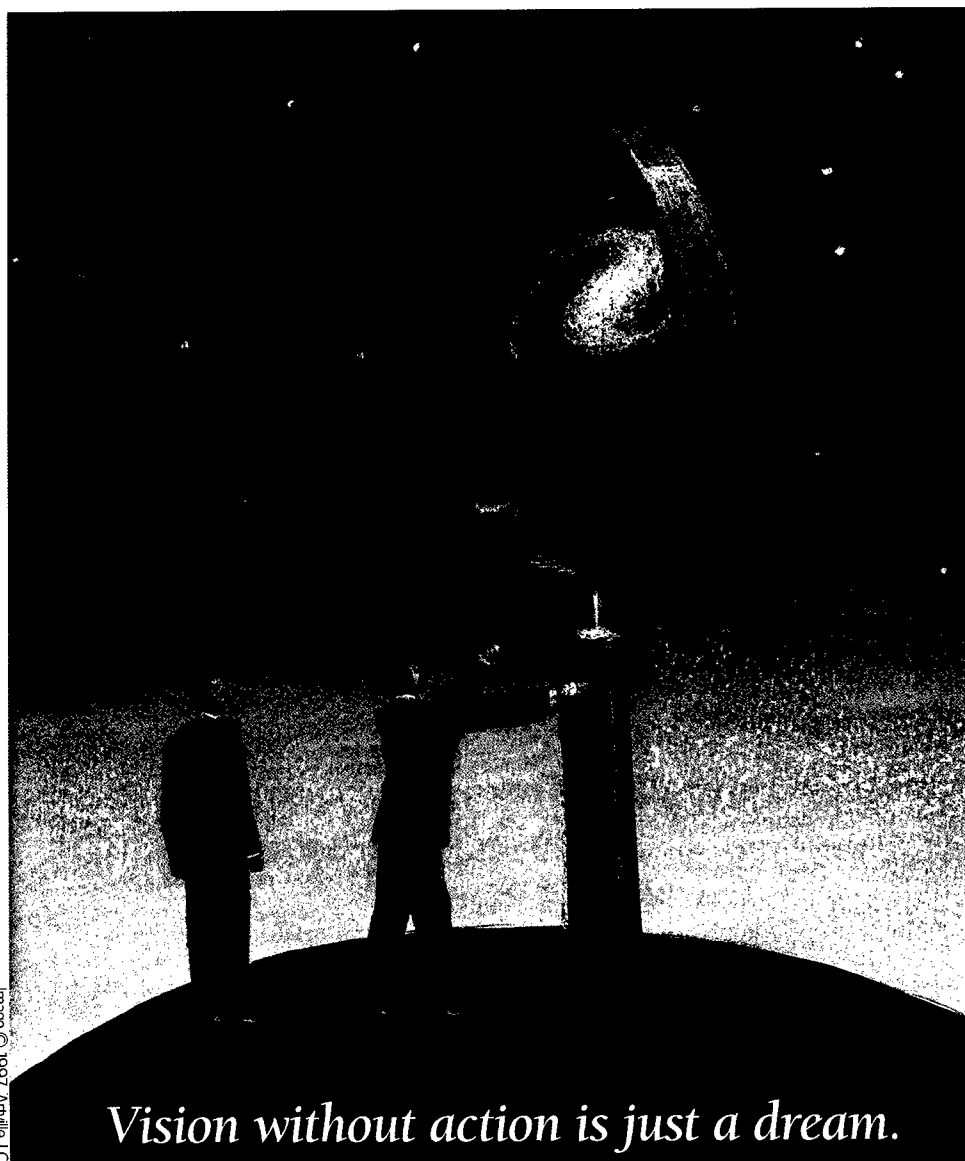
Quoting noted author Graham Green, former Defense Secretary William Perry once said, "There comes a moment in time when a door opens and lets the future in."

With the end of the Cold War, the iron curtain covering a massive passage in our nation's history finally drew closed, and an uncertain portal to our future opened. Currently, that portal does not give the DoD a clear view of things to come, but one image is certain — the Armed Forces of the future will continue to maintain a superior defense, though they will do so on a greatly reduced budget.

In today's world, when the threat prediction is more obscure and variable, a larger portion of our effort must focus on developing the long-term strategy and long-range requirements for meeting those unknown challenges.

Right now in the outer ring of the Pentagon, our senior defense strategists are reassessing America's fundamental defense posture. Not only are they assessing and balancing risks, but also developing new, more appropriate strategies to meet the challenges of the post-Cold War era. Simultaneously, they are making tough choices about the capabilities we need to carry out that strategy.

Drayer is the Chief of Training for Business Performance and Process Reengineering, Acquisition Policy Directorate, Air Force Aeronautical Systems Center, Wright-Patterson AFB, Ohio. He is a 1992 graduate of DSMC's Program Management Course.



Vision without action is just a dream.

THE VISION OF A PERFORMANCE-BASED BUSINESS ENVIRONMENT, ENDORSED BY SENIOR DoD AND INDUSTRY EXECUTIVES, REPRESENTS A STREAMLINED, FLEXIBLE, QUICK-REACTING APPROACH TO WEAPON SYSTEMS ACQUISITION THAT CAN CHANGE THE ACQUISITION AND SUSTAINMENT WORLD.

A reassessment of how we do business must be strategy-driven, practical, analytic, and professional. Good business management balances risk by evaluating competing alternatives and trading off present and future capabilities realistically.

With the advent of acquisition reform, we placed a lot of effort into improving our business practices and made considerable progress toward streamlining weapon systems acquisition. One lesson we learned is that performance-based acquisition is a better, faster, cheaper, and *smoother* way of doing business.

The Performance-Based Business Environment, or PBBE, creates a vision of a quality, business-like environment that simplifies and takes advantage of the basic acquisition and sustainment tools we use to enhance the products we provide to the warfighter.

No More Business As Usual

Why the call for reviewing our defense acquisition and sustainment strategies, making hard choices, and reshaping the force?

The new world environment brought rapid and profound changes to the DoD military acquisition and sustainment community, which are far-reaching and probably irreversible.

- Near- and long-term defense budgets reduced to pre-World War II levels.
- A strategy shift from a worldwide, large-force monolithic enemy to a tactical rapid response against localized threats with significantly smaller forces.
- Personnel cuts in government acquisition and support agencies as well as the defense industry.
- Major defense industry reengineering and reorganization through mergers and consolidations.

The resulting defense marketplace that we work in or associate with, is growing smaller and fundamentally different, and is highlighted by recognizable trademarks:

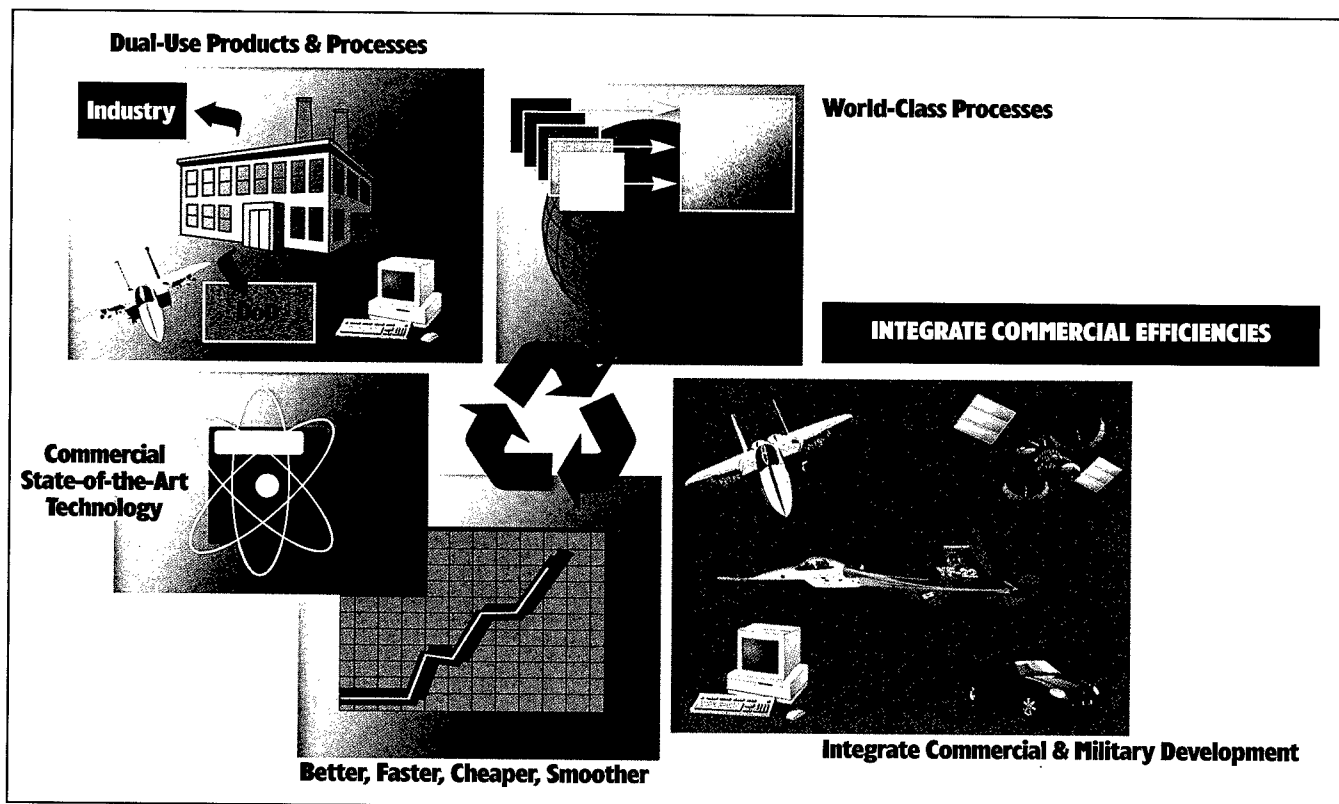
- Fewer new programs and greater attention on keeping existing systems for a long time.

- A desire for the best technology money can buy, but fiscal reality constraints driven by earned-value, cost as an independent variable, and affordability.
- More combined and joint-Service efforts vs. single-Service programs.
- Leveraging Commercial-Off-the-Shelf and Non-Developmental Items as opposed to developing military-unique technologies.
- Technology insertion rather than technology invention and building new stovepipes all the time.

In an era when DoD's budget falls short of enough money to do everything we would like to do, as fast as we would like to do it, the importance of a coherent, time-phased program to modernize and sustain our forces becomes all the more critical. Infrastructure reductions and reallocations resulting from reduced support costs will not produce the investment funds needed to fill every requirement.

Senior leaders indicate everything is on the table — from operations tempo and readiness, to whether planned modern-

FIGURE 1. **PBBE Vision and Guiding Acquisition Reform Tenets**



ization programs are the right ones in the right quantities, to whether we are operating as efficiently as possible in our business and management practices (Figure 1). As we begin to analyze the challenges and threats to meeting new future objectives, an opportunity exists to identify ways to favorably shape the future.

Farewell Military Specifications and Standards

For years, business as usual meant an unhealthy focus on the present at the expense of investment for the future. The commercial world recognized long ago that this practice, continued over time, will ultimately result in a business boxed into a corner with nowhere to go. We need a thorough, healthy scrutiny of how we balance current and future capabilities

In 1994, DoD kicked off a culture shift based upon a preference for acquiring materiel using commercial standards and practices rather than military specifications and standards. To maintain the military advantage, DoD needs to take advantage of commercial technologies and practices, incorporate them in

weapon systems and development structures, and field new operational capabilities more quickly and easily.

This pathway starts by ensuring that our suppliers are the best available, and is followed by developing easier and better ways of doing business with them. Reengineered processes and excellent suppliers allow us to focus on those risk areas most critical to program success, enabling better capability at reduced cost and permitting staff rightsizing in industry and government.

To address the changing environment, government and industry subsequently initiated several efforts that incorporated the principles and practices of "Acquisition Reform" as their common thread.

A joint government and industry effort known as the Non-Governmental Standards Integrated Product Team (NGS-IPT) thoroughly reviewed the various initiatives and offered their observations and findings to the Office of the Secretary of Defense (OSD) in early 1996. DoD's "new way of doing business" required a significant culture shift, which

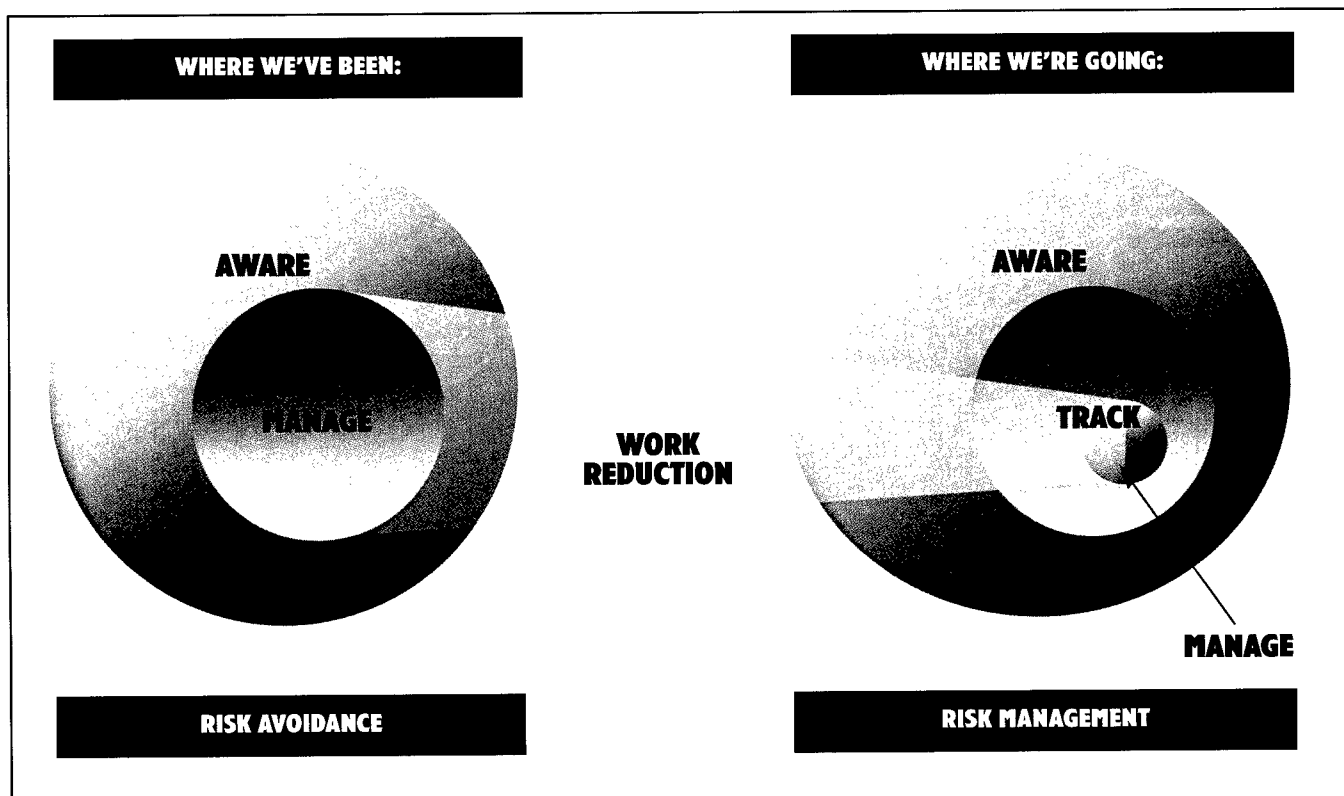
the NGS-IPT termed a "Performance-Based Business Environment or PBBE."

The Under Secretary of Defense for Acquisition and Technology recognized PBBE as an integrated approach to acquisition reform, and subsequently approved its implementation in the DoD aviation sector across the Services and the Defense Logistics Agency (DLA), through the Joint Aeronautical Commander's Group (JACG).

Early partnering of all interested parties allowed all customers and suppliers to resolve any individual barriers toward development of the concepts and products. Government and industry coordination and product reviews, through the Council of Defense and Space Industries Association and Aerospace Industries Association, proved invaluable in developing a single, unified set of guidance products, common approaches, and tools.

Early this year, the JACG "stood up" the PBBE within the aviation business sector, rolling out a product that is ultimately expected to serve as a model for migration to other DoD and related business

FIGURE 2. Risk Management



sectors (National Aeronautics and Space Administration, Coast Guard, and Federal Aviation Administration).

Needed — Practical Guidance

With Acquisition Reform naturally high on their agenda, program managers are expected to develop a “reformed” program strategy, establish metrics, and report progress toward meeting those goals. Unfortunately, many reform efforts lack sensible application guidance. What program managers and their teams need are specific, practical tools to transition to the new environment.

What is This PBBE All About?

The objectives of PBBE are to —

- convey product definition and key process expectations to industry in performance terms;
- promote life-cycle systems engineering and management practices, including integrated product and process development and support;
- increase emphasis on past performance;
- motivate process efficiency and effectiveness up and down the entire supplier base;
- encourage life-cycle risk management vs. risk avoidance (Figure 2); and
- simplify acquisition and support operating methods.

Initially, program teams create a performance-based environment, primarily through contractual arrangements with excellent suppliers in which the government, as an informed products and services buyer, defines what it needs in performance terms (i.e., what the product is expected to do) along with ways to verify that performance. Likewise, specifying key technical and management processes in terms of expected results rather than “how to” process descriptions also promotes a performance-based environment.

As the government conveys product definition and key process expectations in terms of desired performance, industry can use innovative and efficient practices

to produce the desired product, based on —

- contractor-developed or -controlled key management processes;
- longer contractor involvement in system sustainment; and
- less government oversight.

Such an environment encourages prime contractors to promote good systems engineering and similar business relationships down through the supplier base. Similarly, program teams can expect the resulting efficiencies to flow back up through lower prices, shorter cycle times, and improved quality products.

To support long-term operational requirements, system sustainment liability, and incentives to keep the contractor involved through the life of the program, program teams need up-front planning to address Life Cycle Management.

DoD expects to establish a “win-win” relationship where it receives excellent quality products, in shorter time, at a lower overall life-cycle cost; while industry benefits from longer-term, profitable ventures, enhancing their position in worldwide commerce.

PBBE Products

The JACG produced eight guidance “products” as an integrated approach to acquisition reform. Many of the PBBE products flow across the life-cycle spectrum, and provide guidance to move from *oversight* to *insight*, resulting in a performance-based environment.

This new integrated “tool kit” of PBBE products covers everything from the initial stages of performing program risk assessments, market analysis, and requirements definition; through soliciting and selecting excellent sources to perform the work; through retrofitting and executing existing contracts to foster innovation and cost savings; through sustaining these weapon systems and their components.

IPG

The Integrated PBBE Guide (IPG) provides an integrated total system life-cycle

approach, tying together many acquisition reform initiatives. It begins with much greater emphasis on risk management and depends strongly on continuously monitoring, identifying, assessing, and handling risks associated with program requirements and resources throughout a program’s evolving life cycle.

Program management’s primary function is managing risk in terms of performance, cost, and schedule. A performance-based environment expands these terms to address total life-cycle risk, termed as “Life Cycle Management.” The *IPG* combines these risk factors into a program Life Cycle Management Strategy, addressing not only initial acquisition strategy development, but also developing an acquisition, sustainment, and support strategy for every part of the program life cycle, from initial concept exploration to final system deactivation.

In addition to providing top-level guidance for formulating or modifying acquisition strategy, the *IPG* also covers developing Requests for Proposal and contracts as well as conducting source selections. Included are suggestions on how to use data from various product and process performance sources to assess contractor excellence, which may help determine the business contract arrangement and identify the nature of government insight/oversight.

In a performance-based environment, system performance is defined in ways that enable contractors to make continuous improvements in their processes and product performance by giving them much more control of designs and their own technical and management processes. Performance-based suppliers will compete and be selected based upon their proposed approaches, process effectiveness, and prior performance.

To help modify ongoing activities, the *IPG* provides information on restructuring existing contracts or program technical requirements and business arrangements into performance-based terms through a vertical restructuring.

When deciding whether to vertically restructure, key decision factors are the current program acquisition phase, the type of contract, and how changing the business arrangement will affect program risk and the acquisition and support structure.

Finally, the *IPG* discusses strategic and decision trade-offs and costs, and describes the proposal solicitation and evaluation approach.

To leverage the commercial marketplace, DoD contractors need to develop, continually improve, and control their own plant processes. This means initiating common processes across a contractor's facility that are under the control of the contractor, not dictated by the government, and with enough flexibility to be useful for all company customers.

The *IPG* explains the rudiments of this "facility-wide changes" approach, called the "Single Process Initiative" or SPI, how SPI fits into PBBE, and provides

references to other existing detailed guidance on SPI from OSD, Defense Contract Management Command (DCMC), and the Services.

In simplest terms, DCMC leads a Management Council in developing concept papers and proposals for facility-wide improvements, ultimately resulting in block changes to existing contracts within a plant or company.

The Risk Management Pamphlet

Risk affects our ability to meet program objectives within defined cost and schedule constraints. Historically, risk management is often a reaction to limit program execution problems because a comprehensive, integrated risk evaluation (which might anticipate problems) does not exist.

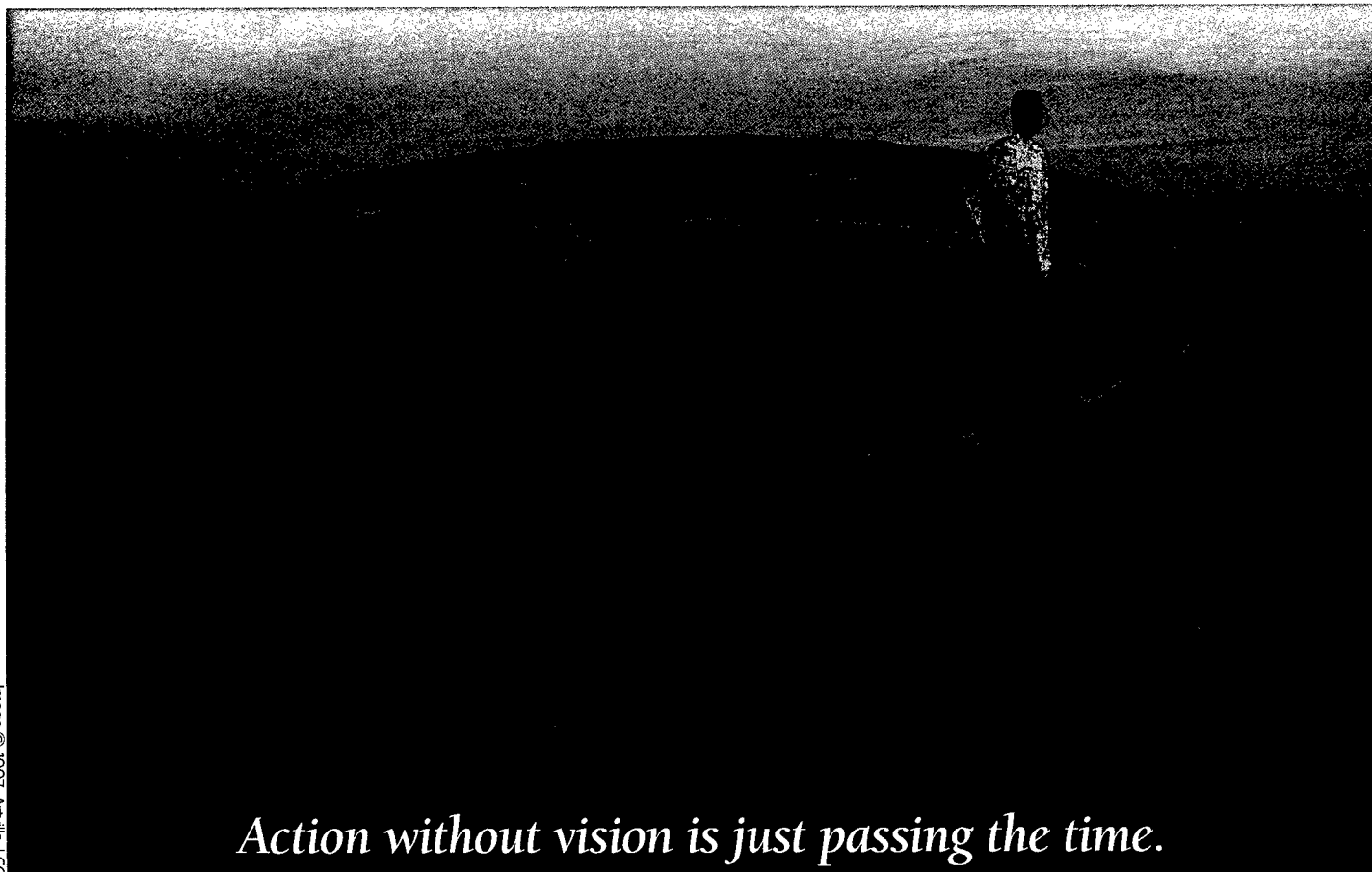
To address the pervasive "risk aversion" culture and provide practical guidelines to implement reasoned risktaking, *The Risk Management Pamphlet* provides common process elements to plan, assess, handle, and monitor program risk dur-

ing all life-cycle phases. These concepts and ideas encourage risk-based management and suggest ways to manage program risk without prescribing specific methods or tools.

A significant aspect of the PBBE is identifying program risks up-front, assessing their program impact, and managing those most critical to program success. Admittedly, this is a change from previous practices where program managers risked many wasted resources simply trying in good faith to lower all risks.

The program team must focus on higher-probability, key risk areas to control and minimize program impacts. By focusing on critical areas and maintaining insight into the contract execution process, problems can be anticipated, identified, and then mitigated as they surface. Less important areas can be left to internal contractor management processes.

The first step is planning the program's risk management strategy. Next comes identification and assessment of specific



Action without vision is just passing the time.

program risks in order to develop and implement appropriate riskhandling options. Finally, during the acquisition process program managers should keep the program on track by monitoring risk metrics and identifying new risks as early as possible.

Risk Planning involves developing a description at the outset of each acquisition phase that describes how to identify, quantify, and track risks. To aid in implementation, include a detailed summary of participant responsibilities, clearly defined required products, and fully documented Risk Planning.

Normally, Risk Assessments are performed a number of times during the life of a program. To be most effective, however, the team should perform the first one early in the program, focusing on a broad assessment of potential solutions. Simultaneously, program managers, working closely with their team members and the contractor, should establish program schedule and budget requirements.

Still another important Risk Assessment that is a key element of the source selection process and final selection decision, is an assessment of each offeror's proposal.

Other Risk Assessments support various life-cycle events, including milestone reviews, program estimates, major engineering changes, or wherever the program manager identifies risks. Each Risk Assessment should track to the previous assessment and document the riskhandling approaches selected.

Riskhandling identifies, evaluates, selects, and implements options to keep risks within acceptable levels, based on program constraints and objectives. The program team, in developing the Risk Assessment program, should incorporate a handling strategy for each significant risk, and update program schedules and estimates to reflect the approaches selected. Further, it's wise to document the plan to support monitoring activities.

The final step in the process — Risk Monitoring — is to monitor risks and the

handling options implemented. Key to effective risk monitoring is establishing a metric indicator covering the entire Risk Assessment program, including periodically evaluating identified risks, riskhandling activities, and new risk areas.

The government and contractors have critical roles in this iterative process. With today's budgetary constraints as well as significant changes in the acquisition processes, up-front risk assessment is a critical planning factor in a successful program.

The Performance-Based Product Definition Guide

The Performance-Based Product Definition Guide is the complete top-level technical information set necessary to support performance-based acquisition and sustainment strategies. The "baseline" is for the prime contractor to allocate full, traceable requirements to key system components supporting top-level parameters.

Although past practices produced the best military systems in the world, the requirements allocation process was often flawed. Flowdown occurred without allocation at lower levels, resulting in incomplete definition at these levels. Test dominated the design evolution process. Overall, program and product teams failed to identify and control critical product features and processes. In many cases, the causes for a product's behavior were not understood or controlled as the design evolved. The result was a "design by trial and error."

Design was often a point solution that did not tolerate normal variation and was hard to transition from the laboratory to production. Incorporating changes or adding new technology often proved difficult. Such conditions limited the ability to apply innovative concepts (such as competitive sourcing through open system architectures and migration to common processes).

A good performance-based product definition will include three categories of information:

Category 1, a product performance requirements definition, translates the derived operational requirements into specific technical engineering language stated in performance terms and provides the basis for a design solution and qualification of the design.

Similar to the traditional "Part 1" development specifications, in a disciplined systems engineering process the contractor will nearly always develop and verify this data as top-level requirements filter down.

The government will contract through higher-level specifications, limiting military-unique specifications and standards. Although the government/prime contract may include some requirements allocation items, most will be under contractor control.

This product definition process is not trying to increase the amount of deliverable data or buy more Level 3 technical data. Based on the technical and capability Risk Assessments, the program team will decide to include or exclude data in the contract. An organic support strategy may require some of this information.

Category 2, the product design definition, links engineering and factory environments by translating Category 1 requirements into the designer's definition of a product. These design-specific performance requirements define key product engineering design and producibility characteristics and enable efficient technology insertion at minimum requalification cost.

The product definition must relate how the program team implements a given function. This avoids high, non-recurring costs that result from growing designs to meet new requirements, technology insertion, parts obsolescence, and service-life extension.

In developing the product definition, program teams will still specify key interface requirements that drive interoperability with other platforms and systems/subsystems, such as armament and jet engine fuels.

Category 2 also defines product acceptance criteria for functional and physical attributes measured in the factory and used for product acceptance. Where interchangeability and interoperability issues are complex (such as in avionics and electronic design), it is important that the program manager capture the "as installed/as integrated" characteristics within subsystem as well as total weapon system designs.

Category 3, the product fabrication and manufacturing definition, includes everything the build package needs to manufacture the product defined by the Category 2 requirements (including detailed drawings and production process capability requirements).

This detailed product definition includes drawings with production-level information (in contractor format) applicable to the "as built" condition and industry-wide process standards, which form the basis for factory quality assurance.

The data required to efficiently produce the product drive the level of detail, not government intent to control the contractor facility process.

A capable systems engineering process then, is the result of a thorough definition of the products used to produce and support the product over its life cycle. Rather than prescribing a new, rigid format, the process is flexible and carefully tailored to a company's specific engineering and technical processes.

The product description needs to quantify required performance parameters and define key product characteristics and processes, critical interface definitions, and product acceptance criteria.

A new approach to maintain product integrity draws upon lessons learned without dictating a solution. For example, past practice for flight safety critical parts and products imposed prescriptive military specifications and standards. Unfortunately, even this did not always capture critical information needed to produce and sustain the product.

Product acceptance uses process controls rather than extensive test and inspection. Special requirements identify safety critical parts, define special fabrication requirements or tolerances, and quantify critical software functions or life-cycle management requirements. Where product integrity can be maintained, this may offer considerable cost savings.

As part of a rigorous systems engineering approach to product design and development, performance-based product definition promotes efficient operations, fulfills performance and quality requirements at minimum cost, and facilitates robust design solutions that tolerate normal production variation and accommodate technology insertion in a cost-effective manner.

The Flexible Sustainment Guide

The Flexible Sustainment Guide explains principles that address long-term issues to maximize operational capability and optimize investment strategies. Flexible Sustainment is a logical, decision-point-driven process to implement acquisition reform.

To make these strategies viable, customers must make early decisions about the life-cycle support approach — decisions that directly impact the quantity, type, and timing of product definition data purchased and controlled by the government. Although program managers can incorporate tradeoffs at any stage of the system's life, a program will incur the lowest life-cycle costs when they identify and make tradeoffs during initial design.

For new systems or major upgrades to existing systems, a rigorous product definition offers a flexible sustainment option, including long-term contractor support using competitive awards and cost-reduction incentives. For some technologies, maintaining the system at a level higher than the piece-part level may be the best option.

Sustaining existing or legacy systems is more complicated. The quantity and type of product definition data needed to support a flexible sustainment

strategy may not exist. As a result, trade-offs occur between adopting a flexible sustainment strategy and the near-term costs of generating and acquiring data.

Today's program teams, however, can consider factors and options not possible in the past, such as —

- reverse breakout strategies (selected elements are converted from organic to contractor support);
- competitive support contracts, such as operational availability, dollar-per-flying-hour warranties to motivate efficient performance; or
- contractor life-cycle management and total system performance responsibility.

Near-term expenditures to enable these approaches are an investment — the underlying business decision is determining if the investment yields sufficient long-term gains.

Flexible Sustainment consists of two major sub-processes — Reliability-Based Logistics (RBL) and Trigger-Based Item Management (TBIM). When combined with Form, Fit, Function, and Interface (F³I) reprourement, it becomes an integrated tool to achieve a robust program life-cycle logistics plan.

RBL establishes a support structure for an item, based on that system's characteristics, which supplements the source of repair and inter-Service depot maintenance processes. Its output is a system design capable of future technology insertion and a maintenance concept tailored to that design.

Reliability-based decisions affect both the initial acquisition and sustainment phase. Many factors merit consideration; however, systems reliability is the key. Sometimes not repairing an item at all, may be the most cost-effective solution. Program teams should not automatically assume the availability of organic repair and management. RBL then, allows several support options:

- Organically repair an item.

- Provide sufficient spares (eliminating a repair activity).
- Commercially repair an item (avoiding an organic repair structure).
- Use commercial materiel management.

Occasionally, non-economic drivers (e.g., operational or political) override logic and good business sense. Another factor is whether industry uses a similar item or process, or if a support structure, repair manuals, or spares list already exists.

TBIM requires a program team to keep pace with the changing world. Without insight into industry and system field performance, a finely tuned support structure can become quickly out of date. TBIM responds to significant triggers by changing the equipment, reprocuring for F³I, changing the support structure, or reaccomplishing the RBL process.

Flexible Sustainment offers three economic analysis-based alternatives for replacing or reprocuring performance-based components.

In the first and second alternatives — Traditional Build-to-Print and Modified Build-to-Print — the customer defines key characteristics, functional performance, and interface requirements.

In Traditional Build-to-Print, the program team specifies product design and fabrication methods to an organization capable of producing the product.

Alternately, in Modified Build-to-Print, the program manager specifies product design to a producer, who then determines the processes used to produce the product.

The third alternative — F³I — allows technology insertion on one side of an interface without being forced to modify the other interface side. The program manager specifies functional performance, key characteristics, and interface requirements to an organization with design as well as production capability,

which can then determine the design and manufacturing processes.

When F³I reprocurement is the smart thing to do, appropriate testing must demonstrate that the new item meets performance requirements. A recovery strategy must be maintained in case the management or repair relationships end.

Flexible Sustainment reduces the cost of ownership by comparing contractor and organic repair and management investment, improving current systems reliability, eliminating inefficient practices, and encouraging technology insertion.

The Joint Service Specification Guide (JSG)

Still under construction, these specifications will provide generic guidance on assigning key requirements in order to assist program offices and contractors to convert to performance-based specifications. The JSG is generic, with specifications flexible enough to tailor for a specific product class.

Developing a common JSG for a product class means that the Services agree on a set of critical requirements with a high degree of commonality. This allows the Services to maximize resources and concentrate on critical product development requirements, which facilitates Joint programs and provides a single, consistent approach in providing defining requirements to industry.

Currently, the JSG is focusing on supporting the Joint Strike Fighter Engineering Manufacturing Development (EMD) source selection. A complete JSG set for aviation systems won't be available until later. Although focused on the Joint Strike Fighter and other major new programs, they will be useful for future modification programs.

Eight specification guidelines are being developed. The Air System Specification, at the top, bridges operational and technical requirements and can be used to develop the top-level contractual specification, translating operational requirements into engineering terms, or verifiable performance

requirements. The Air Vehicle Specification is at Level 2. Key subsystem specifications at Level 3 include Avionics, Airframe, Engine Vehicle Management, Vehicle Subsystems, and Air Crew. Each specification guide is in varying degrees of development by a multi-Service team.

Each JSG has two parts. The first contains normal specification information, including the scope, a requirements section, reference documents, and a corresponding verification section. It also includes a comprehensive set of performance requirements for a given product class covering the most likely missions that product class is expected to perform. Users must tailor requirements for their specific application and fill in specific performance values. The verification section provides methods and criteria for proving that requirements are met.

The second part provides guidance, rationale, and lessons learned for selecting requirements and filling in performance values. Program teams must tailor specifications for a particular application and determine which set of requirements to include, resulting in comprehensive guidance to develop a program-unique specification.

Lower-level specifications, typically not mandatory, are available for industry use and guidance. The depth in the specification tree depends on government risk versus contractor-based sustainment. Depending on a specific program risk assessment, there may be cases when these lower-level specifications are also put on contract.

As we move toward performance-based business and contractors become more responsible and accountable for lower-level requirements and design solutions, the JSG will assist people writing specifications and help them capture and communicate a fully performance-based description of the item to be developed and procured.

The Key Supplier Process (KSP) Handbook

The Key Supplier Process (KSP) Handbook (MIL-HDBK-500) provides top-level, key

management processes commonly used by aeronautical business suppliers to support acquisition and sustainment.

- Program/Data Management
- Engineering
- Quality
- Manufacturing
- Procurement/Subcontract
- Management
- Logistics

A process is a series of steps delineating how to do something. Processes enable risk management, communicate government requirements and contractor intent, and provide government insight (rather than burdensome oversight).

Knowledge of a source's processes aids in distinguishing between more- and less-capable sources. Understanding the processes helps the government understand a contractor's ability to carry out the work to be done.

Eliminating prescriptive government "how to" requirements increases contractor

responsibility and accountability. With the *KSP Handbook*, program teams encourage contractor processes based on commercial industry standards and practices, and contractor internally developed processes, practices, and procedures.

Although the *KSP* handbook is not contractual, it may help —

- define and improve a supplier's common processes;
- develop top-down process metrics to assess process effectiveness and monitor improvements;
- identify process performance attributes critical to program success;
- construct solicitations allowing supplier-defined processes in place of processes defined and controlled by military standards; and
- communicate process characteristics and performance attributes.

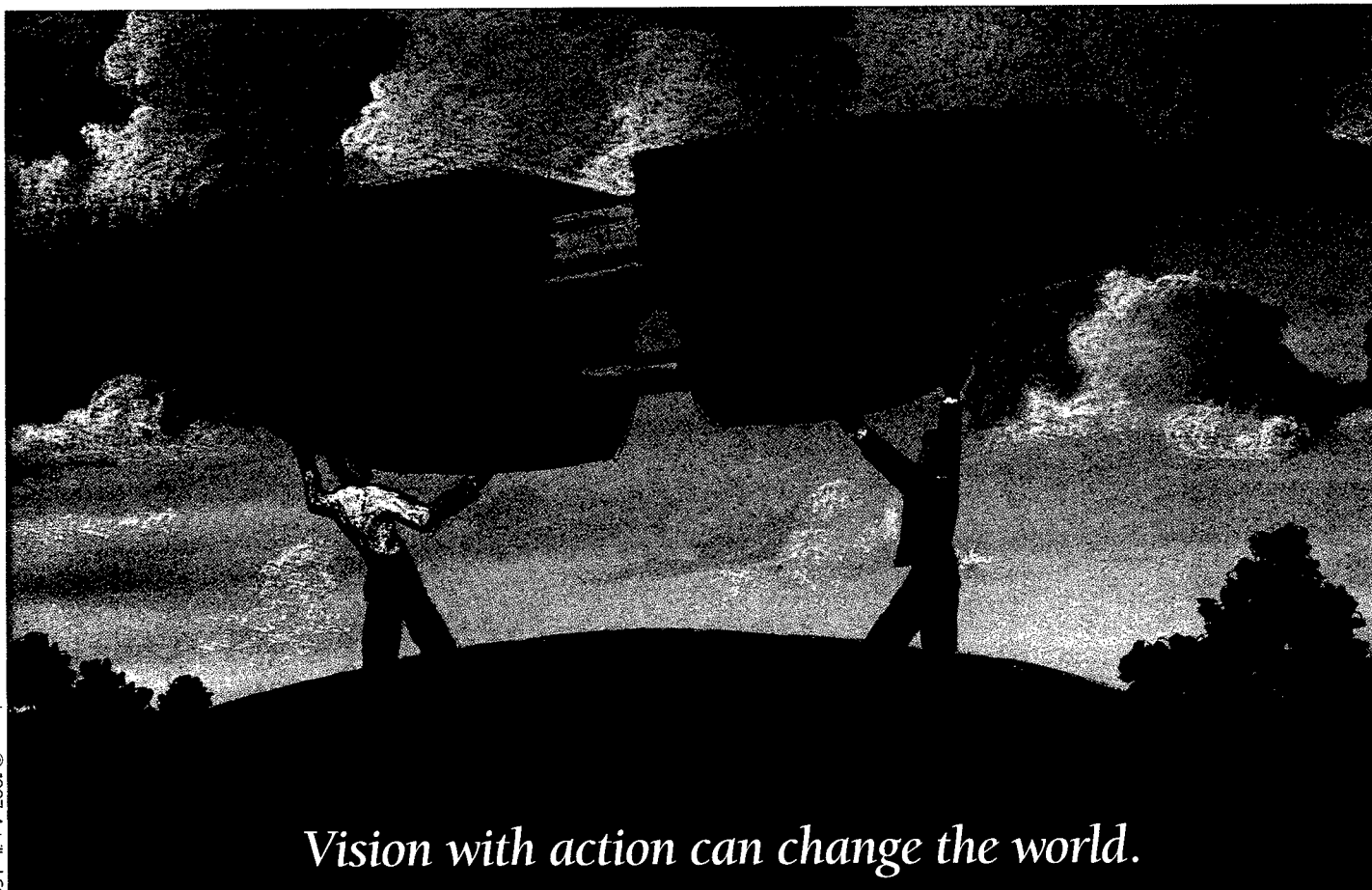
Differences may exist between suppliers in defining process boundaries and interfaces, as well as application differ-

ences between programs in a given organization. Generic definitions allow industry to tailor and partition their management processes to fit individual functional organizations and products.

OSD's preferred approach is to have no processes on contract. However, after reviewing program complexity and risk and the contractor's capability, it may be necessary (as a last resort) to require potential offerors to commit to critical processes.

Program teams should require that a contractor commit to critical processes in a graduated fashion, first using the contractor's own processes (specified in key attributes and/or performance parameters), and progressing through the least desirable step (used only on an exception basis), of placing government processes on contract, in accordance with specific Component procedures.

The government team must not dictate the processes contractors are to



Vision with action can change the world.

use. Performance-based processes emphasize commitment commensurate with risk and criticality to program success.

The Contractor Performance Assessment Report (CPAR) Form and Instruction

The CPAR Form and Instruction contain guidance to systematically assess contractor performance on current procurements exceeding \$5 million.

The JACG CPAR provides a common vehicle to assess contractor performance and provide critical past performance inputs to source selections. The following key elements describe the collection system endorsed by the JACG:

- Due process for the contractor (can respond to an assessment).
- Annual assessment, as a minimum, preferably at contract completion.
- Government participation by multi-functional teams, DCMC, and users.
- CPAR reflecting, as a minimum, rates of quality, delivery, cost control, business relations, and customer satisfaction.
- Defined ratings, which range from excellent to unsatisfactory.
- Program or contract manager responsibility for the report, with review required one level above.
- Report protected as For Official Use Only/Source Selection Information.

The sole purpose of CPAR is for use in source selections. It applies to programs in Demonstration/Validation, EMD, Production/Deployment/Modifications, or Programmed Depot Maintenance.

CPARs are not cumulative — they only cover the reporting period. The contractor can respond to a report, the program manager can revise the CPAR based on this response, and the reviewing official can then comment on significant differences.

The JACG CPAR prohibits manpower support contractors from providing

CPAR inputs and does not require evaluation of Cost Control for Firm Fixed Price contracts.

The Performance Risk Assessment Group (PRAG) Desk Guide

The PRAG Desk Guide helps assess offerors' relevant past performance in order to select a proven performer. Providing best practices and tools for performance risk assessment activity during Pre-Proposal and Source Selection, it also explains how to organize and train PRAG members, establish a performance risk assessment approach, develop inputs for an RFP, obtain and assess past performance information, and formulate and present PRAG results to the Source Selection Authority.

The PRAG itself is the team within the source selection organization tasked with assessing the performance risk of each offeror and its critical or teaming subcontractors. Team composition depends on the size and complexity of the source selection, and mainly includes government personnel with expertise in the system being procured.

Using past performance allows performance risk assessment at the area level or as a general assessment. The PRAG Desk Guide provides a consistent method across the business sector for assessing past performance risk.

Implementation

JACG's Implementation Plan for PBBE employment and deployment includes three phases: first, get the word out; next, get specifics into the users' hands; and finally, fully integrate program teams into the way we do business.

Phase I provides top-down awareness through the community's execution chain. A community achieves this level of awareness by accelerating public relations activities, such as advertising on the JACG World Wide Web Acquisition Home Page; and publishing articles in various defense publications, supplemented by joint government/industry awareness roadshows and townhalls.

To kick off the JACG training plan, Aeronautical Systems Center at Wright-Patterson AFB created and distributed videotaped briefings during Acquisition Reform Day II in March 1997, that addressed each PBBE product area in a 15- to 20-minute presentation.

Organizational trainers, following each briefing, used the videotape to stimulate discussion about changes in each business area. This awareness training provided the basic tools to enable ASC's acquisition workforce to begin incorporating PBBE into their programs and accessing information from this new toolbox. Electronic copies of these briefings are available on the JACG Home Page at <http://www.wpafb.af.mil/az/jacg> on the World Wide Web.

The next step in the JACG implementation plan is to incorporate PBBE (through the Systems Engineering Steering Group) into the Defense Acquisition Deskbook and Defense Acquisition University (DAU) training material.

Phase IIA highlights immediate application-level training for "Lead the Fleet" projects selected to provide early feedback on practical application pitfalls and possibilities. This Service-led training emphasizes "just-in-time" training for programs entering acquisition strategy development or modification phases. Lessons-learned from the awareness workshops and feedback from Lead-the-Fleet programs will be rolled into the products, Desired Learning Objectives, and other training data developed.

Phase IIB integrates feedback for improvements and changes, then continues with long-term training through DAU, with eventual implementation expected across all defense business sectors. The plan includes using any and all the technology resources available, such as Defense Acquisition Deskbook updates and virtual-classroom Web training.

Phase III fully migrates PBBE into the DoD acquisition culture. DAU-led continuation training, incorporating Service

feedback and lessons learned, will enable full integration into DAU and industry training. The living nature of a performance-based business environment implies continuous training for the acquisition community

The Next Step

This is not the end of Acquisition Reform by a long shot. Changes will continue that, hopefully, will make it easier for program teams to do their jobs and still provide the world's best tools for our country's defense.

Performance-based acquisition creates new ways of contracting and communicating between program offices and contractors. The PBBE products provide

guidance, tools, and the thought processes needed to develop the acquisition strategy and approaches that lead to performance-based solicitations and contracts.

A wise man once said —

*Vision without action
is just a dream.*

*Action without vision
is just passing the time.*

*Vision with action
can change the world.*

The vision of a Performance-Based Business Environment, endorsed by senior

DoD and industry executives, represents a streamlined, flexible, quick-reacting approach to weapon systems acquisition that can change the acquisition and sustainment world. Through our actions, and by the strategies we develop, we can shape the future, and more efficiently provide our nation the means to decisively respond to any potential adversary that may threaten our national interests.

Editor's Note: Access additional information about Performance-Based Business on the DoD Acquisition Deskbook Home Page at <http://www.deskbook.osd.mil> or through the JACG Home Page at <http://www.wpafb.af.mil/az/acg/index/htm> on the World Wide Web.

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VICE PRESIDENT GORE'S 97 REPORT, ***Businesslike Government:*** *Lessons Learned From America's Best Companies*



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NATIONAL PERFORMANCE REVIEW

The story of reinventing government is first and foremost the story of 1,900,000 public servants striving, reaching, struggling to serve America. No large institution in America has a more dedicated or more competent workforce... This year's report focuses on an unheralded success: the way government is learning from the most successful American businesses. Dozens of companies furthered the reinvention effort by sharing their successful practices and working with us to implement them in the federal government. The report highlights the achievements of these companies that have been emulated in the federal workplace...



Eval/Demo Planning for the Joint Countermine ACTD

Mine Countermeasure Operations

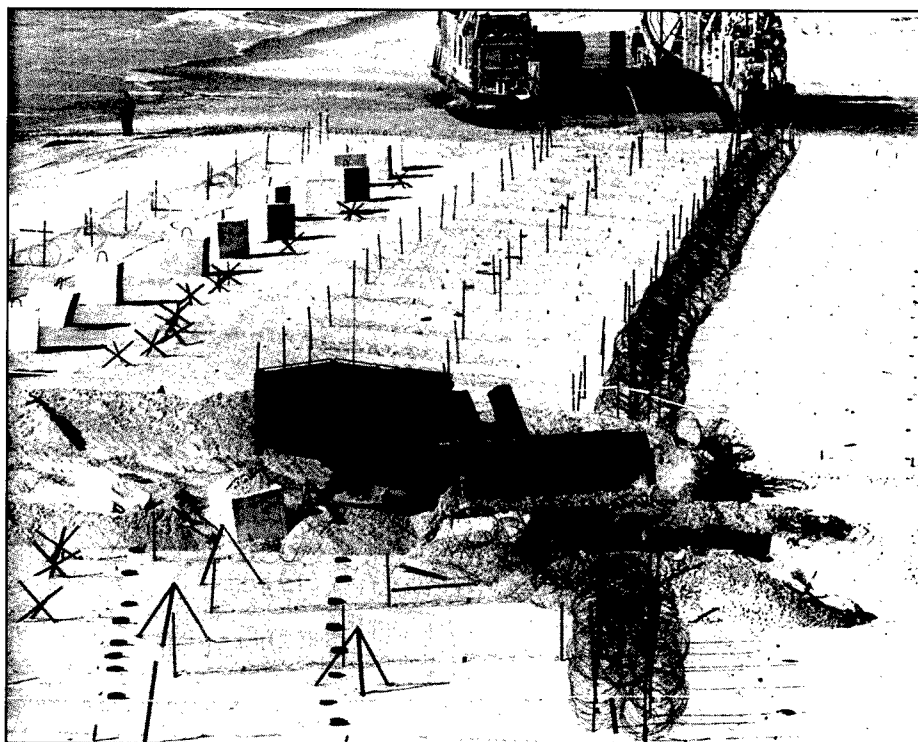
COL. T. J. SINGLETON, U.S. MARINE CORPS
DR. RONALD R. LUMAN • I. DENNIS RAPPORT

ACTDs are a new and innovative aspect of DoD acquisition reform, just initiated in fiscal 1995 by the Deputy Under Secretary of Defense for Advanced Technology [DUSD(AT)]. They represent an attempt to accelerate the acquisition process, and encourage the acquisition community to cooperate earlier and more fully with the intended warfighting user.¹

Background

Demonstration 1 (Demo I) was the first of two Joint Countermine (JCM) Advanced Concept Technology Demonstrations (ACTD) to demonstrate the capability of conducting seamless amphibious mine countermeasures (MCM) operations from sea to land.² Focusing on near-shore capabilities, Demo I emphasized in-stride detection and neutralization of mines and obstacles in the beach zone and on land.

Conducted by the Office of the Secretary of Defense (OSD) and the U.S. Atlantic Command (USACOM) in late summer 1997, Demo I integrated the JCM ACTD forces into a large-scale Joint Task Force Exercise (JTFEX), employing prototypes from Advanced Technology Demonstrations (ATD) and developmental acquisition systems alongside operational forces using current countermine systems.³ Ultimately, the JCM ACTD forces intended both demonstrations to serve as a sound basis for investment decision recommendations prior to commitment to systems acquisition.



CLAUSEN POWER BLADE CLEARING PATH THROUGH OBSTACLES AND BURIED MINES. LANDING CRAFT, AIR CUSHION (LCAC) IS IN THE BACKGROUND.

Scenario

Employing tactics, techniques, and procedures (TTP) from the existing doctrine of Operational Maneuver From the Sea (OMFTS), the Demo I JCM ACTD forces successfully demonstrated capabilities for safe transit of amphibious forces across a beach defended by a light defense force, employing mines and complex obstacles.

The Demo I scenario called for the JCM ACTD forces to conduct clandestine surveillance and reconnaissance to determine if gaps in the marine and land minefields could be exploited to allow safe transit of amphibious forces to reach their objective. If no gaps existed, their mission was to execute the overt reconnaissance, detection, neutralization, and clearance operations necessary to en-

Singleton is Program Manager for the Joint Countermine Advanced Concept Technology Demonstration (ACTD). A graduate of DSMC's PMC 87-2, Singleton was named ACTD Manager of the Year for 1997 (see November-December 1997 Program Manager, p. 71). Rapport is assistant supervisor of the Test and Evaluation Branch, The Johns Hopkins University Applied Physics Laboratory (JHU/APL), Laurel, Md. Luman, also on the staff of JHU/APL and recently awarded a Ph.D., serves as the Analysis Integrated Product Team Leader for the Joint Countermine ACTD.

sure mine and obstacle clearance for the safe transit of forces.

Using Distributed Interactive Simulation (DIS) — in this case, a campaign-level simulation, in which output was distributed to command nodes via the tactical command and control network — to the fullest extent during the demonstration, the JCM ACTD forces also demonstrated further command and control links between MCM units and operational commanders.

Throughout the entire Demo I scenario, extensive operational user [USACOM] involvement in the JCM ACTD supported the development and evaluation of doctrine, TTP, and the assessment of organizational impacts of the new technology prototypes. OSD and USACOM viewed the warfighter's perspective as significant input to these acquisition decisions because the ACTD was and remains committed to the following three objectives:

- Gain understanding and evaluate military utility before committing to systems acquisition.

- Develop corresponding concept of operations and doctrine.
- Rapidly provide enhanced operational capability.

A "System of Systems"

The JCM ACTD is a "system of systems," with complex interfaces among the novel systems being evaluated in the ACTD as well as interrelationships with the legacy countermine systems that are currently fielded. The challenge for planning the test and evaluation approach for the JCM ACTD was to give users proper observability into the military utility of the novel systems, thereby allowing them to make the right decisions with respect to those systems.

Early in the development stage, OSD and USACOM recognized the applicability of the demonstration planning and evaluation approach developed for Demo I ACTD. As a result, they recommended it to other ACTD managers for ACTDs of the system-of-systems class.

This article describes the philosophy and approach developed by the Joint Program Office in conducting and analyzing

the following key elements of the JCM ACTD:

- **Development of an integrated scenario to demonstrate and motivate use of 12 novel countermine systems.** The Joint Countermine ACTD employed prototypes from ATDs and pre-production phases of the development cycle along with fielded equipment in live demonstrations. Selected items of equipment and simulations remained with the operational user for a two-year extended evaluation.⁴ Table 1 provides a summary of the novel systems included in the JCM ACTD.
- **Employment of a sophisticated modeling and simulation (M&S) tool.** A robust M&S effort, the Joint Countermine Operational Simulation (JCOS) expanded the information base obtained from the live demonstrations through constructive modeling and DIS.
- **Innovative use of enhanced Command, Control, Communications, Computers, and Intelligence (C⁴I) network architecture as the primary automatic data collection mechanism.**⁵ C⁴I connectivity and notional architectures for MCM were also demonstrated.
- **Development of a Measures of Effectiveness/Measures of Performance (MOE/MOP) hierarchy for the system-of-systems situation.**

Getting Started

Initially, we were concerned that our goals and objectives were too lofty to be met by merely staging one or two large-scale military demonstration exercises involving 12 novel systems of varying maturity and technical risk. Eventually, we produced a comprehensive data gathering and analysis plan, integrating results of other test programs and simulation studies, which established a methodology for accomplishing the objectives we established for the ACTD.

COASTAL BATTLEFIELD RECONNAISSANCE AND ANALYSIS (COBRA), CONFIGURED IN AN UNMANNED AERIAL VEHICLE.

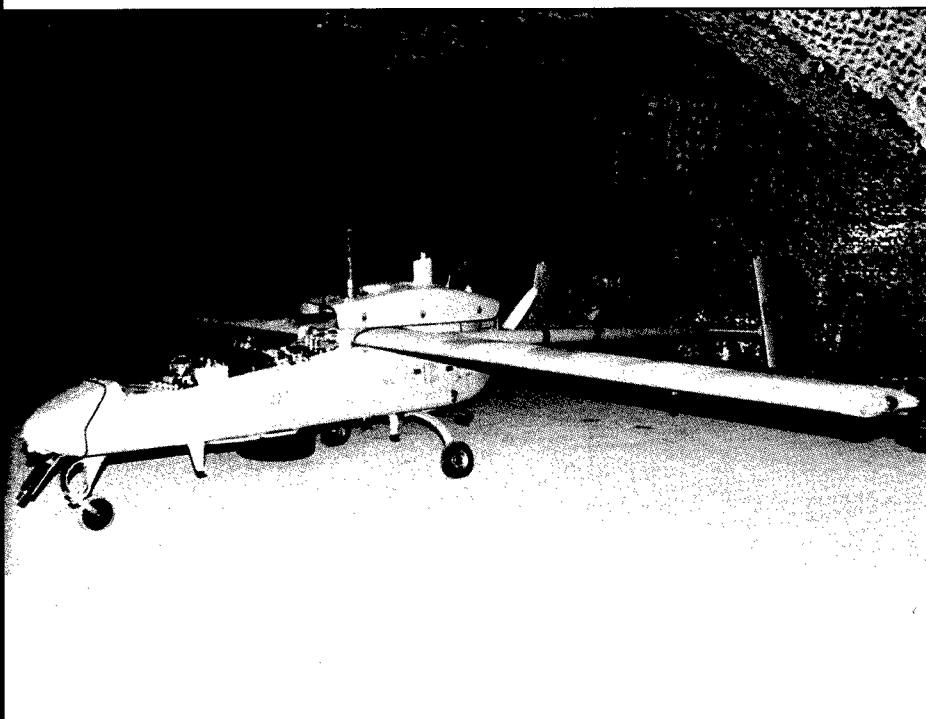


TABLE 1. Twelve Novel Systems Tested by the JCM ACTD

<i>Elements</i>	<i>Description</i>
Navy Systems	
Advanced Sensors	Underwater mine detection, classification, and identification (D/C/I) in support of finding minefield gaps. Advanced sensors will be housed in a remotely piloted, semi-submersible, low-observable vehicle. Sensor fusion will provide D/C/I against all sea mines. System endurance will provide an 8- to 12-knot search speed for up to 24 hours on a single tank of fuel.
Magic Lantern (Adaptation)	Rapidly detect and classify minefields and obstacles in the very shallow water, surf zone, and craft landing zone. The system will demonstrate the capability of gated, lidar imaging for detection of minefields and obstacles. The system will also employ real-time automatic target recognition and a datalink to ground station for viewing target images.
Advanced Lightweight Influence Sweep System	Sweeps acoustic and magnetic sea mines in the shallow water and very shallow water portion of the assault lanes. The system is an influence sweep that uses a closed-cycle, conductively cooled, superconducting magnet to generate ship-like magnetic signatures, and a pulsed, power-driven underwater sparker to generate ship-like acoustic signatures.
Explosive Neutralization Advanced Technology Demonstration	Breaches a seamless assault lane through minefields in the surf zone and on the beach. The ENATD consists of three explosive systems and a Fire Control System (FCS). The explosive systems are 1) a Line Charge; 2) a Surf Zone Array; and 3) a Beach Zone Array.
Near-Term Mine Reconnaissance System	Provides Theater Commanders with a near-term capability for conducting clandestine minefield reconnaissance from a submarine. NMRS will utilize forward-look and side-look sonars to detect and classify mine-like objects and provide the data back to the host submarine via an expendable fiber optic micro cable.
Littoral Remote Sensing	Using national systems, provide accurate, timely, and tailored intelligence of meteorological and oceanographic (METOC) conditions, natural obstacles, and coastal defenses to tactical forces.
Marine Corps Systems	
Coastal Battlefield Reconnaissance and Analysis	Detect minefields/obstacles in the beach and craft landing zone region. Provide near real-time data to C ⁴ I system. COBRA is an unmanned aerial vehicle-based multi-spectral optical sensor system for detecting minefields/obstacles in the beach/craft landing zone region.
Joint Amphibious Mine Countermeasures	The Joint Amphibious Mine Countermeasures system will provide the Fleet Marine Forces the capability to clear mines and light obstacles from the high water mark to the craft landing zone. The system employs remote-controlled tractors with mechanical, explosive, and electro-magnetic mine countermeasures sub-systems in addition to visual and electronic marking devices.
Joint USMC/Army System	
Off-Route Smart Mine Clearance	Neutralizes off-route smart side attack and top attack mines. The ORSMC System consists of a tele-operated HMMWV platform that replicates critical signatures of target vehicles in order to cause a launch of the smart mine munition.
Army Systems	
Close-In Man Portable Mine Detector	Detects surface and buried metallic and nonmetallic land mines. CIMMD consists of a stand-off Infrared Thermal Imager, and a confirming Ground Penetrating Radar brassboard man-portable mine detector.
Airborne Stand-off Minefield Detection System	The ASTAMIDS will provide the capability to detect and identify the boundaries of patterned and scatterable anti-tank minefields. The ASTAMIDS consists of an airborne imaging sensor and a Minefield Detection Algorithm and Processor, which is a high-speed processor and minefield detection algorithm suite used to process sensor imagery and autonomously detect minefields.
Army Classified Program	Description of system's capabilities and mission is classified.

We decided early on that there should be a current countermine capability baseline established upon which to judge potential enhancements offered by acquisition of the novel systems. This baseline would provide a reference point for judging demonstrated improvements in countermine capability.

An attribute of the analysis methodology is that the baseline and corresponding estimates of improvements in military capability were to be as quantitative and objective an assessment as possible. The analysis philosophy and methodology outlined in this article address the issues confronting our first ACTD, and provide a framework for evaluating the contribution of the novel systems to the countermine mission. We believe the approach can be adapted to any system-of-systems ACTD.

Cutting the Problem Down to Size

As discussed earlier in this article, the JCM ACTD consists of two demonstrations (Demo I and Demo II). Demo I

was a scripted exercise, with the Army acting as lead. Demo II is to include large periods of free-play with the Navy acting as lead Service. As with Demo I, Demo II will be part of a large, joint exercise lasting many days.

The scope of Demo II, as with Demo I will be quite large in terms of time, number of participating units, and the number of systems under investigation. Fortuitously, the overall context of a JTFEX (i.e., conducting an amphibious assault on an unfriendly shore) is exactly the mission envisioned for the JCM ACTD. Our first task was to decompose that mission along two dimensions – performance measures and time.

MOPs, MOEs, and COIs

The process of defining MOPs that describe the performance of individual systems and MOEs that evaluate how well these systems accomplish specified tasks is common to almost all test programs. In the case of the JCM ACTD, several factors complicated this process.

First, there were no consistent and generally recognized MOEs for countermine functions. Moreover, there were no overarching measures of effectiveness that describe the contribution of countermine to the success of the amphibious assault.

We formulated a three-tier approach to developing quantitative measures for the JCM ACTD. At the top level, working with USACOM, we identified four critical operational issues (COI), taken from the Joint Universal Task List.⁶ These COIs form the basis for USACOM's evaluation of the improvement in countermine capability provided by the novel systems. Dropping down a level, we identified a number of MOEs that relate to countermine functions for each sub-phase of the JTFEX. Finally, each sub-phase has a number of participating systems for which we specified a set of MOPs.

Figure 1 illustrates the three levels of quantifiable measures described previously. Although Figure 1 is general for

FIGURE 1.
Integration of MOPs, MOEs, and COIs to Support Overarching Countermine ACTD Objectives

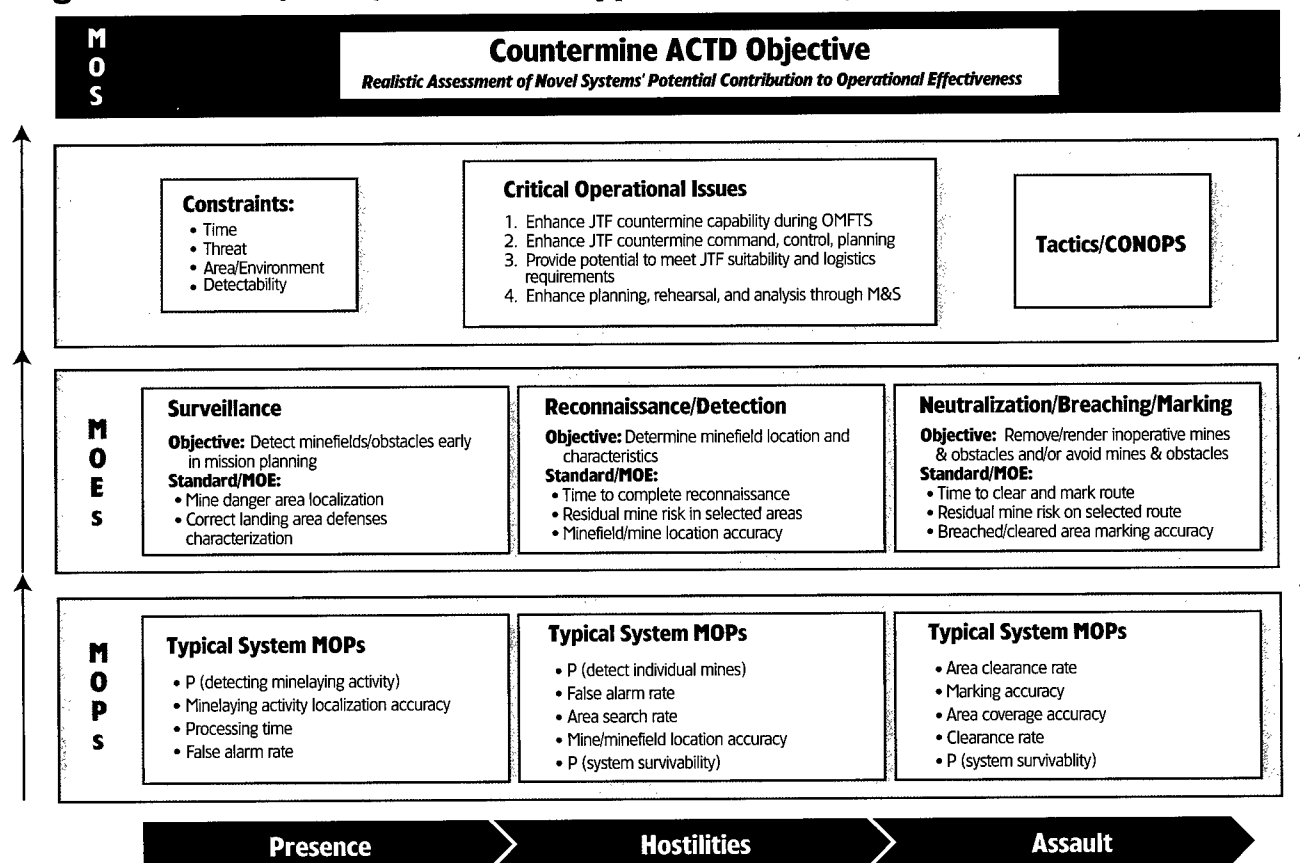


TABLE 2. Ten Sub-Phases of the JTFEX Scenario

Phase	CM OPNS	Title	Description	Novel Systems	Existing Systems
All	Clandestine Intel/Surv/Recon	ISR and CM Planning	Assets utilized for collection, analysis, and dissemination of minelaying activity, mine and obstacle fields. JCOS utilized for course of action analyses.	Littoral Remote Sensing, JCOS	Clandestine: JSOTF SSNs JSTARS U2, etc
Presence	NAVFOR 1	Advance Force Recon	Clandestine recon to discover/create gaps or lightly mined areas in perimeter minefields.	Advanced Sensors (AS)	SMCM AMCM UMCM
Presence Hostilities	ARFOR 1	Border Recon and Breach	Create breach in Koronan border defenses and divert Koronan defense forces from main amphibious landing objectives.	ASTAMIDS CIMMD ACP AS	Battalion CM Set MICLIC ACE
Hostilities	NAVFOR 2	Beach Approach and Landing Area Recon	Determine type/placement of SW, SZ, BZ, and CLZ mines/obstacles.	ML(A) COBRA ASTAMIDS CIMMD	SMCM AMCM UMCM AN/PSS 12
Hostilities	ARFOR 2	Airfield Recon and Establish Lodgement	Reconnaissance, seizure, and hasty defense establishment of airfield sector.		
Hostilities	NAVFOR 3	Amphibious Assault	Clear mines as necessary and land sufficient forces to secure beachhead.	EN(ATD)	AMCM SMCM AAV MK1 UMCM
Hostilities	MARFOR 1	Follow on clearance	Expand CLZ and ingress/egress lanes.	EN(ATD) JAMC	SMCM AMCM UMCM
Hostilities	MARFOR 2	MEF Route Recon	Determine minefield location between beachhead and port objective.	COBRA	None
Hostilities	ARFOR 3	Route Recon and Clearance	Clear route from airport sector to port objective area.	ASTAMIDS CIMMD ORSMC ORSMC	AN/PSS 12
Hostilities	MARFOR 3	MEF Movement to Port Objective	Clear route for MEF(FWD) from beachhead to port objective area.		AN/PSS 12

the ACTD, we produced similar divisions for each sub-phase in Table 2. Two important points need to be made regarding these measures.

First, they were readily calculated with data that were easily collected during Demo I. Secondly, there were no pre-defined thresholds accompanying any of the MOPs or MOEs. Unlike other test programs, for instance Operational Evaluations, success of any particular system for an ACTD does not depend on it meeting some performance standard. For ACTDs, success depends on making the right acquisition decision based on properly characterized performance, leading to an understanding of how a system will enhance military utility.

Countermeasure Sub-phases of the JTFEX

Typically no significant countermeasure play exists in a JTFEX.⁷ Early in our planning

process, we developed a concept for overlaying a countermeasure component to the JTFEX that would satisfy the test and evaluation objectives of the ACTD. Our concept for a countermeasure scenario includes four facets:

- Naturally motivate the use of the novel systems.
- Provide the maximum opportunity to demonstrate significant (i.e., measurable) utility of each novel system to the top-level MOEs and COIs.
- Demonstrate synergy of the novel systems with the legacy systems.
- Present a significant but fair challenge to each novel system.

In addition to these four objectives, we wanted to minimize our impact on the JTFEX. Therefore, we imposed the restriction on ourselves of maintaining consistency with the JTFEX Military

Capabilities Summary, which defines the threat, political situation, and military mission for the JTFEX.

Figure 2 shows an overview of the countermeasure overlay to the JTFEX. The geopolitical situation is largely defined by the JTFEX Military Capabilities Summary mentioned earlier. The additional activities to showcase the countermeasure systems satisfy the four objectives discussed previously.

The overall scenario for the countermeasure demonstration is only the first step in producing a context for the evaluation of the military utility of the novel systems. The next step is to further divide the scenario into sub-phases that are amenable to analysis. That is, we wanted to have self-contained military operations that could be simulated as well as played in the JTFEX to produce meaningful results. The results would then

serve to support the user's ultimate evaluation of the improvement in capability provided by particular novel systems.

Toward that end, we divided the JTFEX scenario into 10 sub-phases that accomplished the goal of focusing the evaluation on individual systems. Table 2 shows a description of these sub-phases.

General Analysis Approach

After dividing the JTFEX into manageable sub-phases, and establishing the basis for measuring the military utility of the participating systems, we still worried that these two exercises alone will not provide enough data to support the overall objectives of the ACTD. As a result, we proposed that the basis for evaluating the results of the ACTD should be to understand as much about the performance of the novel systems as possible before the ACTD demonstrations.

The basis of this understanding can come from tests conducted by the sys-

tem developers, M&S, or special "cell demonstrations" requested by the ACTD Joint Program Office or the user [USACOM].

Figure 3 illustrates the relationships among the ACTD demonstrations and supporting tests, the analysis process, the models that describe the behavior of the novel and legacy systems, and the campaign model that plays these performance factors through representative scenarios to produce estimates of the improvement in countermining capability provided by the novel systems.

Figure 3 represents an iterative process. At any time, the models implemented in JCOS represent the best, current understanding of countermining capability. As more performance data are collected, this understanding improves, and so do our estimates of the contribution of the novel systems.

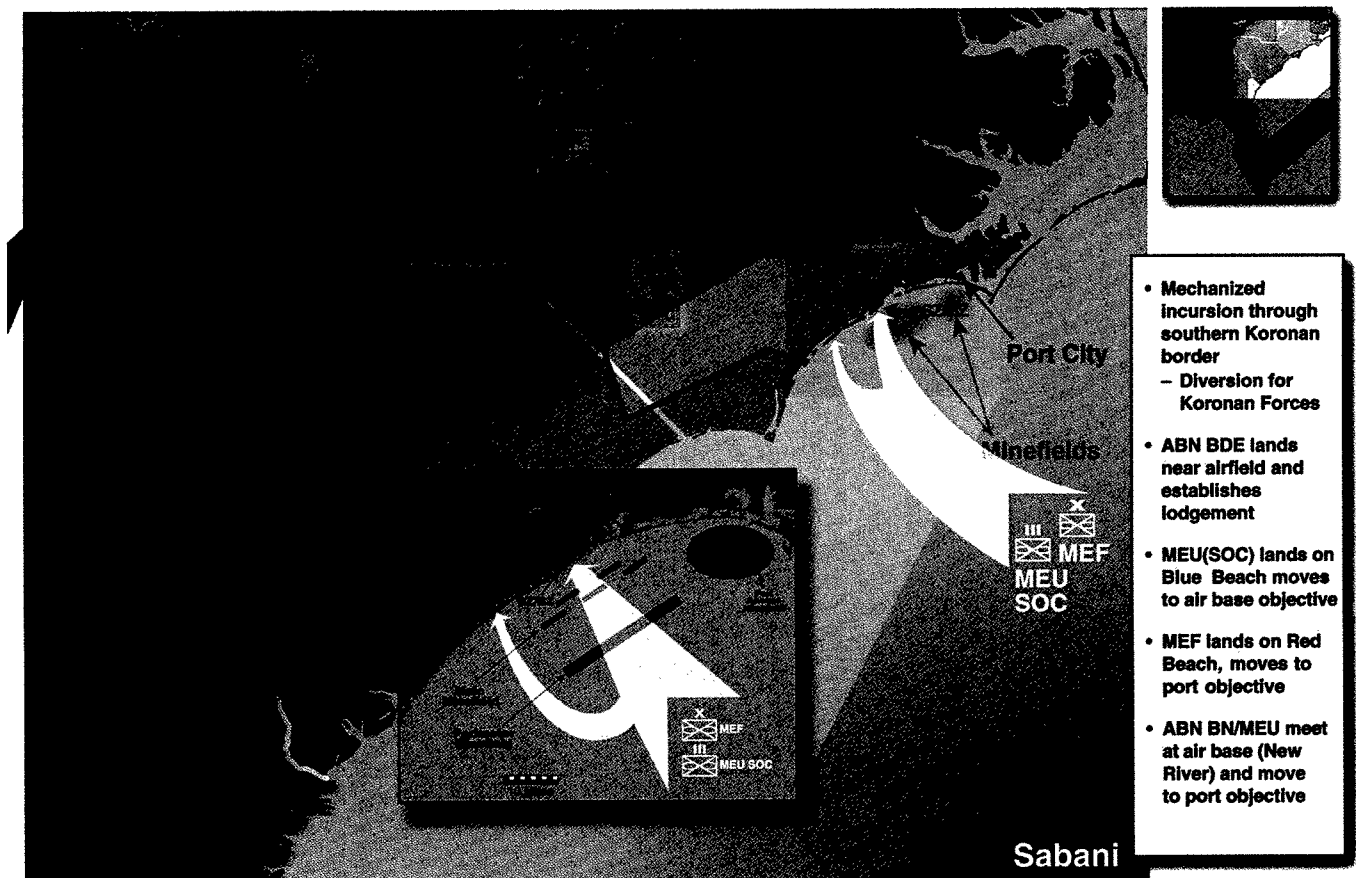
Consistent with the ground rules of the ACTD, the primary data for making de-

cisions about the novel systems will come from the demonstrations themselves. However, having as much prior or supplemental knowledge of novel system performance allows the evaluator to predict how the ACTD scenarios would benefit from the presence of these systems.

After the demonstrations, the analysis agents will compare the observed performance during the ACTD against these predictions. Two outcomes can result:

- For any novel system, the observed performance during the demos can be consistent with our expectations based on M&S. In this case, we can be assured that we understand the contribution of that novel system to the countermining mission.
- For any novel system, the observed performance can be inconsistent with our expectations. In that case, we need to do one of the following: reassess the predictions

FIGURE 2. Relationship of Military Capabilities Demonstrated During JTFEX to Each ACTD Phase



performance of other baseline or novel systems. That is, two systems operating together might possibly demonstrate more countermining capability than you would expect if each were tested separately. On the other hand, two systems that perform satisfactorily in isolation might possibly interfere with each other when operated together.

We cannot predict these effects ahead of time, but certainly we need to consider these possibilities in the analysis of the demonstration results. One place where these effects might be observed is in a clearing system that follows a reconnaissance system. One can imagine that a navigation error in the reconnaissance system would be inherited by the clearing system, causing it to be less effective than otherwise expected.

Another place where these effects might be noticed is in C⁴I, where the fusion of data from two reconnaissance systems provides more credible situational awareness than might have been expected if the output of the systems were viewed in isolation.

Instrumentation

Some instrumentation will be provided with the novel systems under test. Currently, however, the community has not addressed other instrumentation requirements such as those required for environmental measurement, geographic tracking of participating units, and measuring the performance of baseline or legacy systems.

Part of the evaluation process was to establish ground truth for the various phases of the exercises. That is, we wanted to know, independent of the systems being evaluated, the state and extent of the mine threat. Moreover, the performance of all systems being considered depended on environmental factors. This fact made it necessary to collect some amount of in situ environmental data, such as water conditions, atmospheric conditions, sea state, etc.

C⁴I Considerations

A major expectation of the ACTD was that a C⁴I capability would be demonstrated that supported seamless, no

pause transition from the sea to the land battle in a mine environment. To do so, this C⁴I system must provide an accurate and timely picture of the battle space, including the progress of countermining activities. In fact, timeliness and accuracy of C⁴I is one of the factors that makes the goal of seamless transition from the sea to decisive land battle possible.

The availability of the C⁴I network resolved some of the more complex instrumentation issues. We used copies of the C⁴I database for near real-time reconstruction of the demonstration, focusing on critical countermining events and processes. After the exercise, this database provided us the means to determine the performance of the novel and legacy systems and to evaluate the effectiveness of the suite of countermining systems during each sub-phase of the demonstration.

Analysis Flow

With the previous discussion as background, we proposed an analysis flow that accommodates systems of varying levels of maturity and of which we had varying levels of understanding. In addition, we suggested a methodology that covers a wide range of outcomes during the demonstration exercises.

The analysis flow is divided into two parts: first is the integration of cell demonstrations and other data into the evaluation; and the second is the estimation of top-level MOEs based on the ACTD exercises and campaign-level simulations.

Use of Cell Demonstrations and ATD Test Program Data

Figure 4 shows an analysis flow for making the best estimate of each system's expected performance in the context of the ACTD exercises. In the best case, we understand enough about a system's capabilities to estimate its contribution to top-level MOEs without further testing and analysis. For other systems, we will want to collect more data, run simulations, or otherwise improve our understanding of its relevant performance factors. In some cases, so little may be

known about a system's capabilities that we will decide not to include it in the ACTD exercises.

The decisions and processes summarized in Figure 4 are intended to produce refined estimates of each system's MOPs, so that we can make the best possible estimates of campaign-level MOEs to compare to the observed results during the ACTD exercises.

As discussed earlier in this article, our knowledge of each system's capabilities, i.e., its MOPs, is pivotal to meeting the ACTD objectives. We need to be able to predict the likely range of outcomes for each phase of the exercise so that we can determine how likely the observed results are. The next section of this article summarizes how we would use this information in assessing the military utility of the novel systems.

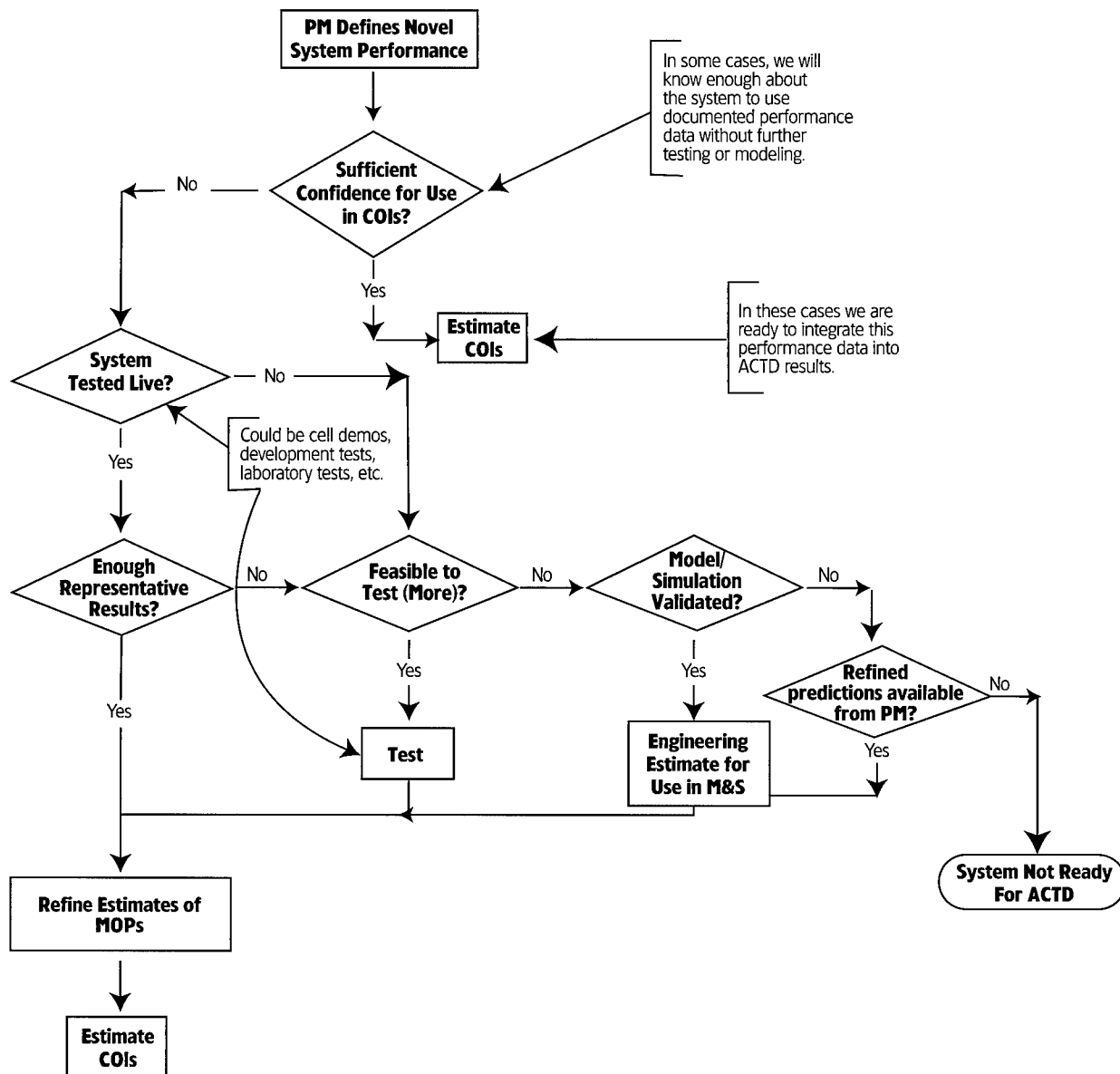
Use of ACTD Demo Results and Campaign-level Simulations

Figure 5 provides the details of the analysis described earlier. Once we have the best possible estimates of each novel system's performance, we calculate the contribution to top-level MOEs by including the system performance factors into high-level simulations of the ACTD scenarios.

The output of these simulations provides insight into the improvement represented by the novel systems over what can be achieved with baseline systems. Sources of variation in performance or environment would be included by examining the sensitivity of the MOEs to excursions in input parameters.

JCOS provides us the capability for this modeling. This sophisticated, campaign-level simulation tool models all of the environmental factors and system interactions that relate to the countermining situation. For practical reasons, we began with simpler models that treat the interactions among the systems, mines, barriers, and obstacles in a straightforward way. This process will give us an early look at the appropriateness of the demonstration scenarios as well as provide initial, baseline estimates of the military benefit of the novel systems.

FIGURE 4. **Analysis Flow — Basis for Evaluating Observed Performance**



Once the actual demonstration exercises are conducted, the results are evaluated against our expectations. If the demonstrated performance of a particular system is consistent with the expectations, we can claim that we understand the contribution of that system to the success of the campaign. If the performance is not consistent with expectations, we will isolate the cause of the problem and adjust our estimates of that system's contributions accordingly. Figure 4 allows for various reasons for unexpected performance, including problems with the predictions, unexpected changes in the scenario or environment, and/or system malfunction.

Figure 5 depicts two aspects of system performance that we mentioned ear-

lier in this article. One aspect is functional performance. That is, are enough mines located or cleared in the time frame required? This type of performance is the one most amenable to a quantitative analysis by comparing demonstration results to expectations from M&S.

The other aspect of performance is related to RM&A, suitability for military use, and other factors not easily measured. We can expect that the observations of participants and exercise monitors will provide the best source of this information. In the analysis flow shown in Figure 5, we allow for adjustments to our assessments of military utility based on knowledgeable predic-

tions of the effect of future modifications on system performance.

Lessons Learned from Demo I

Because this article is about process and methodology, we will present some of the lessons learned from the first demonstration, without commenting on the specific performance of individual systems. Demo II should include an expanded staff planning phase, which more thoroughly examines and integrates intelligence, surveillance, and reconnaissance; C⁴I; and simulation, and assesses their impact on staff decisions. The planning phase was inhibited during Demo I due to the late stand-up of component staffs and the compressed, scripted nature of the ACTD play in the

exercise. During the execution phase, each novel system should be re-played in essentially the same role that they had for Demo I (although in a free-play task/response mode) with much greater use of simulation, especially for legacy systems. Because Demo II will be in the spring of 1998, this should offer an opportunity to leverage the staffs and possibly operational forces' experience with the ACTD prior to the usual summer turnover. Finally, environmental and threat applicability of some novel systems should be fully considered by planning staffs because novel system performance is dependent on these actors.

Summary and Conclusion

The success of the Joint Countermine ACTD depends on its ability to satisfy ambitious goals and objectives. Ultimately, the program is to provide users the information needed to support in-

vestment decisions on a broad spectrum of individual ATDs. Our view is that to meet these goals, we will need to have a solid understanding of each system's likely contribution to a countermine mission before its use in one of the actual ACTD exercises.

The exercise data, when combined with simulations and other test data, will provide a realistic assessment of the performance of the novel and baseline systems, operating together, in a representative countermine scenario.

END NOTES

1. Statement by the Deputy Under Secretary of Defense for Advanced Technology to the Subcommittee on Defense Technology, Acquisition, and Industrial Base of the Senate Armed Services Committee, March 8, 1994.

2. Demonstration II (Demo II), planned for fiscal 1998, emphasizes the technologies of clandestine surveillance and reconnaissance and demonstrates all elements of a seamless transition of countermine operations from the sea to the land.

3. Joint Countermine Advanced Concept Technology Demonstration Management Plan, September 1995.

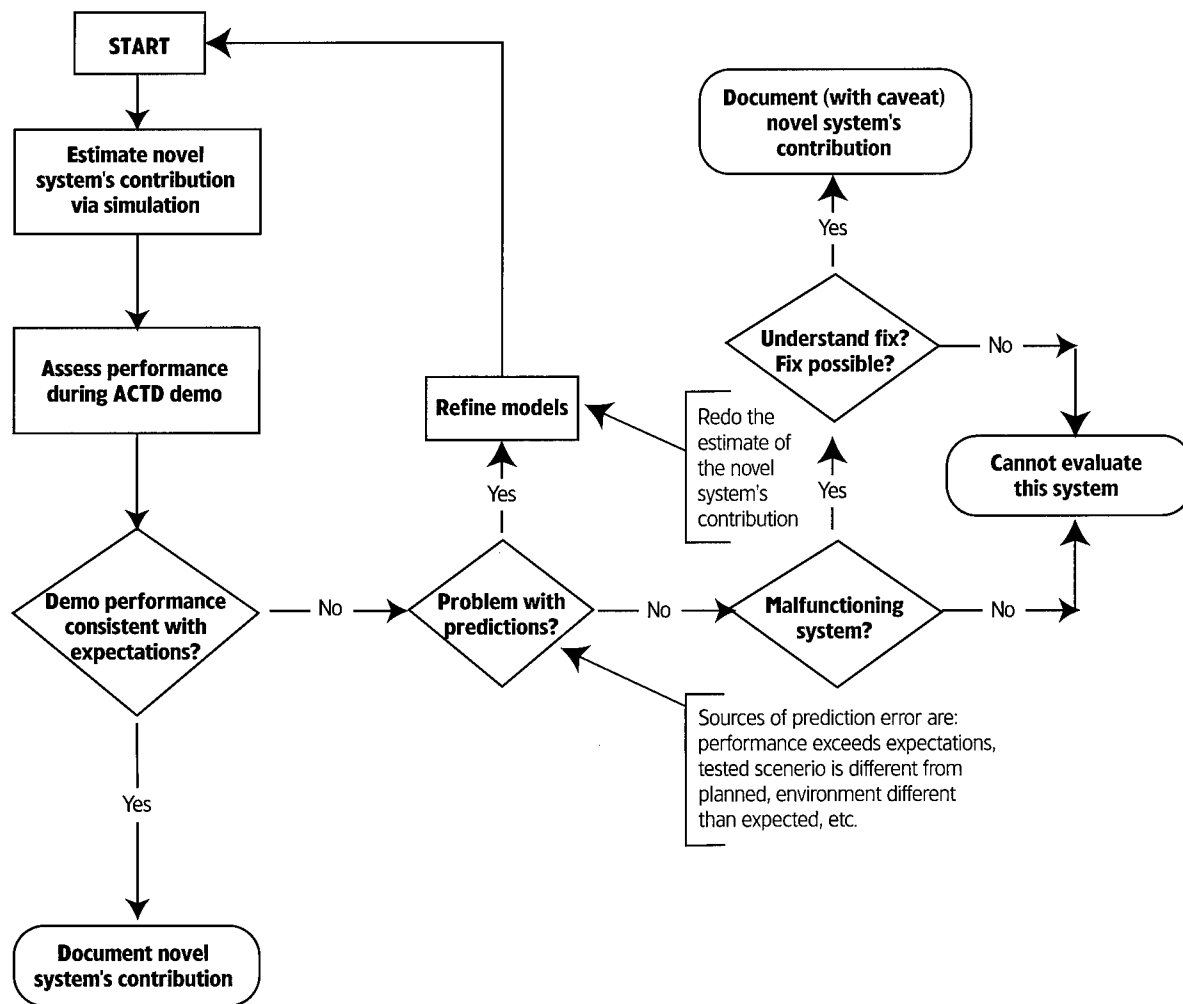
4. Joint Service Manual (JSM) 3500.04 (ver 2.1) Universal Task List.

5. During the first large-scale demonstration in August 1997, USACOM conducted data collection and analysis.

6. JSM 3500.04 (ver 2.1) Universal Task List.

7. JTFEX 97-1, conducted in the fall of 1997, included significant mine warfare play for the first time in recent memory. In this exercise, the detected presence of a minefield caused the Commander, Amphibious Task Force to revise his landing plan.

FIGURE 5. Comparison of Observed Results to Predictions



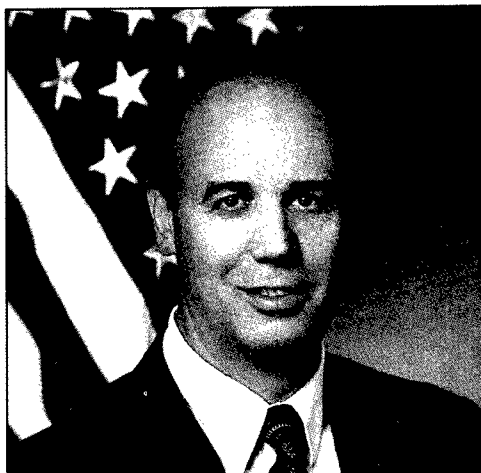
DOD ESTABLISHES STANDARD CRITERIA

Immediate Release



December 1, 1997

Acting Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) Anthony Valletta has approved a design criteria standard for electronic records management software to be used throughout the Department of Defense. This standard defines the basic legislative, operational, and regulatory requirements to be met by records management products bought by the Department of Defense. Commercial products conforming to the standard should be available in early 1998.



ANTHONY "TONY" VALLETTA, A FREQUENT VISITOR TO THE DEFENSE SYSTEMS MANAGEMENT COLLEGE AND POPULAR GUEST LECTURER AND SPEAKER, IS THE ACTING ASSISTANT SECRETARY OF DEFENSE (C³I).

This standard, known officially as the Design Criteria Standard for Electronic Records Management Software Applications, DoD 5015.2-STD, marks the first time a federal agency has developed formal criteria for electronic records management.

In addition to the standard, a software test suite and records management software applications product register have been developed to accompany the standard. All records management software products purchased by the Department of Defense will be selected from certified products listed on that register. The standard is based on legal requirements applicable to all federal agencies. Security of classified records, privacy, Freedom of Information Act, and other requirements that require special handling and safeguarding are not included in this standard and will be addressed next year.

This standard, signed on Nov. 24, 1997, is the culmination of a four-year effort. It began with a DoD Business Process Reengineering [BPR] Task Force to improve the records management process as the Department moves from paper to electronic-based operations. The BPR process, started in 1993, identified several technical and management areas to be addressed, including the need for a standard for electronic

FOR ELECTRONIC RECORDS MANAGEMENT



records management software applications. A subsequent DoD Records Management Task Force was created in 1995 with direction by the National Archives and Records Administration and membership from DoD components. The DoD standard is a product of that task force's deliberations with coordination within government and interested industry.

Testing for compliance with the standard will be conducted by the Joint Interoperability Test Command of the Defense Information Systems Agency [DISA], Fort Huachuca, Ariz. Those commercial-off-the-shelf records products which pass the certification test will be placed on a formal Records Management Software Applications Product Register. A summary test report will also be available on the register. All testing will be conducted on a cost-reimbursable basis. Once populated, all software products for records management purchased by the Department of Defense will be certified and listed in this register. The standard is based on legal requirements that are applicable to all federal agencies.

Further information on obtaining product certification — as well as the U.S. Government's records management responsibilities — can be found in the RMA [Records Management Application] Certification Test and Evaluation Program Plan, which also defines roles and responsibilities of participating organizations. Details of the plan and the product register can be found on DISA's Joint Interoperability Test Command Home Page at <http://jltc-emh.army.mil/recmgt/home3.htm> [accessed from the World Wide Web].

Criteria for federal records is established by the National Archives and Records Administration (NARA). In August 1995, NARA issued a revised regulation on records management, emphasizing that electronic mail messages may be records under the Federal Records Act, 44 USC 3301. Electronic messages, documents, and files are records when they meet the definition of federal records. A record is any document or material that is made or received in the course of government business, which should be kept as evidence of that business or because it contains valuable information. An electronic record is one that can be read by using a computer or other electronic device.

Editor's Note: This information is in the public domain on the World Wide Web and may be accessed at <http://www.dtic.dla.mil/defenseink> on the DefenseLINK News Home Page.

EFFECTIVENESS, EMPOWERMENT,
OPEN COMMUNICATIONS

Acquisition Reform and the Integrated Product Team Approach

Fundamental to the Success of Acquisition Reform

SKIP HAWTHORNE • JOAN L. SABLE
JAMES W. ABELLERA • CALVIN BROWN

INDUSTRY REPRESENTATIVES OFTEN PARTICIPATE AS MEMBERS OF IPTs. SUPPORT CONTRACTORS SERVE ALONGSIDE GOVERNMENT PROFESSIONALS ON STAFF WORKING-LEVEL IPTs; PRIME AND SUBCONTRACTORS SERVE IN AN EQUALLY IMPORTANT ROLE ON PROGRAM OFFICE IPTs.

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Hawthorne is a Senior Program Analyst, Office of the Deputy Under Secretary of Defense for Acquisition Reform, The Pentagon, Washington, D.C. Sable is a DSMC Research Associate, Abellera a DSMC Professor of Research Management, and Brown the DSMC Associate Dean of Research, respectively in DSMC's Research, Consulting, and Information Division, Fort Belvoir, Va.

As Acting Under Secretary of Defense for Acquisition and Technology (USD[A&T]), R. Noel Longuemare departed government service in November 1997, he voiced his pride in the acquisition reforms achieved in the last few years and identified teaming and the institutionalization of the Integrated Product Team (IPT) process as the reform initiative most fundamental to the success we have achieved.

To monitor our progress in achieving institutionalization, the Deputy Under Secretary of Defense for Acquisition Reform (DUSD[AR]), with support from the Defense Systems Management College (DSMC), conducted three major surveys that focused on customer satisfaction with the IPT process. Together, they designed the first survey, conducted in March 1996, as a baseline assessment of problems and progress in implementing

Overarching Integrated Product Teams/Working Integrated Product Teams (OIPT/WIPT) in Acquisition Category I (ACAT I) programs. The second survey, a follow-on survey of the same programs, conducted in April 1997, tracked year-to-year changes and progress in implementation. The third and final survey, an additional community-wide survey conducted in March 1997, in conjunction with our Acquisition Reform Week activities, assessed progress on IPTs and other acquisition reform initiatives across the Acquisition Workforce. This article provides feedback to the acquisition community on key results from those surveys.

IPT Effectiveness

All three surveys highlighted IPT *effectiveness*. The DUSD(AR) wanted to determine whether IPTs facilitate effective decision making, whether IPTs improve the effectiveness of milestone docu-

mentation, and whether IPTs contribute to producing better and more affordable products in a shorter period of time.

A comparison of the 1996 and 1997 ACAT I IPT survey results (Figure 1) shows a positive trend — more community members than ever before believe that IPTs add to our effectiveness in all three areas.

Respondents to the Acquisition Reform Week survey expressed similar views on IPT effectiveness. Of the 26,000 respondents, 79 percent agreed that their OIPTs and WIPTs were working effectively, a view reinforced by their selection of IPTs from a list of 14 acquisition reforms as the initiative that most significantly improved the acquisition processes owned by their teams.

IPT Empowerment

Critical to IPT effectiveness is the empowerment of those who participate —

FIGURE 1. IPT Effectiveness

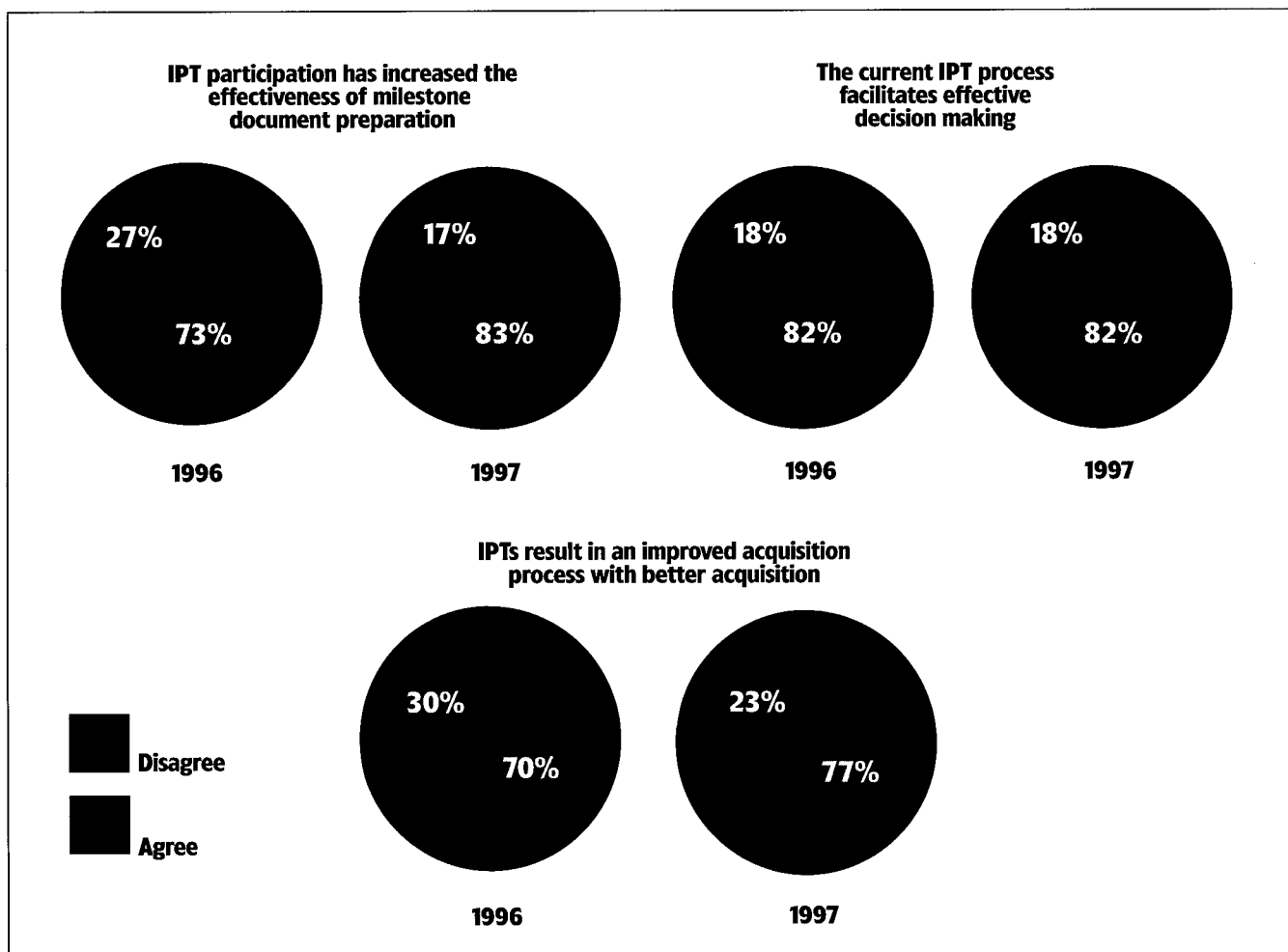


FIGURE 2. Comparison of WIPT Members Expressing Empowerment to Speak for Their Organizations — 1996 vs. 1997

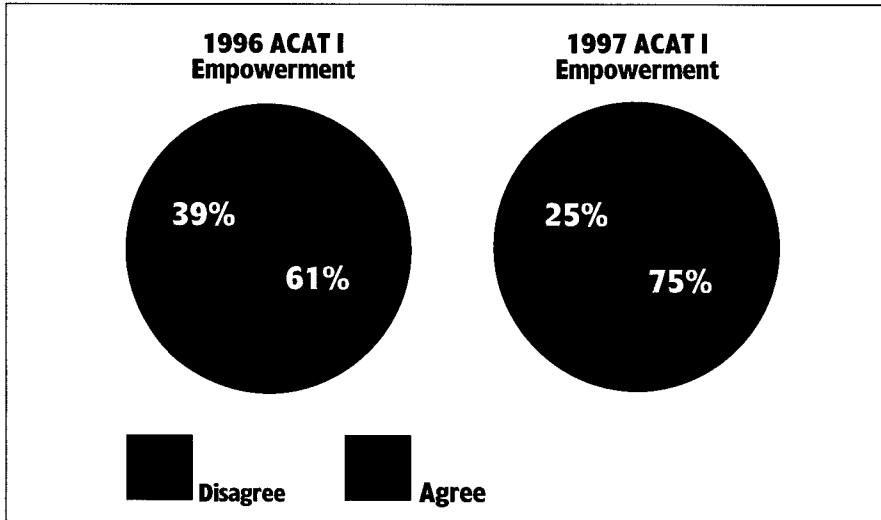


FIGURE 3. Comparison of WIPT Members Expressing Positions Taken Seldom Overturned by OIPT Members — 1996 vs. 1997

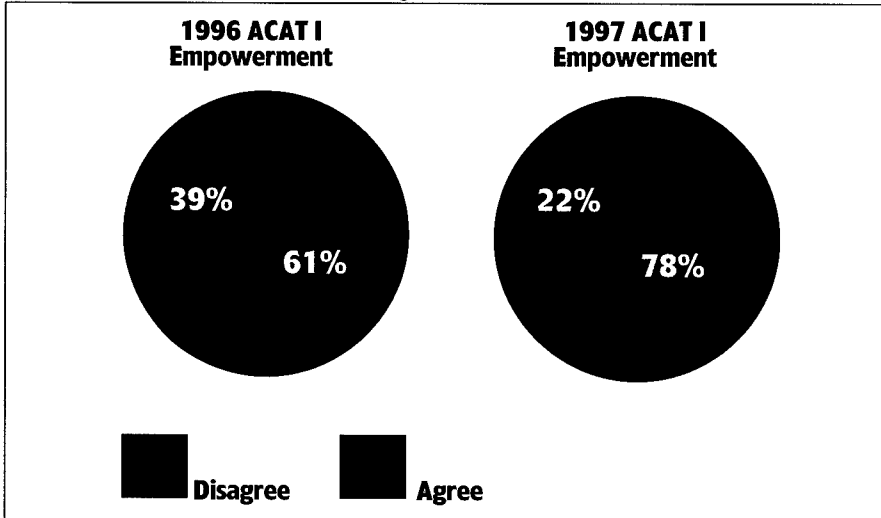
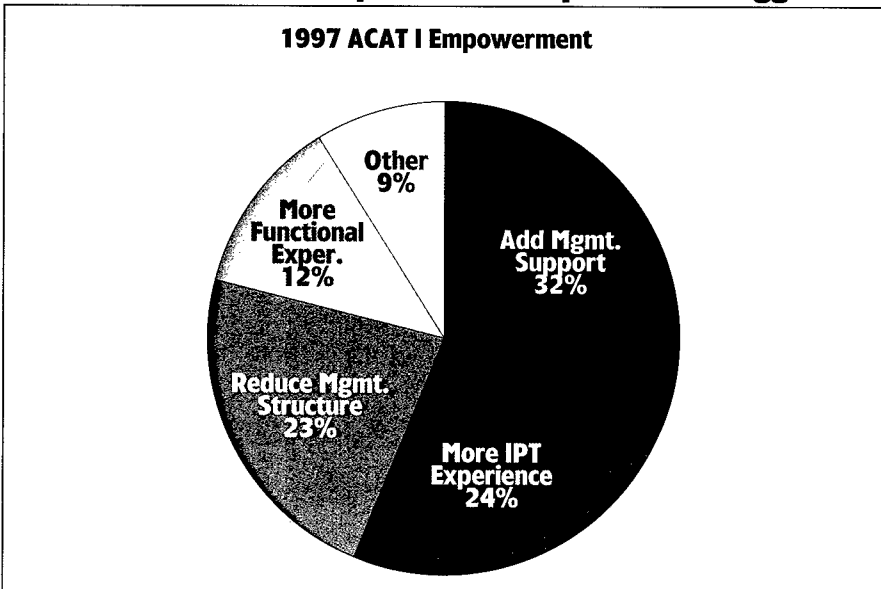


FIGURE 4. IPT Member Empowerment Improvement Suggestions



their ability to represent the views of their superiors during IPT deliberations. To determine whether this important IPT characteristic was working effectively, the ACAT I IPT survey asked whether IPT members felt empowered to speak for their organizations and whether their OIPT principals later overturned the positions they took on behalf of their organizations.

The results shown in Figures 2 and 3 indicate a *significant* improvement in empowerment from 1996 to 1997 — a 14-percent improvement in member sense of empowerment, and a 17-percent increase in the view that WIPT member positions will not be overturned by their OIPT principals.

While this represents a major improvement, more can be done. Figure 4 shows that community members regard increasing management support for the IPT process, gaining more experience with IPTs, and reducing management structure as the most important factors in improving member empowerment.

Contractor Participation in IPTs

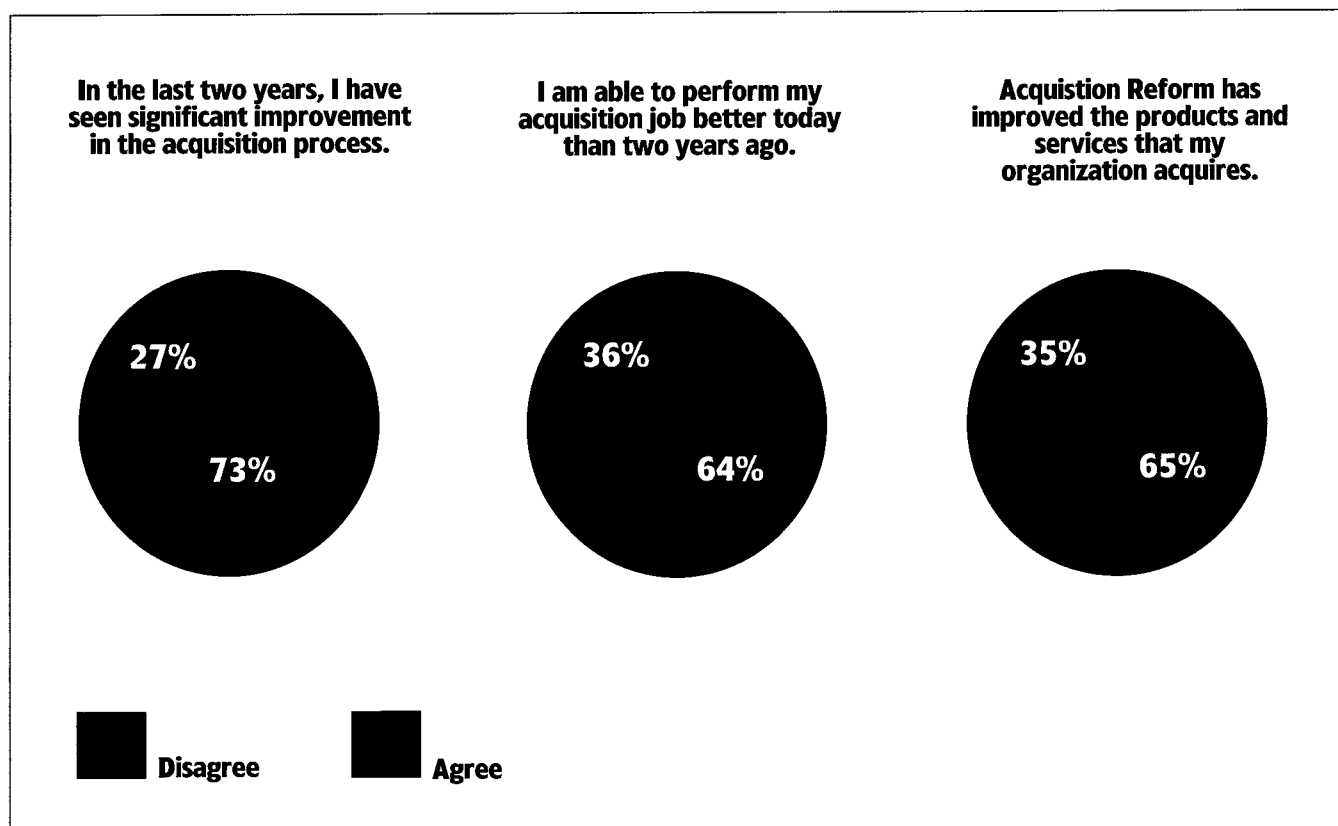
Industry representatives often participate as members of IPTs. Support contractors serve alongside government professionals on staff working-level IPTs; prime and subcontractors serve in an equally important role on program office IPTs. To assess the effectiveness of their participation, the 1997 ACAT I survey asked respondents to comment on statements related to effectiveness, motives for involvement, and open communications.

The survey results indicate that contractors are adding value. Nearly 80 percent agreed that support contractors generally enhance their teams' effectiveness, and over 70 percent agreed that the contractors were not using their involvement to generate "billable" hours for themselves. Respondent views on prime-subcontractor participation were similar. Most agreed that their participation added effectiveness without hindering team communications.

Is Acquisition Reform Making a Difference?

Since the Acquisition Reform Week survey reached out to a larger segment of

FIGURE 5. **Is Acquisition Reform Making a Difference?**



the acquisition community than ever before, DUSD(AR) and DSMC used it as a means to evaluate progress since initiation of the Department's first acquisition reform efforts.

Responses to a series of questions (Figure 5) indicate that the majority of community members express agreement in three key areas:

- They see significant improvement in reforming the Department's acquisition processes and practices over the last two years.
- They feel better able to perform their jobs.
- The reforms initiated thus far improved the products and services they provide.

Acquisition Reform Special Events

To focus community attention on and expand knowledge of ongoing reform initiatives, the Secretary of Defense and USD(A&T) designated two significant

events — Acquisition Reform Acceleration Day (May 31, 1996)¹ and Acquisition Reform Week (March 17-21, 1997)² — be set aside solely for that purpose.

The Acquisition Reform Week II survey assessed community response to these events, and asked how frequently they should be scheduled. Most respondents agreed that Acquisition Reform Week II was an effective method of team training, and that similar acquisition reform events should be conducted every year, or at most, every other year.

Making a Difference

The survey results indicate we are making steady progress in the institutionalization of IPTs and that, overall, our acquisition reform initiatives are making a difference in our professional lives. However, it will require continued management emphasis, education, and training to ensure that these initiatives remain effective.

We must continue to widely publicize policy changes and ensure that staff

members benefit from new and innovative training opportunities, particularly technology-based education and training. Acquisition community members at all levels should provide feedback and fresh ideas to ensure that our senior acquisition leaders continue to refine ongoing initiatives as they are institutionalized, and that we continue to improve our business processes.

Together, as team members, we will continue to reap the benefits of the energy, dedication, and commitment to acquisition reform that every member of the Department's Acquisition Workforce has so capably demonstrated.

END NOTES

1. See "Acquisition Reform Acceleration Day," *Program Manager*, September-October 1996, p. 28.

2. See "SECDEF and DAE Jump Start Acquisition Reform Week at Pentagon Press Conference," *Program Manager*, May-June 1997, p. 14; and "Department of Defense Acquisition Reform Week," *Program Manager*, July-August 1997, p. 34.

Memorandum For Correspondents

November 18, 1997

The Department of Defense Selected Acquisition Reports (SAR) summarize the latest estimates of cost, schedule, and technical status. These reports are prepared annually in conjunction with the President's budget. Subsequent quarterly exception reports are required only for those programs experiencing unit cost increases of at least 15 percent or schedule delays of at least six months. Quarterly SARs are also submitted for initial reports, final reports, and for programs that are rebaselined at major milestone decisions.

The Department has released details on major defense acquisition program cost and schedule changes since the June 1997 reporting period. This information is based on the SARs submitted to the Congress for the September 30, 1997, reporting period. [Following] is a SAR summary, including narrative explanation of significant cost and schedule changes for this period, and a SAR program acquisition cost summary.

The total program cost estimates provided in the SARs include research and development, procurement, military construction, and acquisition-related operation and maintenance. Total program costs reflect actual costs to date as well as anticipated costs for future efforts. All estimates include allowances for anticipated inflation.

The current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (June 1997) was \$727,311.4 million. After making a correction to reflect actual costs reported in the last PATRIOT PAC-3 SAR and adding the costs for new programs, the June 1997 adjusted current estimate of program acquisition costs was \$739,585.3 million. There was a net increase of \$52.6 million during the current reporting period (September 1997). The cost changes between June and September 1997 are summarized [as follows]:

COST CHANGES BETWEEN JUNE AND SEPTEMBER 1997		CURRENT ESTIMATE (\$ IN MILLIONS)	
June 1997 (74 programs*)		\$ 727,311.4	
Correction to reflect actual costs reported in the PATRIOT PAC-3 SAR for December 1996		\$ +9.8	
Plus new programs (B-1 CMUP-DSUP, NPOESS and NAVY AREA TBMD)		\$ +12,264.1	
June 1997 Adjusted (77 programs*)		\$ 739,585.3	
CHANGES SINCE LAST REPORT			
Economic		\$ +5.0	
Quantity		\$ -17.6	
Schedule		\$ +68.5	
Engineering		\$ -19.3	
Estimating		\$ -1.4	
Other		\$ 0.0	
Support		\$ +17.4	
Net Cost Change		\$ +52.6	
September 1997 (77 programs*)		\$ 739,637.9	
• Excludes classified costs for the Air Force's MILSTAR program.			

The net increase of \$52.6 million or +0.01 percent during the current reporting period (September 1997) was due primarily to a net increase in program quantities. The Army's CSSCS [Combat Service Support Control System] and JAVELIN [Advanced Anti-Tank Weapon System] programs and the Air Force's NAS [National Aerospace System] program are planning to buy additional quantities, and the Navy's AN/SQQ-89 and the Air Force's AWACS RSIP [E-3 Radar System Improvement] programs are planning to buy fewer quantities. As of the September 1997 reporting period, there were 12 quarterly reports submitted on programs that have reported SARs previously.

Army

AFATDS (Advanced Field Artillery Tactical Data System) – The SAR was submitted to report a schedule delay of more than six months. The schedule for fielding software changed by up to 10 months because of: 1) the addition or acceleration of some requirements; 2) the redefinition of some software releases and their associated functionality; and 3) the realignment of the software release cycle from a 12- to 15-month schedule. The cost impact of this schedule change is being developed and will be reported in the December 1997 SAR.

ATACMS-APAM (Army Tactical Missile System-Anti-Personnel Anti-Materiel) – The SAR was submitted to report schedule slips of one year in the ATACMS Block IA production schedule. The Army decided to remain in low rate production (LRIP) for a second year due to concerns from the test community over operational effectiveness and suitability. The LRIP II contract was subsequently awarded in April 1997, the Block IA production decision changed from March 1997 to March 1998, and the full rate production contract award from April 1997 to April 1998. Program costs increased \$0.7 million (+0.03 percent) from \$2,400.7 million to \$2,401.4 million, due to a budget adjustment.

CSSCS (Combat Service Support Control System) – The SAR was submitted to reflect the approval of full rate production (Milestone III) by the Army in April 1997. The new Acquisition Program Baseline reflects an 11-month schedule slip in the fielding of Version 5 software and other related milestones. The milestone decision also authorized the purchase of an additional 525 systems (from 1241 to 1766 systems), which increased program costs \$71.2 million (+28.0 percent) from \$254.1 million to \$325.3 million.

JAVELIN (Advanced Anti-Tank Weapon System) – The SAR was submitted to report the approval of full rate production (Milestone III) by the Army in May 1997. The start of Follow-On Operational Test and Evaluation was delayed from October 1998 to January 1999 to ensure the availability of Enhanced Producibility Program (EPP) Command Launch Units (CLU). Program costs increased \$76.4 million (+2.0 percent) from \$3,849.6 million to \$3,926.0 million, due primarily to a quantity increase of 842 (CLU) from 3,506 to 4,348 units (+\$87.9 million). This increase was partially offset by a quantity reduction of 514 rounds from 28,967 to 28,453 rounds (-\$31.7 million).

Navy

AAAV (Advanced Amphibious Assault Vehicle) – The SAR was submitted to report a revision in the program schedule since the December 1996 SAR. The program was accelerated by four months due to a \$20 million Congressional increase in FY 1997.

AN/SQQ-89 (Anti-Submarine Warfare Combat System) – Since the program is more than 90 percent expended, this is the final SAR in accordance with Section 2432, Title 10, United States Code. Program costs decreased \$90.9M (-2.2 percent) from \$4,141.5 million to \$4,050.6 million, due primarily to a quantity decrease of 6 units from 91 to 85 units.

AOE 6 (Fast Combat Support Ship) – Since the program is more than 90 percent expended, this is the final SAR in accordance with Section 2432, Title 10, United States Code.

JSOW (Joint Standoff Weapon) – The SAR was submitted to report schedule slips of more than six months in the testing program. These test schedule changes do not impact any major program milestone. No cost changes were reported.

MIDS-LVT (Multifunctional Information Distribution System-Low Volume Terminal) – The SAR was submitted to report a schedule slip of six months (from June 1997 to December 1997) in the delivery of the first engineering and manufacturing development (EMD) terminal. This slip resulted from minor problems encountered during integration of the

first six EMD terminals and a delay in test software development related to the interface bus used by the French Rafale. In addition, the estimated date for first EMD flight slipped seven months (from April 1998 to November 1998), due to a [fiscal 1998] funding shortfall. There are no known cost impacts to the MIDS-LVT program as a result of these schedule delays.

SH-60R (Multi-Mission Helicopter Upgrade) – The SAR was submitted to report schedule slips of six months or more in several program milestones resulting from a reprogramming of \$57 million in advanced procurement funding from [fiscal 1998 to fiscal 1999 and fiscal 2001]. The reprogramming resulted from implementation of DoD advance procurement full funding policy. The milestone changes included a two-year delay in Critical Design Review (from March 1997 to March 1999) and a nine-month delay in completion of TECHEVAL (from June 2001 to March 2002). The Airborne Low Frequency Sonar segment is also estimated to slip, including three years and nine months, both in completion of TECHEVAL (from June 1998 to March 2002) and in Milestone III (from March 1999 to January 2003). These changes are not estimated to significantly affect the Initial Operating Capability. Cost impacts are being evaluated and will be reported in the December 1997 SAR.

Air Force

AWACS RSIP (E-3 Radar System Improvement Program) – This quarterly exception SAR is being submitted to reflect the full rate production decision (Milestone III) of September 1997. Program costs decreased \$8.2 million (-0.9 percent), from \$899.5 million to \$891.3 million, due primarily to a quantity reduction of 1 kit from 33 to 32 kits (\$-12.1 million). These decreases were partially offset by a revised estimate for installation costs (\$+3.5 million).

NAS (National Aerospace System) – This SAR was submitted to report a schedule delay of more than six months resulting from a contract award protest. The schedule change occurred because the prime contractor (Raytheon) could not start contract work for 12 months on the newly awarded Digital Airport Surveillance Radar contract. A modification to the test approach necessitated by the protest resulted in an additional six months' delay, bringing the total schedule slip to 18 months. Program costs increased \$3.4 million (+0.4 percent), from \$782.5 million to \$785.9 million, due primarily to a quantity increase of 12 sites, from 53 to 65 sites.

New SARs (As of September 30, 1997)

The Department of Defense has submitted an initial SAR for the National Missile Defense (NMD) program. This report does not represent cost growth. The baseline established on this program will be the point from which future changes will be measured. The current cost estimate [follows]:

PROGRAM	CURRENT ESTIMATE (\$ IN MILLIONS)
NMD (National Missile Defense)	\$ 6,629.0*
* Pre-Milestone II program reporting RDT&E [research, development, test and evaluation] costs only, in accordance with the provisions of Section 2432, Title 10, United States Code.	

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GSA's Supply Schedules Improve DoD Procurement

ELEANOR SPECTOR

Editor's Note: The following excerpt from *Defense Issues*, published by the American Forces Information Service, presents remarks by Eleanor Spector, Director of Defense Procurement, at the Coalition for Government Procurement Conference, Arlington, Va., June 17, 1997.

Parenthetical entries are speaker/author notes; bracketed entries are editorial notes. Whenever feminine or masculine nouns or pronouns appear, other than with obvious reference to named individuals, they are meant in their generic sense.

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Good morning. It is my pleasure to participate in your spring conference. I would like to tell you about the policy direction I have given to the defense procurement community regarding federal supply schedules and then to outline my goals for the future of defense procurement.

After meeting with GSA's assistant Commissioner for the Federal Supply Service, I issued a policy memorandum concerning the use of GSA federal supply schedules on March 6 of this year. There have always been many advantages to using the schedules. GSA takes care of competition, price reasonableness, and small business set-aside considerations when it solicits and awards contracts. Any orders under these schedules comply with the requirements of the Economy Act. But recent innovative changes have made GSA schedules even more efficient to use. GSA customers no longer need to synthesize information technology

“Deploy a standard automated procurement system for use in DoD contracting offices worldwide to accelerate achievement of a paperless contracting system.”

— Director, Defense Procurement Future Goal



requirements that are over \$50,000. The use of the government purchase card is strongly encouraged. Customers can make selections based on best value, not necessarily low price only. GSA no longer requires documentation or justifications to place orders against the schedules. GSA strongly encourages the use of blanket purchase agreements [BPA] and has made available a new, suggested BPA format. Federal supply schedule contractors can now form teams to meet a customer's needs. Expedited delivery is now available with schedule contractors.

In addition to these improvements, the elimination of schedule maximum order limitations and the new ability to negotiate prices on individual orders without changing the basic schedule price are especially important. Maximum order limitations have already been removed from 90 percent of the federal supply schedules. Such limitations will be removed from all schedules by November of this year. By thus allowing for larger quantity orders, the opportunities are obvious for the negotiation of prices that are even better than schedule prices.

I have urged the defense procurement workforce to take full advantage of GSA schedule contracts if they need supplies or services covered under them. Such use meets the Department's goals of simplifying the acquisition process while at the same time increasing the contracting officer's authority and ability to make sound business judgments.

I would also like to tell you about my goals for the future. The extent of acquisition reform during the past four years has been unprecedented. Legislative changes, implementing regulations, and changes initiated within the Department of Defense have made substantial improvements to our acquisition process. Our immediate goals must be to build on those accomplishments and to ensure that the potential benefits from the improvements are realized fully at all levels throughout the Department with contracting responsibility. My agenda to create a legacy of practice that lives on beyond the immediate reform activities includes several elements:

- **Train the procurement workforce to use effectively the flexibility permitted by the acquisition reforms of the past four years. Use this flexibility to foster innovative contracting techniques.**

To this end, the entire procurement curriculum is being reviewed to update courses to reflect legislative changes. In a few cases, courses had to be suspended while we made major modifications. We anticipate our core curriculum will be updated, improved, and ready for delivery in [fiscal 1998]. We are also developing an Internet module on simplified acquisition procedures intended to provide training for those who have already completed certification training but who still need instruction in current procedures. Other modules are planned.

I note that one metric, protest statistics, may indicate the workforce already has done a good job at absorbing some of the new reforms, such as providing better post-award debriefings. We had 1,246 protests in 1996 out of 280,000 actions above \$25,000. That compares with 1,507 in 1995, 1,613 in 1994, and 2,033 in 1993. Only 28 protests were sustained by GAO [General Accounting Office].

- **In coordination with the comptroller, develop policies that facilitate prompt contract payment and reconciliation of contract accounting data.**
- **Develop and adjust contracting policies to sustain a healthy, competitive defense industry in an era of defense downsizing.**
- **Deploy a standard automated procurement system for use in DoD contracting offices worldwide to accelerate achievement of a paperless contracting system.**

On April 7, we announced the selection of American Management Systems to furnish the software and installation services for the standard procurement system. The software has completed opeval [operational evaluation], and we have MAISRC [Major Automated Information System Re-

view Council] approval to deploy to 125 non- or semiautomated sites. Those contracting offices can order the initial software release that accomplishes about 45 percent of our procurement functions with [fiscal 1998 and 1999] releases accomplishing the remainder. For [fiscal 1997], we plan to issue orders for SPS [Standard Procurement System] installation at 112 sites, approximately 5,000 users.

By 2000, we expect installation in 900 procurement offices throughout the Department. SPS will provide for common software and training in our procurement offices, will provide financial information to DFAS [Defense Finance and Accounting Service] without retranscription, thus reducing unmatched disbursements, and will provide for the storage of contract information that will be available to other DoD functional communities.

- **Expand policies to reduce substantially government property in the possession of contractors.**
- **Streamline the source selection process while promoting fair treatment of all suppliers: We recently published a new proposed FAR [Federal Acquisition Regulation] Part 15, "Contracting by Negotiation." There are major changes in the area of source selection that should facilitate communications between the government and offerors, and shorten the time it takes to make a source selection.**

The new rule provides that if awards are to be made without discussions, the government may communicate with offerors only to resolve minor aspects of proposals. If discussions are to be conducted, communications before establishment of a competitive range may include proposal deficiencies.

The competitive range shall include only those proposals rated most highly rather than "all proposals that have a reasonable chance of being selected for award." If the contracting officer determines the competitive range still exceeds the num-

ber at which an efficient competition can be conducted, he may limit the number to that which will permit an efficient competition among the most highly rated proposals.

An offeror may be eliminated from the competition after the start of discussions without an opportunity to revise its proposal. These are some of the major changes in Part 15. I believe the new rule will serve to streamline the source selection process.

- **Enhance the use of past performance information in ways that assure fair treatment of offerors.**
- **Train and encourage the workforce to write clearer, simpler performance-based contracts.**

This means requiring a contractor to perform in accordance with a clear, unambiguous specification. We have to eliminate lengthy SOWs [Statements of Work]. We should eliminate level of effort contracts when performance requirements and delivery dates can be established. We have to delete numerous attachments to contracts and not attach proposals. We should not create line items for functional elements that are not separate deliverables.

- **Team with industry in the development of significant procurement regulations, in the review of draft solicitations, and in the advancement of single process initiatives.**

For example, during the drafting of FASA [Federal Acquisition Streamlining Act], FARA [Federal Acquisition Reform Act], FAR 15, 45, "Government Property," and the DFARS [Defense Federal Acquisition Regulation Supplement] coverage of "Rights in Technical Data," we used public meetings to obtain industry input into the writing of our regulations. We will continue to do so for significant rules.

- **Ensure that DoD contracting regulations encourage the participation of small and disadvantaged businesses.**

I am sure you know that the Adarand Supreme Court case, arising out of a Department of Transportation minority sub-contract preference in New Mexico, resulted in the Department of Justice indicating it could not defend the Rule of Two minority preference in the DFARS. The Rule of Two provides that procurements will be set aside for small disadvantaged contractor participation when

there are two or more SDBs [small and disadvantaged businesses].

The finding in the Adarand case was that racial preferences could only be used when there was clear indication of past discrimination. The proposed post-Adarand FAR coverage, based on a Department of Justice formulation, requires that use of the Rule of Two may be authorized by OFPP [Office of Federal Procurement Policy] when census statistics indicate SDBs in certain industries exceed the percent of federal government SDB contracting in those industries. We have also published for comment new rules based on an executive order on empowerment zones. These rules provide price preferences for contractors doing business in or employing people from areas where unemployment exceeds 20 percent.

While both of these recent actions were taken in response to administration initiatives, let me note that in [fiscal 1996] we exceeded our small business contracting goal, awarding 23.3 percent of our procurements to small business. We awarded 6.3 percent to SDBs, again in excess of our goal. Both figures represent increases from [fiscal 1995]. In addition, 38 percent of subcontracts went to small businesses, and almost 6 percent to SDBs.



Eleanor R. Spector assumed her position as Director of Defense Procurement in March 1991. Prior to that time, she had been the Deputy Assistant Secretary of Defense for Procurement since 1985. Spector is responsible for all matters related to procurement policy in the Defense Department. This includes directing the Defense Acquisition Regulations Council and developing policy for contract pricing and financing, contract administration, international contracting, and training of contracting personnel. She is the principal advisor to the Under Secretary of Defense for Acquisition and Technology on major weapon system contracting strategies and is an advisor to the Defense Acquisition Board on procurement matters.

Spector began her career as a Navy Management Intern. She came to the Office of the Secretary of Defense in 1984 after 13 years at the Naval Air Systems Command (NAVAIR), where she was involved in all phases of airframe, radar, and missile contracting. At NAVAIR she held successive positions as contract specialist on the A-6 and F-14 aircraft; procuring contracting officer for AWG-9 Radar, Phoenix Missile, and LAMPS Helicopter; branch head for all Navy Missile Programs; and director of the Cost Analysis Division, where she supervised the development of all NAVAIR weapon systems budget estimates.

Spector was awarded the Navy Superior Civilian Service Medal in 1982; the Navy Distinguished Civilian Service Medal in 1985; the Department of Defense Medal for Meritorious Civilian Service in 1986, 1993, 1996, and 1997; the American Society for Public Administration 1987 Mid-Career Award; the Presidential Meritorious Rank Award in 1989 and 1994; the Presidential Distinguished Executive Rank Award in 1990; and the Distinguished Civilian Service Medal in 1991 and 1994.

Spector received her Bachelor of Arts in Political Science from Barnard College and has completed post graduate courses in business and public administration at The George Washington University.

Her professional activities include: National Contract Management Association Advisor and Fellow; Defense Systems Management College Board of Advisors, 1987-90; Chairman of the DoD Federal Advisory Panel on Uncompensated Overtime, 1989; Chairman of Government-Industry Advisory Panel on Rights in Technical Data, 1992-94; and Chairman of the Procurement and Contracting Functional Board, Defense Acquisition University, 1992-present.

Spector was born in New York City. She and her husband, Mel, have a daughter and son, Nancy and Ken.

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November—December

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Improving/Standardizing DoD Procurement Business Processes—Eleanor Spector, p. 10.

Coming Soon! Army's New Integrated, Digitized C2 System for Medical and Tactical Commanders—Collie J. Johnson, p. 13.

Small Business Innovation Research Program — A Potent DoD Resource—Jon Baron, p. 16.

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IPTs Provide Big Payoffs for JTIDS Milestone III DAB—Allan D. Hartwell • 1st Lt. Joseph E. Nancy, U.S. Air Force, p. 28.

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Commandant Visits DSMC Eastern Regional Center—Rich Stillman, p. 42.

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The Truth in Negotiations Act — What is Fair and Reasonable?—Col. Jeffrey R. Riemer, U.S. Air Force, p. 50.

Systems Acquisition for Contracting Personnel Course Draws to a Close—Wilson Summers IV, p. 57.

Rapid Response — An Innovative Contract Mechanism Model—Terry Philippi • Oscar Gomez, p. 64.

FBI Uses Unique Application of Award Fee Incentive—Alan L. Stone, p. 73.

DSMC Commandant Announces Retirement—Collie J. Johnson, p. 77.

DSMC Hosts Sixth Semiannual PEO/SysCom Commanders/PM Conference—Terry W. Bain • Dr. Danny L. Reed, p. 80.

With a B.S.M.E. from the Illinois Institute of Technology (6/45) and an M.S. in Industrial Management from Loyola University (6/67), and over 40 years in manufacturing supply in industrial/commercial sectors before joining the DLA [Defense Logistics Agency] in 1984, REAL observations may be of applicable value and/or can confirm "bottom line" BLIND SPOTS in REALLY answering former [sic] Secretary Cohen's question, "Can we operate more efficiently?" Perhaps this may be of some helpful interest to Dan Czelusniak, Under Secretary of Defense for Acquisition and Technology's Director [Acquisition Program Integration] also.

It is common knowledge in the DLAs that hands-on acquisition reform has not taken hold in ACTUAL OPERATION as heralded by Arlington, Va., and DoD Washington top-echelon introductory project successes! The old DLA guard is still organized and practicing to the traditional DCMC/DLA [Defense Contract Management Command/Defense Logistics Agency] EXPENSIVE AND NON-VALUE ADDED, ingrained functional regimen of Administrative Contracting Officer/Quality Assurance Representative (ACO/QAR), etc. — costly oversight, obsolete operating controls, including heavy NON-VALUE ADDED staffing yet in-place. Another related BLIND SPOT is in getting clerically mired in the DLA preoccupation with staff-imposed, MEANINGLESS METRICS, while

still organized with non-value added, designed line and staff position grades that were formerly structured to operate via the old Military [Specifications and] Standards program-style acquisition procedures!

Current local DLA acquisition reform measures are of the "surface type," concentrating on lip-service rote in line and supervisory training, single process, PROCAS [Process Oriented Contract Administration Services], etc. After completing any/all types of training class work and turn-down [stand-down] day Agency activities, it still remains to stay with the inefficient/expensive noncommercial-oriented daily old style of Agency operation in hopes that all will blow over or be compromised eventually.

On a "show-and-tell" basis, highly successful Roadshows by WINNER Companies and Agencies have effectively demonstrated the acquisition reform hands-on working details and actual OPERATION PLAN, ORGANIZATION, SCHEDULING, AND IMPLEMENTATION example, to facilitate reorganization for BOTTOM-LINE results. This can yet "hit the ground running" with the proper experienced know-how and authority.

Frank E. Kimmel

Retired General Engineer
DCMDW-Chicago/DLA
Naperville, Ill.

Richbourg Presides Over DSMC Change of Command

Passes DSMC Colors to Navy Rear Adm. Leonard Vincent, College's 14th Commandant

JOURNALIST 2ND CLASS MELANIE BARNETT, U.S. NAVY
COLLIE J. JOHNSON

Navy Rear Adm. Leonard "Lenn" Vincent assumed duties as the 14th Commandant of the Defense Systems Management College (DSMC) in a change of command ceremony Dec. 30, 1997, at DSMC's main Fort Belvoir, Va., campus. The admiral, a native of Tulsa, Okla., recently arrived from Pearl Harbor, Hawaii, where he was Deputy Chief of Staff for Logistics, Fleet Supply and Ordnance, Commander in Chief, U.S. Pacific Fleet.¹ Vincent succeeds Army Brig. Gen. Richard A. Black, who retired at the conclusion of the ceremony.

First, An Official Farewell

Guest speaker Donna Richbourg, Acting Deputy Under Secretary of Defense for Acquisition Reform, began her remarks by acknowledging Black's many accomplishments during his 30-year military career, particularly his tenure as DSMC's Commandant from March 1996 to December 1997.

"Today brings a close to a distinguished military career of more than 30 years," said Richbourg. "Dick, you have left your mark. You have set DSMC on a path to ensure the College will continue to meet the challenging needs of the workforce. Your ideas and your energy have brought about remarkable changes in all facets of the acquisition, education, and training program."

She went on to say that one of Black's significant contributions is his ability to

embrace continuous change and incorporate it into the school's mission — to educate and train acquisition professionals and prepare senior leaders.

The Right Man for the Job

Welcoming Vincent to the DSMC team, Richbourg said his new assignment is a testimonial to his past achievements as a leader in the acquisition community.

DONNA RICHBOURG, ACTING DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION REFORM, PASSES THE DSMC COLORS TO NAVY REAR ADM. LEONARD "LENN" VINCENT, ON DEC. 30, 1997, AT DSMC'S MAIN FORT BELVOIR, VA., CAMPUS. VINCENT BECOMES THE COLLEGE'S 14TH COMMANDANT.

"Admiral Vincent comes to DSMC with excellent credentials to meet the future challenges of the College," she told those attending. "We couldn't be more pleased to have 'Lenn' Vincent to serve as our Commandant of DSMC during this very critical time.

"He has been known to embrace change in our acquisition reform initiatives as the Commander of the Defense Contract Management Command, and transformed that Command into a customer-focused organization." He did so, she noted, by instilling a sense of pride in his people. They wanted to be the best that they could be and provide the best service that they could to their customers.



Barnett is a Navy Journalist 2nd Class in the Video Services Department. Johnson is Managing Editor, Program Manager Magazine, Visual Arts and Press Department. Both are assigned to the Division of College Administration and Services, DSMC.

"He is a people person," Richbourg continued, "and he will do all he can for a top-notch organization like DSMC. I can assure you that the DSMC team will be in good hands with Admiral Vincent as their leader."

From the New Commandant

Acknowledging that he was honored by his selection as DSMC Commandant, Vincent told those attending that he is pleased to carry on with the course that Black set for the future of the organization.

Said Vincent, "DSMC has a proud heritage and has played a key role in DoD acquisition for more than a quarter of a century. It took strong support from everyone at the College to achieve this outstanding recognition."

The admiral, a graduate of Southeastern State Teachers College (Okla.) and The George Washington University, also talked about the future of DoD as it continues to do "more with less." Said Vincent, "It's no secret that DoD has been reducing its size to accommodate the challenges of the 21st century. The reality is that we're going to be challenged to be more innovative and resourceful than ever before."

"I believe we've only seen the tip of the iceberg. Our greatest challenge is to remain flexible enough to rapidly accommodate this changing environment."

The admiral also focused on the importance of continuing to seek new solutions, like the College's use of distance learning, to meet the ever-changing educational needs of students.

"This higher level of performance I'm talking about doesn't just happen. It takes good people working hard even when they think no one is watching," Vincent said.

In 1971 the school graduated nearly 60 students. This year more than 9,000 acquisition professionals will receive DSMC diplomas. Providing a quality education to this many students requires a staff committed to helping students meet the

diverse goals of the acquisition workforce - 190,000 strong, worldwide.

"This college is full of strong leaders and excellent teachers," according to Vincent. "With your continued commitment, the future has never been brighter. Maintaining this momentum is my challenge."

Heeding his wife, Shirley's advice to "be brief, be bright, and be gone," Vincent closed by stating that he pledged his support to maintain the Defense Systems Management College as the institution of distinction for acquisition education. "I'm eager to work with the heads of each school in the consortium," he assured those attending, "and help the Defense Acquisition University meet the diverse educational goals of the acquisition workforce."

Memories, Accolades, A Few Tears...

Black's official retirement ceremony and award presentation were followed by remarks from Army Lt. Gen. Paul J. Kern, Military Deputy to the Assistant Secretary of the Army for Research, Development, and Acquisition.²

A fellow cadet with Black at West Point Military Academy in the early 1960s, Kern delivered a career sketch, full of anecdotes and humorous events from Black's 30-year Army career. At the conclusion of his remarks, he focused on General Black, the father, the husband, and according to Kern, the man who always "had a smile on his face, who could keep everybody else smiling, who could learn, who could teach, but most of all, contributed to our country, to his family, and to the well-being of all of us."

"Dick, from General Reimer [Army Chief of Staff], we thank you from the Army, from the bottom of our hearts for all that you have done. I've been proud to serve with you...."

General Black's Turn to Speak

Black and his family spoke emotionally about their faith, family, his Army career, and the new challenges he faces as a civilian.

Addressing Vincent, Black told him that the College and the acquisition workforce needed his mature leadership "and any sailing skills that you may bring along to sail in these winds of change...I know that you, with the support of the staff and the faculty, will meet the challenges and make the most of every opportunity. In fact, you, in the process, will probably cause the College to rise to new heights; you'll be able to look further into the future to better serve the education and training needs of the acquisition workforce."

Sharing E-mails [see next page] he received from two West Point classmates away from home at Christmas — one classmate helping to build a stable economy in Russia, and the other involved in peacekeeping operations in Bosnia Herzegovina — he spoke of Army leadership, and his pride in those who serve.

"Our Army Chief of Staff," Black said, "has coined a watchword for the Army leadership as a reminder of our purpose — that soldiers are our credentials. The way they act, the way they conduct themselves is a direct reflection; in fact, they are our credentials."

"In a similar way," he continued, "our military forces serve as ambassadors of America and they speak volumes by their presence around the globe. We should all be very proud of them. I know I am."

Concluding, Black had this to say of his associates at the College as well as throughout the professional acquisition workforce: "It has been a great privilege to serve as the 13th DSMC Commandant. It has been an equal privilege to serve in the United States Army. I believe there is no better way to serve God and this great country than to stand shoulder to shoulder with the quality professionals with whom I have worked."

END NOTES

1. Admiral Vincent's biography appears on the inside back cover of this issue.
2. See September-October 1997 issue of Program Manager, p. 39.

Editor's Note: The following text represents two E-mails General Black received from fellow West Point classmates, far from home at Christmas. Black shared them at his Dec. 30, 1997, retirement ceremony, as a reminder that freedom, indeed, is not free.

"Greetings to everyone from the frozen reaches of Russia. As the holidays approach I look around me here and realize just how fortunate we are to have been born in the U.S. Russians struggle every day of their lives just to survive. Fortunately, they now struggle in a much more open society. But after spending 24 years protecting America by training to kill Russians, it's very satisfying to be here protecting America by helping to build a stable Russian economy.

These people are hungry for information about the West. For the first time in decades, they have access to a flood of information. Many of the younger people speak excellent English, having studied it for 10 or more years in the school system. They are warm and friendly, but often rude by our standards. They're trying very hard to establish a democratic system in a few years of these complex times. If we find them often less than successful, we should remember we've been working at it for over 200 years."



"Holiday greetings from the Balkans. As you may recall, Christmas '95 was in Zagreb, Croatia. This year I'm a few miles south-east of Sarajevo, Bosnia Herzegovina. Once again I am part of the NATO military force supporting the fragile peace in this war-ravaged land. This trip I command 312 soldiers, airmen, and Marines from the U.S., Germany, Italy, and France that make up the stabilization force, Combined Joint Civil Military Task Force. We are the civil affairs operators whose job it is to secure the peace through active interface with the multi-national military force and the international agencies and organizations, the governments of the ethnic entities, their people, and their leadership.

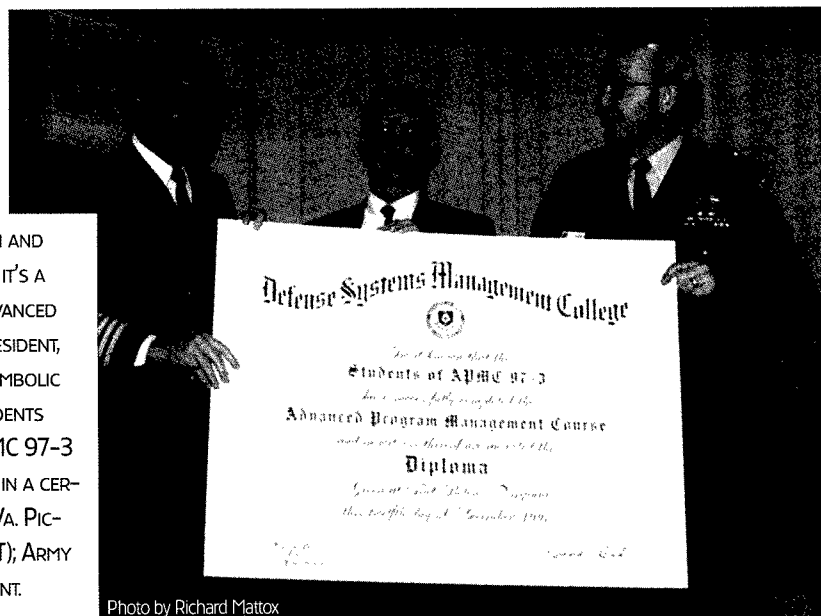
We're involved in everything from helping ordinary citizens find funds to put a roof on their war-damaged homes to reestablishing electric grids, gas transmission lines, telephone exchanges, television broadcast capabilities, and so forth. We work with the militaries of 37 nations, several embassies, a multitude of non-government and private volunteer organizations, and hundreds of citizens of all ethnic and religious backgrounds.

It's difficult to be away from home at this time of year as I truly miss my family and friends, but the challenges of building a lasting peace in a nation whose citizens truly want peace is the essence of the message we celebrate at this time of year. While we all share the dream of peace around the world, I and my comrades, citizens, soldiers, every one, are actively involved each day in making that dream a reality for thousands of our fellow human beings, regardless of who they are, where they came from, or what they believe. This is a noble enterprise and one to which we have all dedicated ourselves for the eight and one-half months we will have been here when we finally return home in January.

Bless all of our soldiers as you celebrate this season of peace, for they are the peacemakers and they spread the blessings of freedom, tranquility, and prosperity among those who have only dreamt of them. Have a wonderful holiday season and a great New Year. Blessed are the peacemakers."

APMC 97-3 Graduates First to Receive Diplomas From DoD's New Defense Acquisition Executive

WHEN THE UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY HIMSELF SHOWS UP TO AWARD YOUR DIPLOMA, IT'S A PRETTY BIG DEAL, AND REQUIRES A PRETTY BIG DIPLOMA. ADVANCED PROGRAM MANAGEMENT COURSE (APMC) 97-3 CLASS PRESIDENT, NAVY CAPT. LAWRENCE "LEE" DICK ACCEPTS AN OVERSIZE, SYMBOLIC DIPLOMA, ATTESTING TO THE GRADUATION OF OVER 300 STUDENTS FROM THE DEFENSE SYSTEMS MANAGEMENT COLLEGE'S APMC 97-3 OFFERING. THE CLASS GRADUATED ON DECEMBER 12, 1997, IN A CEREMONY CONDUCTED AT ESSAYONS THEATER, FORT BELVOIR, VA. PICTURED FROM LEFT: LEE; DR. JACQUES S. GANSLER, USD(A&T); ARMY BRIG. GEN. RICHARD A. BLACK, FORMER DSMC COMMANDANT.



★ DSMC CHANGE OF COMMAND ★

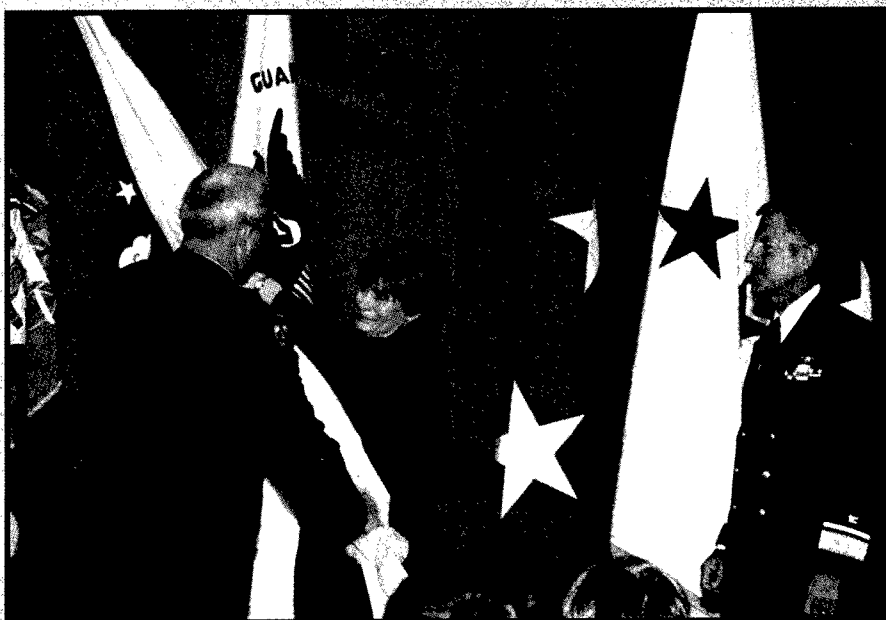
Dec. 30, 1997, Fort Belvoir, Va.

Ceremony Combines Military Tradition with Emphasis on Family, Friends



THE CHANGE OF COMMAND HONOR GUARD FROM THE MILITARY DISTRICT OF WASHINGTON ENTERS HOWELL AUDITORIUM, AT DSMC'S MAIN FORT BELVOIR, VA., CAMPUS.

ARMY BRIG. GEN. RICHARD A. BLACK RELINQUISHES HIS POSITION AS DSMC COMMANDANT, BY SYMBOLICALLY PASSING THE DSMC COLORS TO DONNA RICHBOURG, ACTING DUSD(AR). NAVY REAR ADM. LEONARD VINCENT (RIGHT) STANDS BY TO RECEIVE THE COLORS.



VINCENT ENTERS HOWELL AUDITORIUM WITH THE OFFICIAL PARTY AS HE PREPARES TO ASSUME DUTIES AS DSMC'S 14TH COMMANDANT.



ARMY STAFF SGT. HENRY L. FISKE GIVES A STIRRING RENDITION OF THE NATIONAL ANTHEM. FISKE IS A MEMBER OF THE U.S. ARMY BAND.



★ GOD, COUNTRY, FAMILY, FRIENDS ★

DSMC's 13th Commandant Retires

ARMY BRIG. GEN. RICHARD A. BLACK



FAMILY MEMBERS TURNED OUT IN FULL FORCE TO MARK THE OCCASION OF BLACK'S RETIREMENT.



DAUGHTER, HEATHER SPOKE OF HER FATHER, THE SOLDIER: "MY FATHER, DEVOUT TO HIS HEAVENLY FATHER, FAITHFUL IN SO MANY WAYS TO HIS WIFE, DEDICATED TO HIS CHILDREN, AND COMPLETELY UNDIVIDED FOR HIS ARMY...TODAY THE ARMY IS SUFFERING AN ENORMOUS LOSS. I AM SO GRATEFUL WE ARE NOT DOING THE SAME."

SON, DANIEL SPOKE OF HIS FATHER, HIS FRIEND: "[WHEN] WE GET A CHANCE TO TALK, AND WHETHER THAT'S ABOUT JESUS CHRIST OR SCHOOL, OR PHYSICS OR WORK, OR PHYSICS OR FAMILY, I ALWAYS KNOW I COME AWAY A BETTER MAN BECAUSE OF THE TIME WE SPENT TOGETHER."



AT BLACK'S REQUEST, RETIRED AIR FORCE COL. NORM MCDANIEL, A PROFESSOR OF SYSTEMS ACQUISITION MANAGEMENT IN DSMC'S FACULTY DIVISION, DELIVERED THE BENEDICTION AT THE CLOSE OF THE RETIREMENT CEREMONY. MCDANIEL WAS HELD AS A PRISONER OF WAR IN NORTH VIETNAM FOR NEARLY SEVEN YEARS. HE AND BLACK ARE ACTIVE PARTICIPANTS IN DSMC'S WEEKLY PRAYER BREAKFAST.



CHANGE OF
COMMAND

GE OF
LAND



THE TRADITIONAL CHANGE OF COMMAND CAKE CUTTING TOOK PLACE DURING A RECEPTION AT THE FORT BELVOIR OFFICERS CLUB FOLLOWING THE CHANGE OF COMMAND. PICTURED FROM LEFT, SHIRLEY VINCENT, ADMIRAL VINCENT, GENERAL BLACK, MARY BLACK.

FAMILY MEMBERS ATTENDING THE CHANGE OF COMMAND INCLUDED FROM LEFT, GENERAL BLACK'S WIFE, MARY; GENERAL BLACK'S CHILDREN, KATHERINE, DANIEL, HEATHER; GENERAL BLACK'S SON-IN-LAW, DARREN.



THE OFFICIAL PARTY GATHERS TO "MEET AND GREET" PRIOR TO THE CHANGE OF COMMAND. PICTURED FROM LEFT, BLACK, ARMY LT. GEN. PAUL KERN, MILITARY DEPUTY TO THE ASA(RD&A); RICHBOURG; VINCENT.



SHIRLEY VINCENT, WIFE OF DSMC'S 14TH COMMANDANT, RECEIVES FLOWERS FROM ARMY MAJ. DAVE BELVA, EXECUTIVE OFFICER TO THE DEAN OF COLLEGE ADMINISTRATION AND SERVICES.



RICHBOURG PASSES THE DSMC COLORS TO VINCENT.

RICHBOURG CONGRATULATES GENERAL BLACK AFTER PRESENTING HIM THE DEFENSE DISTINGUISHED SERVICE METAL.



MARY BLACK RECEIVES FLOWERS AND A CONGRATULATORY KISS FOR HER SUPPORT AND ENCOURAGEMENT THROUGHOUT BLACK'S 30-YEAR CAREER.



If a song could describe the scene at Army Brig. Gen. Richard A. Black's Dec. 30, 1997, retirement ceremony at DSMC's Howell Auditorium, Fort Belvoir, Va., it would certainly be Frank Sinatra's "I Did It My Way." After 30 years' service to his nation, he retired in a ceremony that clearly marked the distinct priorities in his life: *God, Country, Family, and Friends.*



THE OFFICIAL PARTY STANDS AT ATTENTION AS BLACK'S RETIREMENT ORDERS ARE READ. PICTURED FROM LEFT: NAVY REAR ADM. "LENN" VINCENT, DSMC COMMANDANT; DONNA RICHBOURG, ACTING DUSD(AR); BLACK; ARMY LT. GEN. PAUL KERN, MILITARY DEPUTY TO THE ASA(RD&A).



IMMEDIATE FAMILY. PICTURED FROM LEFT: BLACK; SON, DANIEL; DAUGHTER, KATHERINE; DAUGHTER, HEATHER; WIFE, MARY.

WIFE, MARY LISTENS INTENTLY AS BLACK, SPEAKING OF HIS POST-WEST POINT YEARS, DESCRIBES A "LONG-AWAITED MARRIAGE TO MY HIGH SCHOOL SWEET-HEART."



DANIEL BLACK TO HIS FATHER: "EVERY TIME I VISIT YOU I LOOK FORWARD TO...YOUR GREAT BIG OLD BEAR HUG, THE KIND THAT SAYS ALL IN ONE EMBRACE, 'IT'S GREAT TO SEE YOU. I'M SO GLAD YOU'RE HERE....' I CAN'T BREATHE, BUT I LOVE EVERY SECOND OF IT."



DAUGHTER, KATHERINE SPOKE OF HER FATHER'S FAITHFULNESS IN LEADING BY EXAMPLE: "GENERAL, YOU HONOR THOSE WHO KNOW YOU BY YOUR STRENGTH OF CHARACTER, YOUR INTEGRITY, AND ESPECIALLY YOUR LOVE FOR GOD...AS YOUR CHILD, YOUR DAUGHTER, I THANK YOU FOR TEACHING ME ABOUT SALVATION AND LOVE...GOD HAS BLESSED US BY SHARING YOU WITH US, AND WE ARE SO THANKFUL AND SO VERY PROUD."



FRIEND AND FELLOW WEST POINT CLASSMATE, ARMY LT. GEN. PAUL KERN, MILITARY DEPUTY TO THE ASA(RD&A), SAID THAT BLACK DEMONSTRATES "THREE GREAT QUALITIES: FIRST, AS A SOLDIER; SECOND, AS A FATHER AND A HUSBAND; AND, THIRD, AS A TRUE SCHOLAR OF THE MANAGEMENT OF OUR ACQUISITION BUSINESS..."



DoD's LARGEST TELESCOPE GETS "FIRST LIGHT"

Released: November 25, 1997

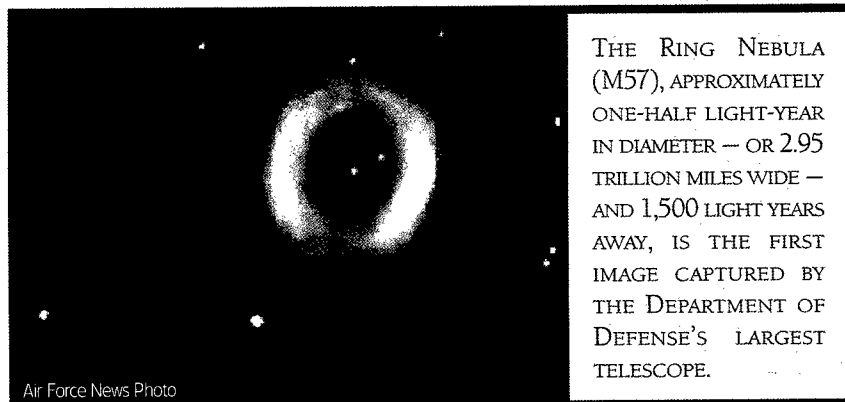
MAUI, Hawaii (AFNS) – The Ring Nebula (M57), approximately one-half light-year in diameter – or 2.95 trillion miles wide – and 1,500 light years away, is the first image captured by the Department of Defense's largest telescope, a 4-meter-class telescope completed here in July.

This first image, also known as "first light," was recorded recently with a 15-second exposure, using an ST-8 Charge Couple Device camera from Santa Barbara Instrument Group.

Telescope officials with the Directed Energy Directorate of the Air Force Research Laboratory expect image quality will improve after the primary mirror figure control is calibrated, enhanced sensors are installed, and the telescope completes additional testing.

The telescope, which is part of a \$150 million Advanced Electro-Optical System, took two years to construct. Able to view a baseball-sized object 500 miles in space, the telescope will view and track satellites passing overhead.

Editor's Note: This information is in the public domain and may be accessed at <http://www.af.mil/news> on the World Wide Web.



Air Force News Photo

THE RING NEBULA (M57), APPROXIMATELY ONE-HALF LIGHT-YEAR IN DIAMETER – OR 2.95 TRILLION MILES WIDE – AND 1,500 LIGHT YEARS AWAY, IS THE FIRST IMAGE CAPTURED BY THE DEPARTMENT OF DEFENSE'S LARGEST TELESCOPE.



ACQUISITION REFORM

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

DEPARTMENT OF DEFENSE

Under Secretary of Defense (Acquisition and Technology) (USD[A&T])

<http://www.acq.osd.mil/HomePage.html>
Helps locate a specific office or USD(A&T) document.

Deputy Under Secretary of Defense (Acquisition Reform) (DUSD[AR])

<http://www.acq.osd.mil/ar>
Upcoming events; legislation; DUSD(AR) organizational breakout. "Ask A Professor" link allows users to ask questions and receive responses within 10 business days.

Acquisition Systems Management (Defense Acquisition Board [DAB] Executive Secretary)

<http://www.acq.osd.mil/api/asm/>
Organization; mission; products; customers; Frequently Asked Questions (FAQ).

DoD Acquisition Workforce Home Page

<http://www.dtic.mil/acqed2/acqed.html>
Current legislation; regulations; critical acquisition positions; FAQs for the acquisition workforce.

Defense Acquisition Deskbook

<http://www.deskbook.osd.mil>
Automated acquisition reference tool covering mandatory and discretionary practices as well as procurement wisdom.

Defense Acquisition University (DAU) and Acquisition Reform Communications Center (ARCC)

<http://www.acq.osd.mil/dau>
DAU course and schedule information; consortium school links; acquisition documents and publications. ARCC provides Acquisition Reform training information and materials, including satellite broadcast information!

Army Acquisition Corps (AAC)

<http://www.dacm.sarda.army.mil>
News; policy; publications; training opportunities.

Army Contracting

<http://www.acqnet.sarda.army.mil>
Library of documentation; newsletters; training and business opportunities; past performance; paperless contracting; labor rates.

Navy Acquisition Reform

<http://www.acq-ref.navy.mil/>
Policy and guidance; World-Class Practices; Acquisition Center of Excellence; training opportunities.

Air Force (Contracting)

<http://www.hq.af.mil/SAFAQ/contracting/>
Business opportunities with the Air Force; various training options; library of publications.

Air Force (Acquisition)

<http://www.safaq.hq.af.mil/>
Career development; policy and guidance; initiatives; much more!

Air Force Materiel Command (AFMC) Contracting Laboratory's Federal Acquisition Regulation (FAR) Site

<http://www.farsite.hill.af.mil/>
FAR search tool; information on open FAR and Defense Federal Acquisition Regulation (DFAR) cases; Federal Register; *Commerce Business Daily* Announcements; Electronic Forms Library.

HQ Air Combat Command — Contracting Division

<http://www.acclg.af.mil/lgc/lgc.htm>
Policy guidance and technical assistance in areas such as: performance measurement; operational contracting; International Merchant Purchase Authorization Card; commercial practices; outsourcing.

Centralized Request for Proposal (RFP) Support Team Office

<http://www.crfpst.wpafb.af.mil/>
Lightning Bolt information; announcements and events; sample documents.

Defense Advanced Research Projects Agency (DARPA)

<http://www.arpa.mil>
Planned procurement examples available for downloading; small business information; news releases; current solicitations.

Defense Information Systems Agency (DISA)

<http://www.disa.mil>
Structure and mission of DISA; products and services; contracting opportunities.

Defense Systems Management College (DSMC)

<http://www.dsmc.dsm.mil>
DSMC educational products and services.

National Imagery and Mapping Agency (NIMA)

[Formerly Defense Mapping Agency (DMA)]

<http://www.nima.mil>
Geospatial and imagery information; publications; business opportunities.

Defense Modeling and Simulation Office (DMSO)

<http://www.dmsomil>
Modeling and Simulation Master Plan; services; resources; activities.

Defense Technical Information Center (DTIC)

<http://www.dtic.mil/>
Planned, ongoing, and completed defense-related research.

DoD Electronic Commerce/Electronic Data Interchange Office (EC/EDI)

<http://www.acq.osd.mil/ec/>
Central Contractor Registration; Value Added Networks; current EDI sites and assistance center; online resources.

Open Systems Joint Task Force

<http://www.acq.osd.mil/osjtf>
Open Systems education and training opportunities; plans and initiatives; studies; documentation.

Government Education and Training Network (GETN) (For Department of Defense Only)

<http://www.afit.af.mil/Schools/DL/schedule.htm>
Schedule of distance learning opportunities.

Government-Industry Data Exchange Program (GIDEP)

<http://www.gidep.corona.navy.mil>
Non-conforming products; diminishing manufacturing sources; engineering; metrology; reliability-maintainability for better readiness and reduced costs.



ACQUISITION REFORM

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

DoD Acquisition Workforce Personnel Demonstration Project

<http://www.crfpst.wpafb.af.mil/demo/homepage.html>

Demonstration project documents, FAQs, and related sites.

FEDERAL CIVILIAN AGENCIES

ARNET (Joint Effort of the National Performance Review and Office of Federal Procurement Policy)

<http://www.arnet.gov/>

Virtual library; procurement resources; best practices; business opportunities.

Federal Acquisition Institute (FAI)

<http://www.gsa.gov/staff/v/training.htm>

One-stop acquisition training shop; Federal Acquisition Streamlining Act resource materials; FAR; Federal Acquisition Reform Act.

Federal Acquisition Jump Station

<http://procure.msfc.nasa.gov/fedproc/home.html>
Procurement and acquisition servers by contracting activity; CBDNet; Reference Library.

General Accounting Office (GAO)

<http://www.gao.gov>

Investigative arm of Congress; examines matters relating to the receipt and disbursement of public funds. Allows users access to GAO reports, FAQs.

General Services Administration (GSA)

<http://www.gsa.gov>

Online shopping for commercial items to support government interests.

Library of Congress

<http://www.loc.gov>

Public laws; legislation; vetoed bills; Congressional Internet services.

National Performance Review (NPR)

<http://www.npr.gov/>

Government cost-savings advice; "how to" tools; customer service; accomplishments and awards.

National Technical Information Service (NTIS)

<http://www.fedworld.gov/preview/preview.html>

Online ordering and FAQs.

Small Business Administration (SBA)

<http://www.SBAonline.SBA.gov>

Communications network for small businesses.

U.S. Coast Guard

<http://www.dot.gov/dotinfo/uscg/welcome.html>

News and current events; services; points of contact.

INDUSTRY AND PROFESSIONAL ORGANIZATIONS

Aerospace Industries Association

<http://www.access.digex.net>

Critical issues facing today's U.S. aerospace industry; access to related Internet sites.

Commerce Business Daily

<http://www.govcon.com/>

Access to current and back issues with search capabilities; business opportunities; interactive yellow pages.

Electronic Industries Association (EIA)

<http://www.eia.org>

Government Relations Department includes links to issue councils.

National Contract Management Association (NCMA)

<http://www.ncmahq.org>

"What's New in Contracting?"; educational products catalog.

National Defense Industrial Association (NDIA)

<http://www.ndia.org>

Events; government policy; virtual conference center; much more!

Society of Logistics Engineers (SOLE)

<http://www.sole.org/>

Online desk references that link to advice in solving logistics problems.

TOPICAL LISTINGS

ACQWEB Index of Offices by Title

<http://www.acq.osd.mil/acqweb/topindex.html>

Great launch pad to acquisition-specific sites and topics.

DoD Specifications and Standards Home Page

<http://www.acq.osd.mil/es/std/stdhome.html>

Military standards and specifications reform; FAQs; key POCs; standardization library (newsletters, policy memos, and other documents); training, seminars, and conferences; commercial and nondevelopmental item programs.

Earned Value Management

<http://www.acq.osd.mil/pm>

Implementation of Earned Value Management; latest policy changes; standards; international developments; active noteboard.

Fedworld Information

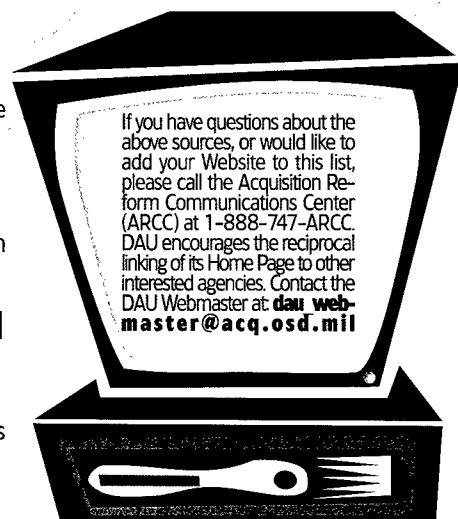
<http://www.fedworld.gov>

Comprehensive central access point for searching, locating, ordering, and acquiring government and business information.

GSA Advantage

<http://www.fss.gsa.gov>

Assistance in using the government-wide purchase card.



If you have questions about the above sources, or would like to add your Website to this list, please call the Acquisition Reform Communications Center (ARCC) at 1-888-747-ARCC. DAU encourages the reciprocal linking of its Home Page to other interested agencies. Contact the DAU Webmaster at dau_webmaster@acq.osd.mil

REAR ADMIRAL LEONARD VINCENT, U.S. NAVY

Commandant

Defense Systems Management College

Rear Admiral Leonard "Lenn" Vincent, Supply Corps, U.S. Navy, became the 14th Commandant of the Defense Systems Management College effective December 30, 1997. Prior to his assignment as Commandant, Vincent was the Deputy Chief of Staff for Logistics, Fleet Supply and Ordnance, Commander in Chief, U.S. Pacific Fleet, Pearl Harbor, Hawaii.

A native of Oklahoma, Vincent entered the Naval Reserve Program as a seaman recruit. Following his graduation from Southeastern State Teachers College in Oklahoma, he received his commission from the U.S. Navy Officer Candidate School. Vincent also earned an M.B.A. from The George Washington University. His military education includes completion of the Navy Supply Corps School and the Armed Forces Staff College.



A member of the Navy's acquisition professional community, his past assignments include Director of Contracting, Naval Inventory Control Point; Commander, Defense Contract Administration Services Region; Commander, Defense Contract Management Command (DCMC) International; and Assistant Commander for Contracts, Naval Air Systems Command. He also served as Deputy Director for Acquisition Management, Defense Logistics Agency; and Commander, DCMC.

His sea duty includes assignment to the U.S.S. *Pensacola* (LSD 38) in October 1972 as a supply officer; and in July 1982, assignment as supply officer on the submarine tender U.S.S. *Dixon* (AS 37).

His military awards and decorations include the Defense Superior Service Medal with gold star, Legion of Merit, Defense Meritorious Service Medal, Meritorious Service Medal with three gold stars, Navy Commendation Medal, and Navy Achievement Medal.

Vincent and his wife, Shirley, have three children: two daughters, Lori and Tiffany; and one son, Stephen.

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