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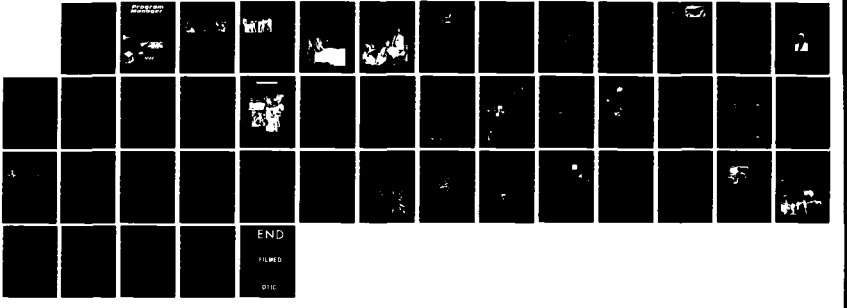
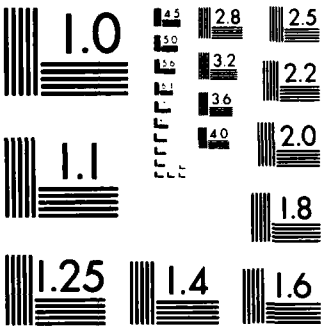
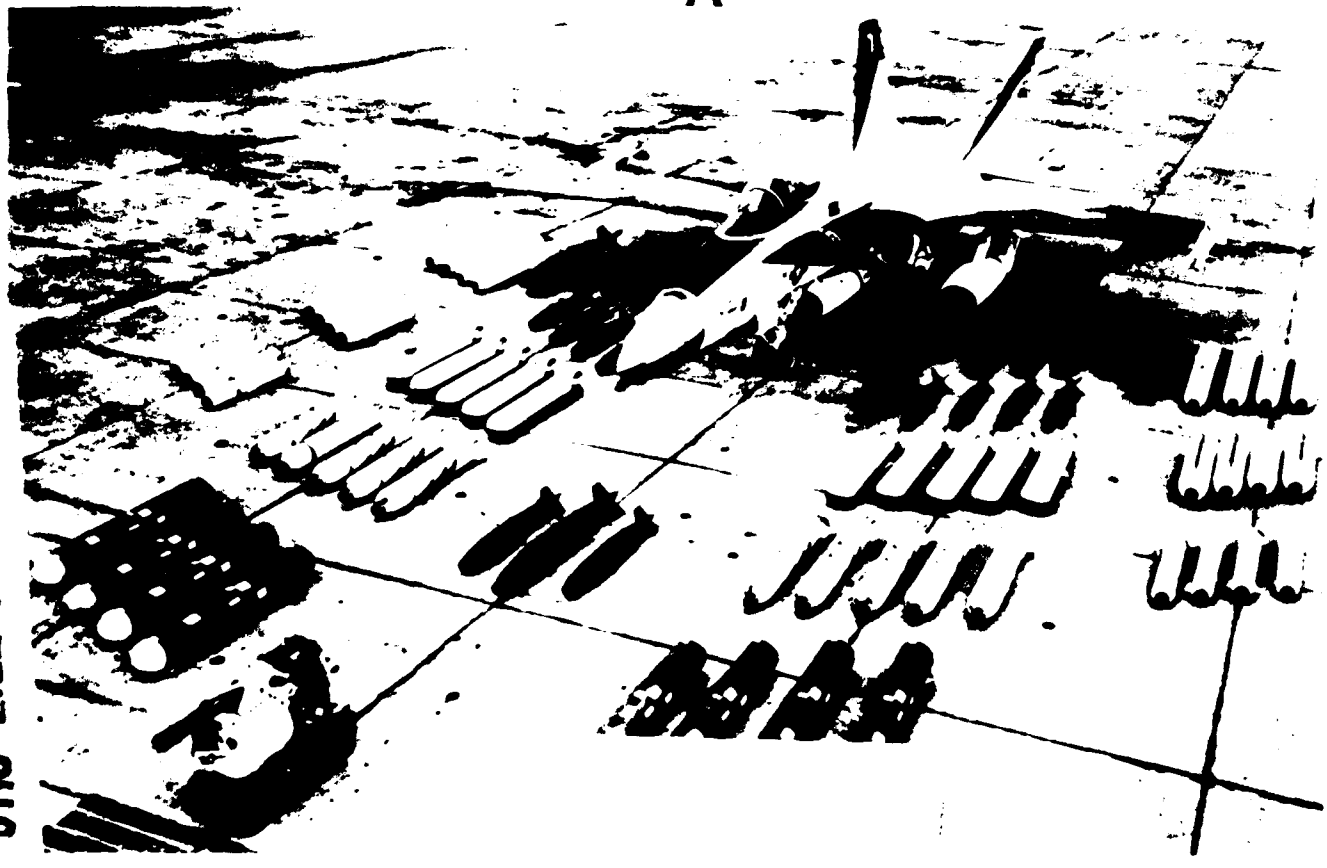




Program Manager

The Journal of the Defense Systems Management College
January-February 1985



Defense Management Reform: Improving Quality and Controlling Costs

William H. Taft IV

We need creative partnership with industry to improve defense productivity.

The Streamlining Initiative (or Removing Barriers to Productivity)

B. A. Hardesty

Is the "streamlining" initiative counter to George Orwell's predictions?

Reducing the Cost of Data Acquisition

Alan W. Beck

The approach to data acquisition drives overall program costs and potential success.

Our Management Reform Effort

Secretary of Defense
Caspar W. Weinberger

Fighting the battle against waste, fraud, and inefficiency.

Educational Research: A New Dimension in DSMC Research Program

Owen C. Gadeken

Alternative educational concepts for instructing future program managers.

Acquisition Streamlining: Striving to Increase Cost-Effectiveness Of DOD Acquisition Requirements

Dr. Richard A. Stimson
Lieutenant Colonel Frank Doherty, USA

Acquisition streamlining untaps ingenuity and creativity to save money.

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Cover: An F A 18 Hornet with an impressive array of armament.

Vol. XIV, No. 1
DSMC 64
January-February
1985

Surviving the New 1984 Procurement Laws: Risks And Opportunities For Government Contractors

Kendall H. Breedlove
Emanuel Kintisch

Threading the complex maze of new opportunities and risks.

The Effectiveness of Defense Systems Acquisition

James P. Wade Jr.

Linking affordable defense systems that are capable, effective, reliable and supportable.

Where's the Technical Manual?

Lieutenant Colonel Samuel Craig, USAF

Using technical manuals to operate, maintain, and repair delivered equipment.

Program Manager (ISSN 0199-7114) is published bimonthly by the Defense Systems Management College, Fort Belvoir, VA 22060-5426, and is intended to be a vehicle for the transmission of information on policies, trends, events, and current thinking affecting program management and defense systems acquisition.

To subscribe, government personnel should submit written requests, using their business addresses, to the Editor-in-Chief. Non-government employees and organizations may subscribe at $17 annually through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

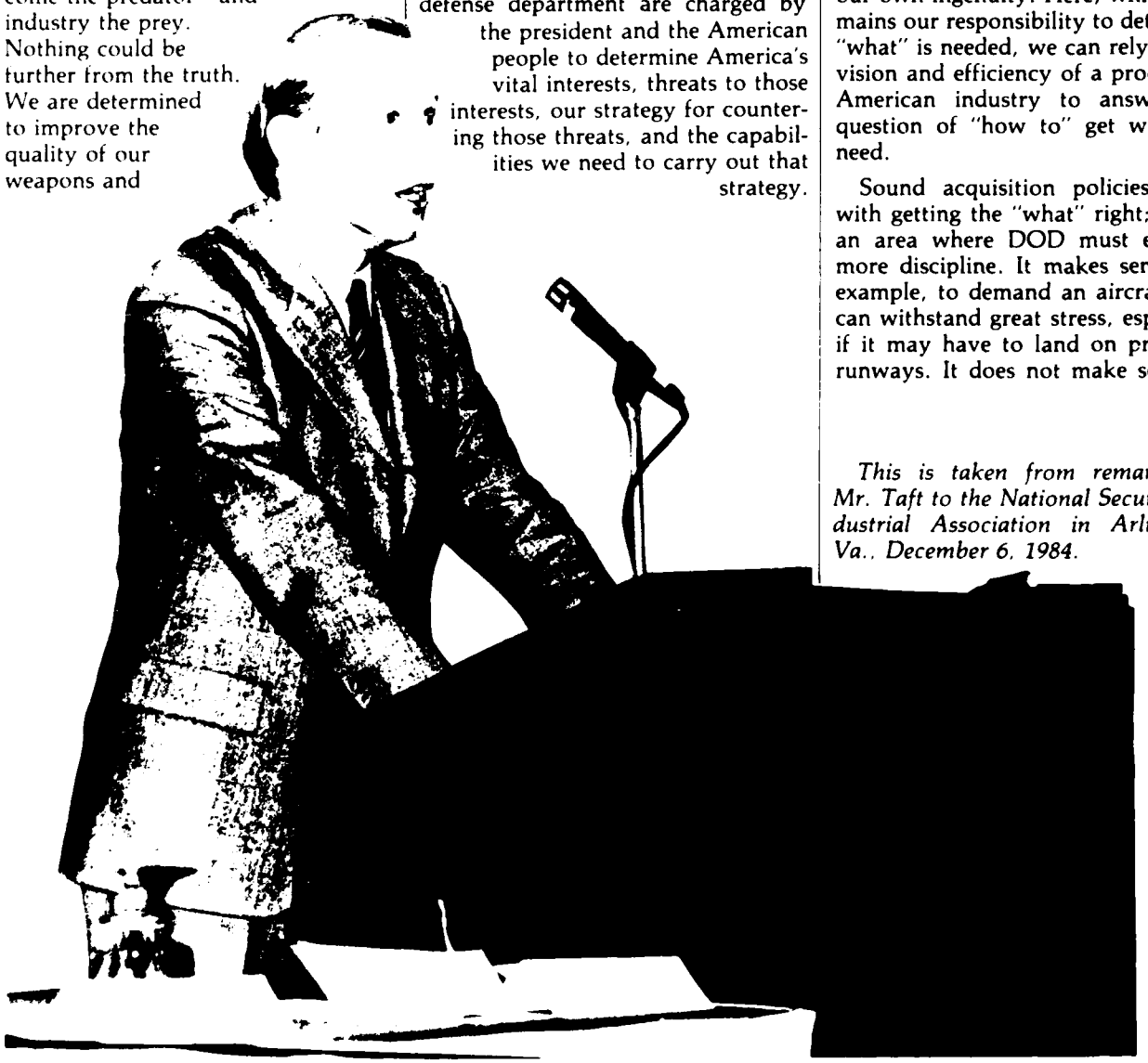
Manuscripts and other correspondence are welcome and should be addressed to the Editor-in-Chief. Inquiries concerning proposed articles may be made by phone at (703) 664-5082 -5974 or AUTOVON 354-5082 -5974. Second class rate entered at Fort Belvoir, VA.

POSTMASTER: Send address changes to Editor-in-Chief, *Program Manager*, Defense Systems Management College, Fort Belvoir, VA 22060-5426.

William H. Taft IV
Deputy Secretary of Defense

e at the Department of Defense are taking seriously the DOD streamlining initiative. I want to share my perspective on defense management reform. You may be thinking that in the area of management reform, DOD has become the predator—and industry the prey. Nothing could be further from the truth. We are determined to improve the quality of our weapons and equipment while controlling their cost, but we know this can be achieved only through strong, and creative partnership with industry to improve defense productivity.

Industry and DOD will always have different perspectives—we have different responsibilities. We at the defense department are charged by the president and the American people to determine America's vital interests, threats to those interests, our strategy for countering those threats, and the capabilities we need to carry out that strategy.



If this were the Soviet Union we would have to go one step further. We would have to figure our how to wring those needed capabilities from our massive, inefficient, state-operated industry. Fortunately, this is America, where we at the defense department need not rely solely on our own ingenuity. Here, while it remains our responsibility to determine "what" is needed, we can rely on the vision and efficiency of a productive American industry to answer the question of "how to" get what we need.

Sound acquisition policies begin with getting the "what" right; this is an area where DOD must exercise more discipline. It makes sense, for example, to demand an aircraft that can withstand great stress, especially if it may have to land on primitive runways. It does not make sense to

This is taken from remarks by Mr. Taft to the National Security Industrial Association in Arlington, Va., December 6, 1984.

specify requirements for a refrigerator to withstand more stress than the airplane it goes into can withstand.

Bringing this problem under control is one top priority for the coming year at the Department of Defense. I have just issued a memorandum to each service secretary and the director of the Defense Logistics Agency directing them to develop a new management plan for aggressively seeking out, and challenging requirements that are not cost-effective, particularly in weapon systems and replacement items already in the field. I invite you to help identify these gold-plated items because they are giving the defense department and the defense industry a black eye.

Since we at DOD must exercise more discipline in determining *what* capabilities we need, we also must exercise more discipline in trying to direct *how* those capabilities should be achieved.

ack in 1906, when the Army Signal Corps requested bids for a "flying machine," the specification requirements consisted of one page. The flying machine had to be easily assembled and disassembled—in less than one hour—and capable of carrying two persons 125 miles at a speed of 40 miles per hour. Wilbur and Orville Wright won the bid with a promise to deliver a flying machine to the army within 200 days, for $25,000.

While I admit to nostalgia for $25,000 airplanes, I am *not* suggesting a return to the simpler life. Orville Wright never had to go one on one—or one on three—with an MIG-23. In at least one regard those first airplane requirements are a good model for today. They set mission requirements, and left it to the Wright Brothers' ingenuity to figure out *how* the requirements could be met most efficiently.

It is popular in some circles to proclaim the death of American ingenuity, but I don't believe it for a minute. What I believe is that we sometimes stifle that ingenuity. When carloads of military standards and specifications are applied *prematurely*, before we have learned what special problems, or opportunities, may arise during development; or *rigidly*, without tailoring to fit the particular program; or even *inadvertently*, through automatic reference to several subtiers of specification, we incur unnecessary costs.

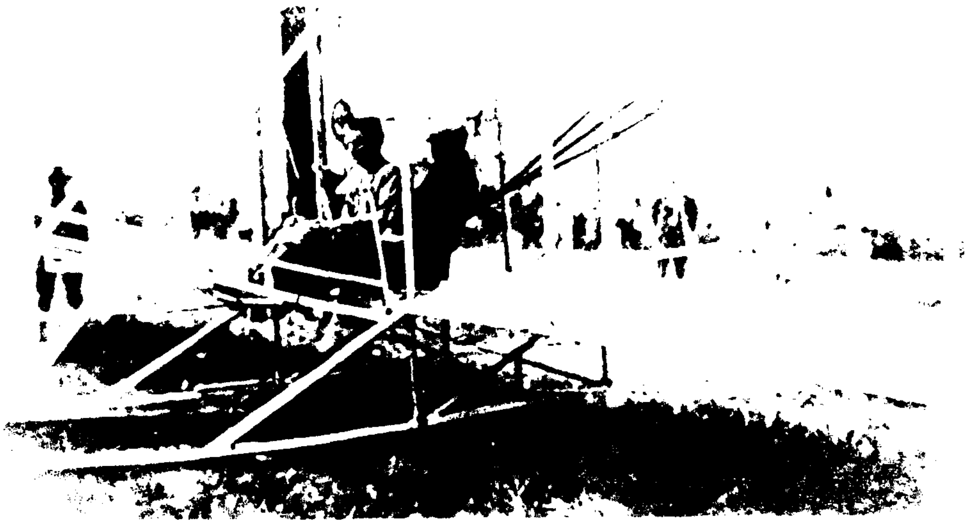
Calls for reforming the way we apply military specifications and standards is not a new problem. In introducing reform, however, it is important to understand why these requirements developed in the first place. Most mililtary specifications are worthwhile documents that reflect "lessons learned," and we most want to avoid repeating mistakes.

Let's admit there are also less-valid factors that have led to the existence of some of those specifications—factors we need to change.

Challenging requirements has imposed risks on DOD and industry personnel, and has offered few rewards. The DOD program manager who urges modifying or deleting requirements is always open to the criticism; if something goes wrong, that stricter enforcement of requirements would have prevented trouble. The contractor, likewise, doesn't want to risk losing a bid by suggesting that initial requirements could hurt performance, or raise costs. The company risks being seen as uncooperative rather than creative.

This is why it is vital that reducing overspecification be a top-level management priority in DOD and industry. Our people need to know they will be rewarded for inventive ways to improve productivity and

Orville Wright and Lt. Thomas O. Selfridge in the 1908 aircraft.



The Wright Brothers' flying machine specs were one page stating that it must be assembled and disassembled in less than one hour and carry two persons 125 miles at 40 miles per hour.

meet mission requirements at a lower cost. Indeed, they need to know that entire specifications and standards are a critical requirement of their jobs. We are not asking them to eliminate needed specifications and standards but rather to identify only those that are essential and to tailor these to fit the specific needs of the program.

In January of 1984 the Department of Defense called for a comprehensive attack on the problem of untimely, untailored and automatically referenced application of specifications and standards. We directed each service secretary to begin by choosing four or more programs for special application of the program-tailoring initiative.

Not quite a year later, we are seeing important results. One of our early success stories was the Navy [illegible] aircraft proposal. The program manager eliminated 10 percent of the specifications and with his team [illegible] tailored over 75 percent of those [illegible]. The PM was able to [illegible] percent of contract [illegible]

[illegible]

back 15 detailed pages of recommendations. This kind of initiative—from the program manager and the contractor—is what we need.

[illegible]

number of programs to which this initiative is being applied.

Allowing industry to have a greater role in identifying the most cost-effective application of specifications and standards is one important step toward improved defense productivity. But we must go further. We must recognize that the defense industry has not escaped the productivity and quality problems that plagued all American industry during the 1970s, years when our annual national productivity growth dropped to 0.9 percent, from an average of 3.4 percent during the two decades after World War II.

As a partner in the drive to restore defense productivity, DOD is seeking to help industry acquire the tools needed to improve productivity and quality. I will describe in brief some initiatives in this area.

In the coming months we will be working with industry to put into effect guidelines for "building quality in" to our defense systems through more disciplined engineering.

We have an important program underway to help industry make the capital investments necessary to improve productivity; that is the industrial modernization incentives process.

For example, the Air Force helped Westinghouse build an electronic assembly plant in Texas that will use the most advanced robots and computer-aided assembly technologies in

the world. The Air Force and Westinghouse will share in the savings from increased productivity, just as they have worked in partnership to invest for productivity.

It is not enough, however, to have state-of-the-art equipment. Advances in computer-based manufacturing, robotics and other forms of automation do not change the central importance of trained, motivated workers. People will always be the greatest key to productivity.

During 1985 we hope to focus on ways that DOD and industry together can motivate and train management and employees to give priority to quality and reduce scrap, rework, and repair costs.

The aim of our productivity initiatives is to give industry the opportunity, incentive, and tools to produce higher quality products at lower cost. We want to give industry more responsibility. We want industry to tell us *how* we can achieve *what* we need. We want to tap the ingenuity and experience of the world's most resourceful and technically capable work force.

There is another side to increased responsibility. That is increased accountability.

Department of Defense policy already provides that quality history should be a factor in awarding contracts, but too often we have not carefully tracked the quality record of defense contractors. We are developing tools for documenting quality history, and we plan to make sure that past performance is taken into account when considering defense contractors' proposals. Our new debarment policy, requiring a review of a contractor's present responsibility in any case where he has been convicted of a felony, is one manifestation of this approach.

I offer a challenge to all of American industry. We must strengthen productivity and quality if we are to retain our leadership in the world. We must never forget that, in defense, we are not just talking about saving money, important though that is.

We are talking about the margin of security for ourselves, our children, and our way of life. ■

Evaluation of the Effectiveness of the Weighted to Induce Contractor's Investment in Cost-Reducing Facilities Equipment

Ronald L. Baker

The weighted guidelines method to determine profit for defense contractors originated in 1964. A key objective of Department of Defense (DOD) profit policy is to reduce cost of defense preparedness by encouraging defense contractors to invest in modern, cost-reducing facilities.

The original profit policy went through two iterative changes. The first changes, in September of 1976 were published in "Defense Procurement Circular (DPC) 76-3." Revisions resulted from a major study by the Department of Defense on profit and its relationship to capital investment, commonly referred to as "Profit '76." The second changes in February of 1980 were published in "Defense Acquisition Circular (DAC) 76-23." These were corrections based on practical experience with the profit policy after its initial changes.

The Defense Systems Management College (DSMC) under contract to Analytics, Inc., Sencom Group, has completed a study to determine adequacy of the present weighted guidelines profit policy to improve the productivity of defense contractors; also, to assess whether or not the profit policy provides a stimulus to strengthen the industrial base.

The DSMC study examines and compares investment and financial trends of government profit centers (specific sections of an organization that function solely for the purpose of government business), Federal Trade Commission durable-goods producers, and Department of Defense companies receiving the largest dollar volume of prime contract awards in fiscal year 1982. These examinations and comparisons are presented for the time before the first change made to the weighted guidelines in 1976, and for the time between 1976 and 1982. Interjected into the DSMC study are industry and service perceptions of the weighted guidelines profit policy.

Using examinations and comparisons of the investment and financial trends of DOD contracting companies, government profit centers, Federal Trade Commission durable-goods producers, and industry and service perceptions of weighted guidelines, the DSMC study presents conclusions on the adequacy of the weighted guidelines profit policy as an instrument to improve the productivity of defense contractors, and to act as a stimulus for decreasing weapon systems cost. The study gives acquisition management personnel an update on tax legislation pertaining to capital investments and its impact on industry profit. Moreover, the study is intended to give a clearer understanding about application of weighted guidelines in defense contracts by describing its effectiveness in today's weapon systems acquisition environment.

To obtain a copy of the report, *Evaluation of the Effectiveness of the Weighted Guidelines to Induce Contractors Investment in Cost-Reducing Facilities Equipment*, write to: Defense Systems Management College, ATTN: DRI-P, Fort Belvoir, Va. 22060-5426. Your requests must be in writing; phone requests cannot be accepted. Copies also are available for distribution through the Defense Technical Information Center (DTIC), Cameron Station, Alexandria, Va., 22304-6145. The DTIC accession number for this report AD-147-586. ■

■ *Mr. Baker is a professor of financial management, Department of Research and Information at the Defense Systems Management College.*

Removing Barriers to Productivity

B. A. Hardesty

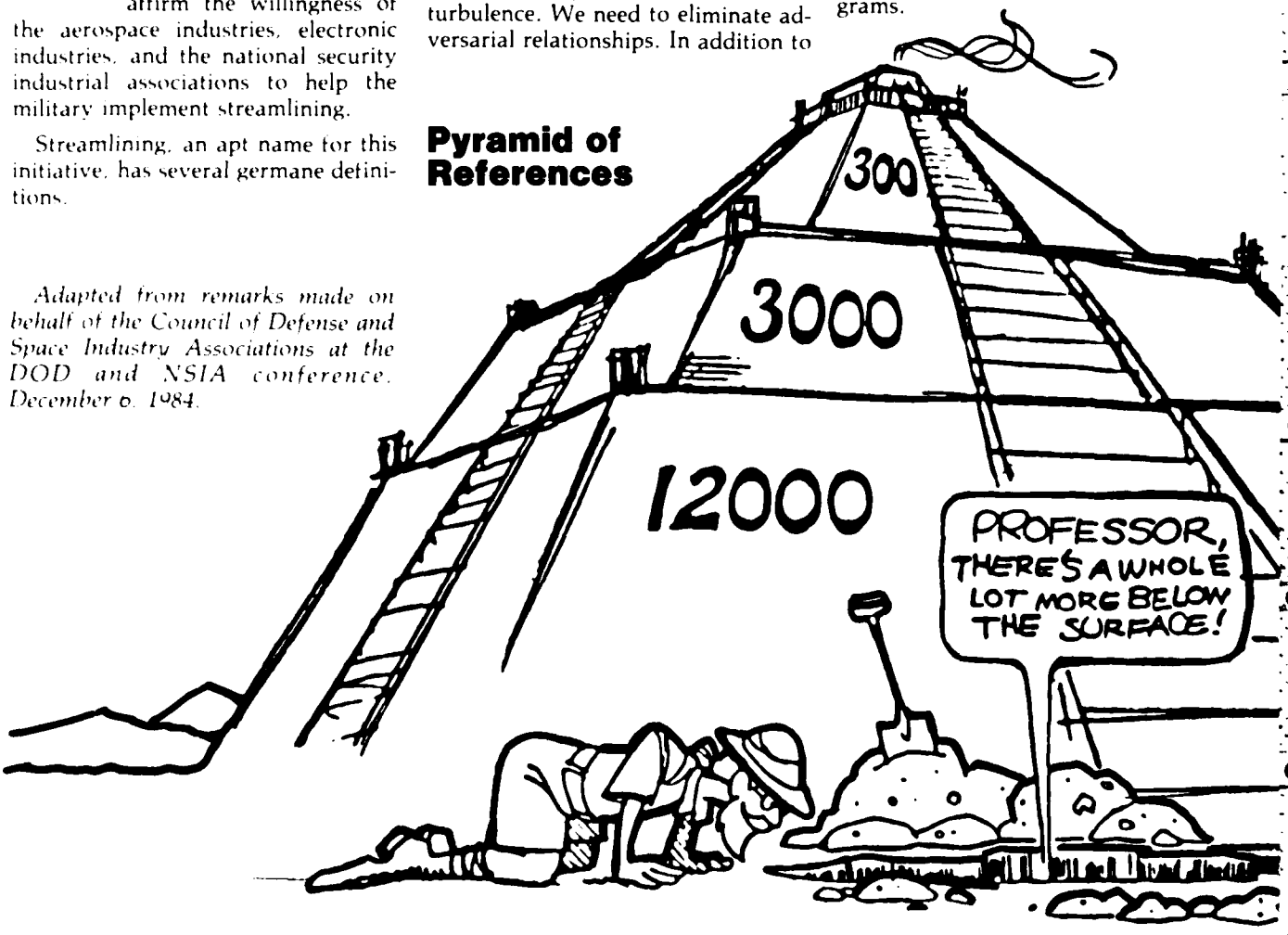
My purposes are to provide an understanding of what the streamlining initiative encompasses. I want to reaffirm the willingness of the aerospace industries, electronic industries, and the national security industrial associations to help the military implement streamlining.

Streamlining, an apt name for this initiative, has several germane definitions.

Adapted from remarks made on behalf of the Council of Defense and Space Industry Associations at the DOD and NSIA conference, December 6, 1984.

Streamlining means to remove barriers to a smooth flow. We need to remove barriers to productivity.

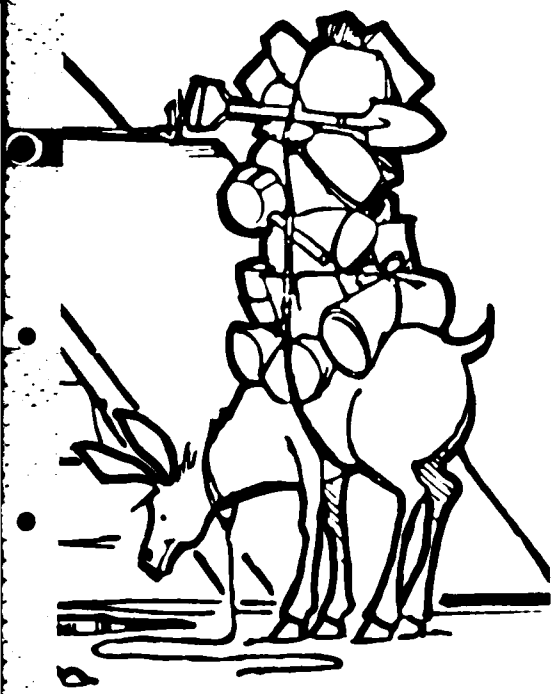
Streamlining means to eliminate turbulence. We need to eliminate adversarial relationships. In addition to other serious consequences, adversarial relationships lead to unnecessary and counterproductive requirements imposed on military programs.



If it's important enuf to be contractual,
It's important enuf to be named numbered

Streamlining means to change attitudes. We need to restore with vigor the attitudes that prevailed when weapon systems like the F-4 and A-4 were developed. Key people from that era and from some current streamlined programs will speak about their experiences. This should

■ *Mr. Hardesty is Corporate Director Technical Management Systems, McDonnell Douglas Corporation.*



DEPSECDEF 11 JAN 84

PURPOSE:

TO AVOID COSTLY AND UNNECESSARY REQUIREMENTS

CALLS FOR:

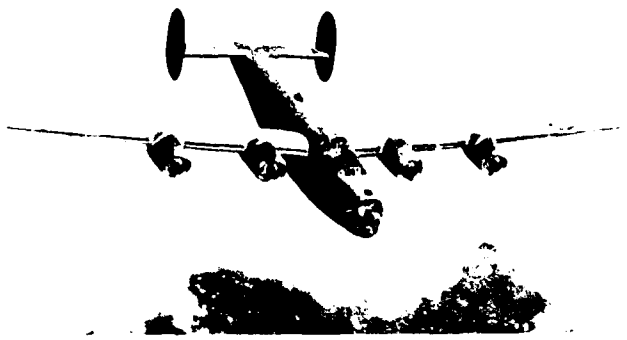
PRECLUDING UNTIMELY, UNTAILORED AND ACCIDENTALLY-REFERENCED APPLICATION OF REQUIREMENTS AND FOR SPECIFYING RESULTS REQUIRED RATHER THAN DETAILED "HOW"-TO" PROCEDURES

PRINCIPLES

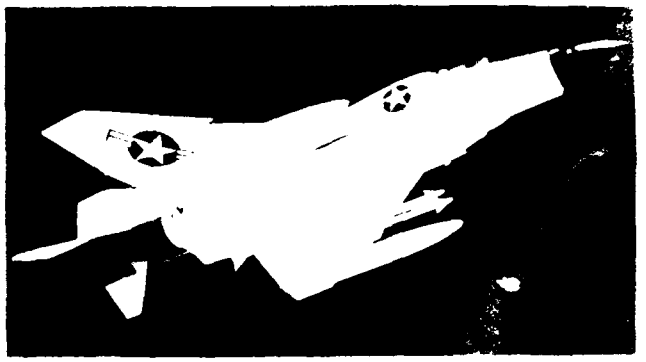
1. **THE COST-EFFECTIVE APPLICATION OF REQUIREMENTS SHOULD BE AN INTEGRAL PART OF THE DESIGN AND DEVELOPMENT PROCESS.**
2. **DETAILED SPECIFICATION OF THE TECHNICAL APPROACH AND DESIGN FEATURES PRIOR TO DEVELOPMENT INHIBIT TRADE-OFFS WHICH ARE NECESSARY TO ACHIEVE OVERALL SYSTEM OBJECTIVES SUCH AS AFFORDABILITY, PRODUCIBILITY, RELIABILITY, AND SUPPORTABILITY. BOTH CONTRIBUTE TO SUBOPTIMUM DESIGNS AND UNNECESSARY COSTS.**

DOD POLICIES

1. **UTILIZE CONTRACTOR INGENUITY AND EXPERIENCE...RETAIN GOVT. P.M. DECISION-MAKING AUTHORITY.**
2. **ENCOURAGE CONTRACTORS TO CRITIQUE DRAFT RFPs.**
3. **SPECIFY WHAT IS NEEDED, RATHER THAN "HOW-TO."**
4. **SPECIFY SYSTEM-LEVEL FUNCTIONAL REQUIREMENTS AT ONSET OF DEVELOPMENT.**
5. **REQUIRE CONTRACTORS TO TAILOR DURING ONE PHASE FOR APPLICATION TO THE NEXT.**
6. **PRECLUDE PREMATURE APPLICATION OF MIL-SPECS AND MIL-STRDs...IDENTIFY FOR GUIDANCE FOR D/V, TAILORED FOR FSD.**
7. **LIMIT CONTRACTUAL APPLICABILITY TO ONE LEVEL OF REFERENCES.**
8. **PURSUE ECONOMICALLY PRODUCIBLE, OPERATIONALLY SUITABLE AND FIELD SUPPORTABLE DESIGNS.**
9. **ASSURE COMPLETE PRODUCTION SPECIFICATIONS WHILE PROVIDING CONTRACTOR FLEXIBILITY TO OPTIMIZE DESIGN.**



- MARCH 1939 CONTRACT
- OCTOBER 1939 FIRST FLIGHT
- DESIGNED AND BUILT IN RECORD TIME
- PRODUCED IN GREATER QUANTITY THAN ANY OTHER AMERICAN COMBAT AIRCRAFT
- CONSOLIDATED, DOUGLAS, N.A., AND FORD PRODUCED OVER 18,000



- 1955
- NAVY SPECIFICATIONS, 2 PAGES

- SPECIFY WHAT, NOT HOW-TO
- PRECLUDE PREMATURE APPLICATION
- CUT OFF REFERENCED DOCUMENTS
- REQUIRE TAILORING

- SELECT FOUR INITIAL PROGRAMS PER SERVICE
- CONDUCT WORKSHOPS/CONFERENCES, TEACH IN DOD SCHOOLS.
- STRENGTHEN DIRECTIVE 4120.21B, DOD FAR SUPPLEMENTS AND MIL-HHDBK-248B GUIDANCE.
- EXPAND APPLICATION TO ALL NEW PROGRAMS.
- TREAT IMPLEMENTATION WITH SPECIAL EMPHASIS IN DSARC REVIEWS.

TO A TYPICAL DOD HOW-TO REQUIREMENT

"LET'S CHANGE OUR PROCEDURE TO GET 'EM OFF OUR BACK."

"WE'VE LEARNED HOW TO DO IT...WHY CHANGE NOW?"

"WE CAN'T OFFEND OUR CUSTOMER."

"WE CAN'T TAKE A CHANCE DURING THE COMPETITION."

"IT'S ONLY ANOTHER 4% COST INCREASE."

"WHY FIGHT IT?...DoD'S PAYING FOR IT!"

SELECTED TO IMPLEMENT DEPSECDEF 11 JAN. 1984 MEMO

ARMY	NAVY	AIR FORCE
LHX	VTXTS(T-45TS)	ATF
AATWS	JVX	IEWS
PERSHING II	CV IZ AWS HELO	AFWIS MODERNIZATION
MICNS	LHD-1	ERAM

date you to avoid unnecessary cost and lead to improving the acquisition culture.

Streamlining means to make simpler or efficient. We need to simplify specifications, military standards, management systems, data requirements, RFPs, contracts and in-plant surveillance. More importantly, we need to make their applications more efficient.

Streamlining means to reduce to a minimum. We need to reduce costs and preclude cost overruns. To do so we need the concentrated and best efforts of our most competent people in military and industry, competent people, not encumbered by or enmeshed in non-essential requirements.

Streamlining means to strip of nonessentials. We need to eliminate unnecessary and counterproductive requirements.

What is required to implement streamlining?

Foremost, we need to change attitudes. We need to change the culture throughout industry, the military services and the Office of the Secretary of Defense. During 1984, the idea that "more is better" when it comes to requirements, has been replaced with the recognition that "less is best" by key people in the services and industry.

Today, the Department of Defense environment is marked by interdependent initiatives to improve acquisition. Examples are:

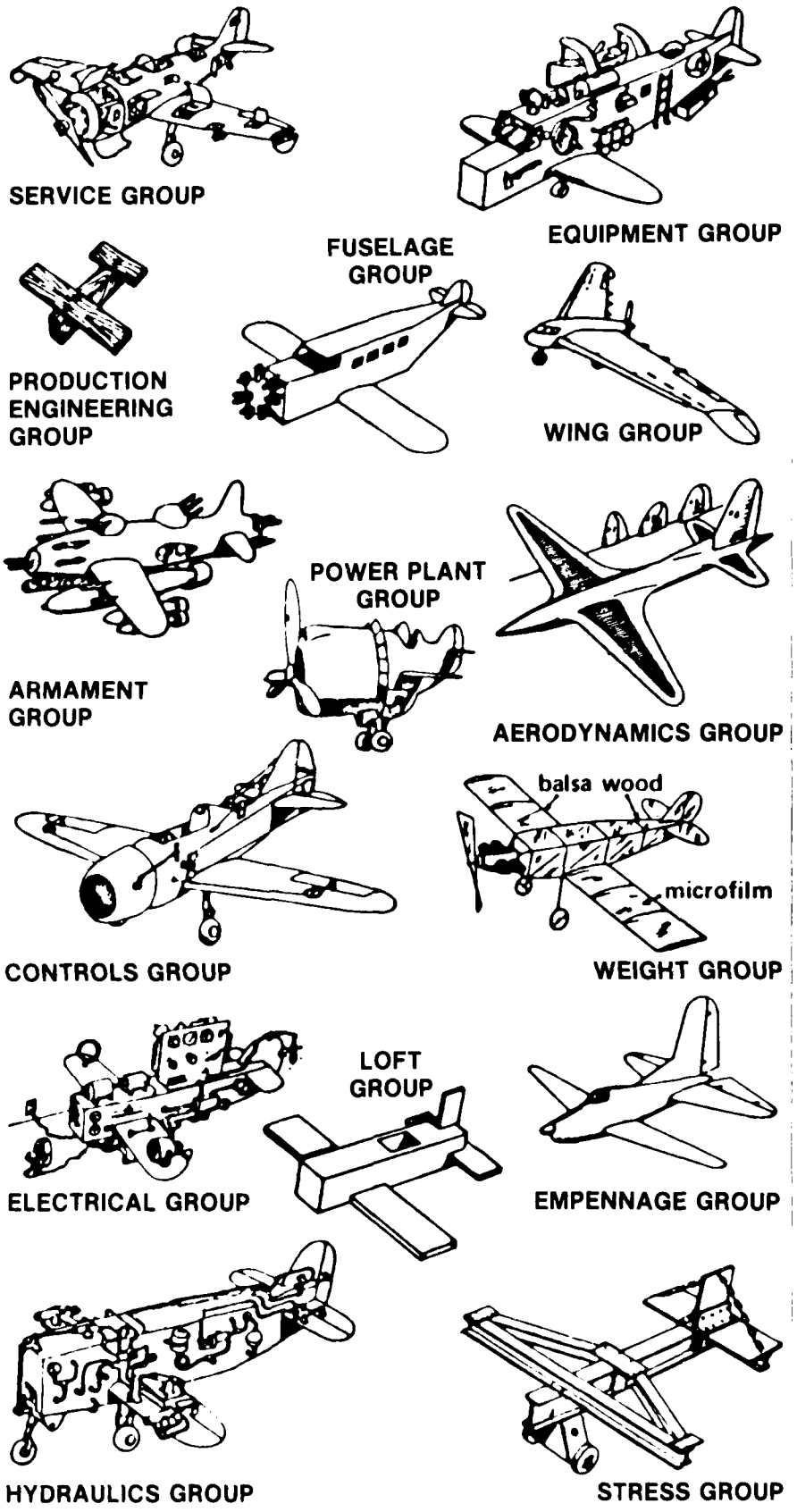
Reduce costs
Streamline requirements
Increase competition
Resolve risks (DODD 4245.7 and the manual)
Employ warranties
Improve quality.

The degree of effectiveness and lasting success of these efforts depends largely on two things. First, whether the services and industry work in unison. Second, whether the initiatives are implemented in harmony or at cross purposes. They can be complementary or contradictory.

We must work to make them go hand-in-hand. For example, employing appropriate warranties can, in some situations, lead to improved quality. The cost of a warranty can be covered by streamlining; i.e., not imposing "how-to-manage" military standards. Risks and costs would be reduced because managers on the streamlined program could devote more time and energies to meaningful development tasks such as those addressed by the "Willoughby Templates."

Let's review a small part of the pertinent past. Try to understand the impact of counterproductive requirements, appreciate the encouraging and ongoing developments of 1984, and join the growing team of streamlining advocates.

It is interesting to note, as we close 1984, that the streamlining initiative is counter to George Orwell's predictions. ■



Running a "business" the size of the Department of Defense

Caspar W. Weinberger
Secretary of Defense

Competition is the lifeblood of our commercial system. It has brought us an unparalleled measure of prosperity—but that is not true everywhere in the world. In the Soviet Union, the prosperity of business and commerce—and the well-being of citizens—have been sacrificed for the cause of military dominance.

In fact, the Soviets dedicate about 15 percent of their gross national product to the military and outproduce us in almost every category of weapons. By contrast, during the decade of the 1970s U.S. defense spending decreased in real dollars by 20 percent, and defense's share of the U.S. gross national product fell to less than 6 percent. The result was a dangerous shift in the military balance—and a growing perception, at home and abroad, that the United States was a nation on the decline, unable to protect its citizens or its interests against a growing threat.

For the past 3 years we have been working hard to redress the neglect of the last decade and restore America's defenses—and leadership. We have been following the course laid out in the Reagan defense program. It is a sound and prudent plan for peace, and it is working. As President Reagan said in his State of the Union Address—"The United States is safer, stronger and more secure in 1984."

Continued Investment

If we are to continue that success, we must complete the investment plan we began 3 years ago. But that can happen only if we invest wisely, and if we apply some good, honest business sense to managing our defense program. I want to speak to you about the management reforms we have instituted and to announce new progress in our efforts to squeeze more defense from our budget. I also want to tell you about what we are doing to help small business in America.

Management Reform

Frankly, I have been eager to speak about this topic to a group who knows something about the challenges of business. Newspaper reporters and congressmen love to compare defense procurement with doing business at the local hardware

Secretary Weinberger

store or buying a tractor. These comparisons make good copy, but they often fail to reflect the complexity of a "business" that operates on the scale of the Department of Defense.

And so, I am pleased to discuss such important matters as defense procurement and management reform with an audience who understands the magnitude of the task we undertook in the Pentagon. Shortly after arriving at the Pentagon 3 years ago, I began fighting the battle against waste, fraud, and inefficiency in defense business. I am still fighting. I knew then it would not be easy to change bureaucratic practice—practice that needlessly boosted the prices of our military equipment. But I am determined to succeed. To my mind, our management-reform effort is as important to our national security as any military campaign.

Strategy Objectives

Let me outline the three objectives of our management strategy:

—to identify sources of inefficiency and corruption in the defense marketplace.

to apply smart business sense to military procurement.

to revise and vastly improve the defense contracts we inherited—contracts that require us to use one supplier for spare parts or to pay the price set by the seller.

Identifying Sources of Inefficiency

We tackled the first objectives quickly, creating a new post for an assistant for review and oversight—now the Office of the Inspector General—to direct the efforts of DOD auditors, inspectors, and in-

These remarks were delivered by Secretary Weinberger to the Federal Procurement and Trade Conference, Indianapolis, Ind., the past July.

vestigators. When the teams uncover fraud they turn their findings over to the Pentagon's lawyers, who team up with attorneys from the Justice Department and we prosecute. In the past fiscal year, our attorneys and local commanders obtained 657 convictions almost twice as many as last year and more than $14 million in fines, restitutions, and recoveries. And during the past calendar year we had 323 suspensions and debarments, an increase of 80 percent over the prior years. Most important, we are sending a message to those troublesome few who think it is easy to swindle the Pentagon.

In most cases where problems existed, however, our audits uncovered inefficiency rather than fraud. For example, when I directed audits of spare parts, I knew I was opening a closet with skeletons—and some $400 claw hammers and $100 diodes. It was a tough door to open but we knew we had to do it and we did. And as every businessman understands all too well, such abuses are inevitable if you give just one company exclusive rights for an item—to develop and build it, to retain the blueprints, and even to provide replacement spares. And that is what was happening.

Problem-Solving Efforts

Unfortunately, even though they get their stories from DOD reports, the horror stories in the press rarely give us credit for uncovering those problems ourselves. Nor do they mention that we are attacking those abuses as we find them and changing the procurement system so they can't happen again. We didn't invent these problems, any more than Columbus invented America. We did discover them and the reason we discovered them was that we knew we had to understand the magnitude of our problem if we were going to solve it.

Solving the spare-parts problem is no easy task. We have an inventory of over 4 million different items, with about 80 percent of them classified as spare parts. One aircraft engine alone accounts for 30,000 spare parts and despite the difficulty of keeping track of the prices on every bolt, washer, and screwdriver in an inventory that large, we must do that because much of the overpricing takes place with those small items.

Effective Reforms

I directed our auditors to dig deeper into our spare-parts accounts. Indeed, we completed the largest audit in our department's history with more than 400 auditors at work throughout our worldwide operations. That audit showed our reforms were taking effect—that we were headed in the right direction. And we will continue the cycle of audit—evaluation—reform until we are confident every dollar is achieving its maximum effect.

I also directed every employee of the Defense Department to join in our spare-parts campaign. One way we are making it easier for them to help us is by making the identification of items in the catalogs clearer. Too often in the past, people in charge of ordering spare parts were given just a stock number—and who can tell that number 28645, priced at $400, is a claw hammer and not an expensive piece of computer equipment? In the same vein, several hundred dollars for an "alignment tool" may sound reasonable, but not when it's translated into plain English as "screwdriver."

So we have taken another simple and obvious step that will help our employees spot overpricing. A few years ago, we began marking the price on the documents accompanying spares when they are delivered to the users. In fact, that is how we discovered $1,000 was paid for a plastic stool cap. When a crew chief at Tinker Air Force Base in Oklahoma picked up the caps for the navigator stool on his aircraft from the base supply depot, he noticed the outrageous price on the package. He reported it to an office set up at the base to handle such complaints, and after investigation, the Air Force found that the price should have been less then $1. For his alertness, the Air Force rewarded the crew chief with a $1,100 bonus, and the government received a refund for previous overcharges for that part. Unfortunately, only the first part of that story received press attention.

Improving information and providing incentives to our employees are only some of the steps we are taking to solve our spare-parts problems. In fact, we have a 10-point spare parts reform program that includes tightening contracts, suspending and debarring contractors who fraudulently overcharge, obtaining refunds, continuing audits, and enhancing competition.

Improving Defense Procurement

Those reforms are consistent with the second phase of our management reform strategy—improving defense procurement. We began 3 years ago with an ambitious list of 32 acquisition initiatives. They included measures such as multiyear procurement, realistic budgeting, program stability, and enhancing competition. One of the most satisfying aspects of my tour in the Pentagon is seeing how these wise business practices have become routine in everyday Pentagon operations. Take, for example, our efforts to budget more realistically. In the past, service program managers, together with weapons manufacturers, tended to make artifically low estimates or to assume unrealistically low inflation. This had the effect of luring the administration and the Congress into beginning production of a weapon, only to find later it would cost far more. Once we had "bought in," we were hooked. We swallowed hard and paid the higher price. This was one of the major reasons for cost overruns in the past. But, no more. We now carefully review and double-check every program estimate.

Pay Now, Save Later

Often, too, there has been a tendency to defer expenses to later years—to somebody else's watch. This meant avoiding the up-front investments, such as bulk purchases and capital improvements that would save a considerable amount of money in the long run but require additional budget commitments now. Pay now, save later, is never a popular political slogan. For fiscal 1985 we have asked Congress for funds to make up-front investments, increasing the budget by $457 million to take advantage of multiyear programming. For this, we stand to save about $1.1 billion in future years. We can save even more if Congress continues to improve its support of programs recommended for multiyear procurement.

We have also taken steps to procure at more economic production

rates and to maintain program stability. For example, several years ago the Air Force developed a 5-year plan to build its fleet of F-15 fighters at the rate of 144 planes a year. Before they could complete the program, budgetary pressures forced them to stretch the program out for another 3 years. The resulting inflation and inefficiency raised the cost of the program by $2 billion, enough to buy an entire wing of 72 aircraft. If we would avoid such wasteful practices, it is absolutely crucial we fund our defense budget so we can finish our investment plan on schedule and within our budget.

Writing Better Contracts

In recent months we have made great strides in meeting the third objective of our reform strategy—eliminating the worst of the contract provisions we inherited and writing better ones. Let me give you an example of where the Department of Defense has been victimized by old contracts that were written too loosely. A Defense Department auditor discovered that for several years a New York data processing firm had been double-billing the government for labor and travel costs. In December 1981, the firm was convicted of fraud and ordered to pay $1 million in fines and restitutions. The firm then turned around and tried to sue the Defense Department for $3 million in legal fees in its unsuccessful defense. In the past, because our contracts have not covered this eventuality, we have had to pay such legal fees. But now we have rewritten the rules to eliminate that abuse and to tighten up others, such as those that allowed defense contractors to charge some legislative lobbying bills as overhead fees.

Merging Reforms

Now we are merging our contract reforms and our management reforms. This is a revolutionary step that should lead to tremendous savings in defense procurement. A few months ago the Air Force signed a contract for fighter engines that will be a model for the future. It is a contract that took full advantage of the benefits of competition, and it is a contract that ensures those benefits for the life of the engine.

To keep the two major engine manufacturers on their toes, the Air Force split the contract between two firms and announced it would annually reassess the market and review contractor performance before ordering additional engines. Future percentage shares could then change.

The contract gave 75 percent of this years's new business to the bidder that offered the best plan to provide for future competition for spare parts. That contractor offered unlimited rights to every part it manufactured and identified at least two sources for all 209 critical engine parts.

That contract also provided for the most extensive warranty we have ever obtained on an aircraft engine. It went much further than the warranties the American consumer receives on his car—covering not just parts defects but engine performance as well. As a consequence, the contract protects the government's investment in the engine while also providing incentives for the manufacturer—those are reforms that are in everybody's interest.

Let me discuss warranties, a subject that has commanded a good deal of attention in the press. We think warranties work for fighter engines and for many items, but standard warranties may not be helpful for every piece of equipment we must buy. In some cases, it would be a waste of taxpayers' money to pay for a single warranty. So what we need is a provision that gives us some method of securing the taxpayers' investment and sound equipment which does its intended job—if indeed it is the manufacturer's fault. So we seek warranties that are flexible and actually cost-effective—not just those that add to the cost without giving us new benefits—and that is a policy that is in the taxpayer's interest.

Resistance Expected

The political risks and near-term costs of our management reform campaign are not always pleasant. Competition is always popular in the abstract. But what happens when it threatens jobs in a congressional district? You may recall that the Congress actually prevented the Department of Defense from seeking a second source for the M-1 tank engine. They require us to use a monopoly source. In the same way, audits to uncover fraud and waste make good business sense on an abstract basis, but, politically, criticism inevitably comes faster than far-reaching reform in management practices that have gone on for decades. We had a choice to make and we made it.

We have bitten the political bullet and committed ourselves to reform. But, ultimately, we cannot succeed without the help of the business community, whose cooperation we need as we institute new policies.

A New Era of Freedom

The cause is a great deal more important than economics and efficiency. It is, quite literally, the safety and freedom of America and the Free World. In this regard, there is one force multiplier that gives us even more leverage than technology and management reform, a factor in which this conference has a special interest; that is, our National Guard and Reserve. The business community's support for employees in the Guard and Reserve fills an important role in keeping our reserve components strong and ready.

Twice in this century our productive genius was mobilized in time to save ourselves and our allies. Since then our productive genius has not evaporated. But, we must be willing to make the sacrifice involved in applying sufficient resources, and that productive genius, to the most dangerous task of keeping peace with freedom.

It is not an easy or a popular course. But if we have the will and the resolution—and if our freedom means as much to us as it always did—then we will not fail. We then can usher in a new era of genuine and abiding peace, security, and freedom for as much of the world as wants it.■

A New Dimension in the DSMC Research Program

Owen C. Gadeken

The Research Directorate at the Defense Systems Management College is known for its expertise in examining current and emerging problems in defense acquisition, and in proposing innovative solutions for immediate implementation by the practicing community. In early 1984, the DSMC research effort was expanded with the creation of an Educational Research Team to focus on educational aspects of the College mission. The DSMC Commandant gave the team a charter to "function as a 'think tank'. . . unconstrained by the existing curriculum, present methods of education or current operations." Its products would be alternative educational concepts "which should be considered for instructing program managers of the future."

As an experienced faculty member from the DSMC School of Systems Acquisition Education, I was selected Director of the new team, which began operation in March 1984. Michael G. Krause, another experienced DSMC professor, joined the team in the summer, and a technical information specialist is being recruited.

Setting Priorities

The team's first task was to establish a research data base of information pertinent to defense acquisition management education. Next, the team identified near- and far-term goals for in-house and contract research. Another high priority was opening communication channels with other defense management education organizations to establish ongoing peer relationships and share new educational concepts and technologies. Department of Defense schools already visited include the Army Logistics Management Center (ALMC), Army Organizational Effectiveness Center and School (OECS), Naval Postgraduate School (NPS), Air Force Institute of Technology (AFIT), Air University (AU), and Industrial College of the Armed Forces (ICAF). Similar efforts are being initiated with graduate colleges and universities, and the defense industry management development community.

While its efforts are primarily directed at long-term educational planning, the Educational Research Team is pursuing current activities with near-term application. For example, the team is planning an in-depth orientation and evaluation by DSMC key staff and faculty of a state-of-the-art management (role playing) simulation called "Looking Glass," Incorporated. The "Looking Glass" simulation was developed by the Center for Creative Leadership (CCL) in Greensboro, N.C., in conjunction with the Office of Naval Research as a research tool for studying managers' behavior. Expanded by CCL into a management development workshop, "Looking Glass" has received positive reviews from throughout the corporate business community. This simulation (or a systems acquisition variant) has potential application as a capstone exercise in several current DSMC courses.

Another near-term project the team is pursuing is creation of an ongoing faculty teaching skills program. Defense Systems Management College professors are recruited from the best experts currently practicing in their fields, but many have limited *teaching* experience when they arrive on campus. We have tried sending new professors to programs outside DSMC and, also, bringing outside trainers in. Most of these efforts have been marginally successful because they are not tailored to the DSMC unique environment and needs. We plan to develop our own tailored program that will be available when new instructors arrive, and before they get too committed to classroom and department activities. We intend to build this tailored program from the many DOD educational resources currently available such as the Academic Instructor School (AIS) at Air University, Maxwell AFB, Ala. The AIS staff have offered full support in providing materials and expert consultation as we put our program together. Our overall goal is to provide continuous development opportunities

■*Mr. Gadeken is the Director, Educational Research Team, at DSMC.*

for all DSMC faculty members from the novice to the experienced professional.

Future Activities

Future activities of the Educational Research Team will involve reassessment of our users' educational needs based on evolving trends in defense acquisition management. This effort will result in competency-based requirements for a set of future courses. We also plan to study how we can better measure the effectiveness of our educational program; i.e., the value added as each graduate returns to the acquisition work environment. Included in this study will be efforts to identify educational techniques that compress the learning process, increase retention rates, and improve skills required to deal with the complex issues that are inherent in systems acquisition management.

As an innovative dimension in research at DSMC, the Educational Research Team has the potential to impact the acquisition community in a significant way by increasing the breadth, depth, and quality of education for the many DSMC students. This effort can be achieved only with participation from the entire defense acquisition community. As readers and members of that community, we welcome and encourage your support. If you have any education-related ideas to offer the team, please visit (Building 205, Room 208); write (DSMC-DRI-E, Ft. Belvoir, Va. 22060-5426); or call anytime (703-664-5783 or AV 354-5783). We want you to be part of our effort of planning for the future of the College. ■

Lieutenant Colonel R. C. Wheeler, Jr., USA

Employees of government contractors may attend courses at the Defense Systems Management College (DSMC) on a space-available basis up to a maximum of 10% of the class enrollment. For example, 18 students from industry are now enrolled in the Program Management Course. The college maintains a policy of enrolling students from industry in the belief that it provides a unique opportunity for the exchange of ideas between government and industry, and promotes a better understanding of problems common to both. The policy reinforces other efforts—such as the various training with industry programs—to improve communications and understanding within the materiel acquisition community.

The primary source of industry students is through the Council of Defense and Space Industry Associations (CODSIA). If a firm is a member of CODSIA, applications are submitted to one of the six industry associations comprising CODSIA. These associations are:

Aerospace Industries Association
Electronic Industries Association
Motor Vehicle Manufacturers Association
National Security Industrial Association
Shipbuilders Council of America
American Electronics Association.

The associations, in turn, forward nominations to CODSIA, where they are applied against course quotas allocated from the College. Because of industry's great interest to attend DSMC courses, most nominations are placed on a waiting list maintained by CODSIA. In most cases there is a yearlong waiting list. Final nominations are forwarded to DSMC for enrollment.

Firms that are not members of CODSIA but want to nominate attendees to DSMC must be under contract to, and sponsored by, a DOD component or other federal agency. The sponsor submits nominations by letter to the DSMC Registrar, and certifies that a valid requirement for attendance exists. The letter must include the nominee's name, position title, name and number of contract the nominee is assigned to, justification for attendance, and the sponsor's point of contact and telephone number.

The DSMC places a high value on attendance by students from industry. Inquiries are always welcome and can be made by calling the Registrar at (703)664-1078. ■

■ *Lieutenant Colonel Wheeler is the Associate Dean for Administrative and Personnel Services, Department of Administration and Support, at the Defense Systems Management College.*

Colonel (P) Donald R. Williamson, USA, is the Army Project Manager of the Year. Recently nominated for promotion to the rank of brigadier general, Williamson received the annual award for project management excellence as project manager of the Cobra attack helicopter. The Cobra PM Office is responsible for support of more than 1,000 fielded attack helicopters and for integration of rocket, gun, missile, fire control, and helicopter electrical equipment. In fiscal year 1984, the office completed fielding of the last of 523 modernized Cobras and 218 AH-1S modified Cobras. The modernization program replaced Vietnam-era aircraft with the latest version of the attack helicopter, and also overhauled and updated older models to the current configuration. The Cobra PM is involved in projects to extend the Cobra's effectiveness into the next century.

Williamson has been Cobra PM since July 1980 when he graduated from the Army War College, Carlisle Barracks, Pa. He served 2 years as commander of the 70th Transportation Aircraft Intermediate Maintenance Battalion in Germany, and at the AVSCOM Office of the Secretary of the General Staff, St. Louis, 1969-73.

Over 70 program managers are eligible for the award, which was established in 1976. Aviation PMs have been the recipients for five of the nine years the award has been in existence. ■

Risks and Opportunities for Government Contractors

Kendall H. Breedlove
Emanuel Kintisch

Risks and Opportunities for Government Contractors

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The new federal procurement laws passed by the Congress during 1984 pose new risks and offer new opportunities to government contractors. The new legislation poses a complex maze that must be threaded, however, to gain these new opportunities and to minimize these new risks.

The Congress considers competition to be an imperative that must be imposed on government procurement activities by force of law. The latest legislative flurry has resulted in the enactment of three broad statutes in 1984:

—Competition in Contracting Act of 1984 (Title VII of PL 98-369, Deficit Reduction Act of 1984, signed July 18, 1984)

—Defense Procurement Reform Act of 1984 (Title XII of PL 98-525, Department of Defense Authorization Act, 1985, signed October 19, 1984)

—Small Business and Federal Procurement Competition Enhancement Act of 1984 (PL 98-577, signed October 30, 1984).

While the compulsion of these new statutes is directed to government procurement officials, these statutes also impose obligations on government contractors. Many contractors who have depended historically on large amounts of sole-source business will find their marketing efforts circumscribed severely by the new legislation.

For those contractors moving to augment their share of government business, decisive action will result in enhanced opportunities to compete for business.

This article describes the effect on the obligations of contractors that can be expected from significant sections of the new legislation, as it appears from the point of view of industry. The matrix analyses presented in Exhibit 1, Contractor's View of Competition in Contracting Act of 1984, and Exhibit 2, Contractor's View of Twin 1984 Procurement

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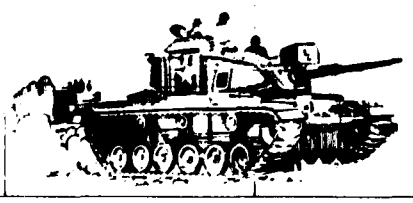
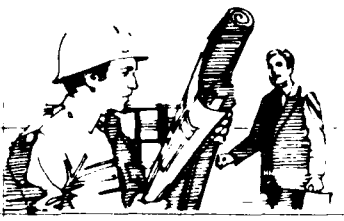
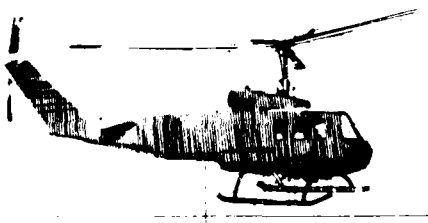
■*Mr. Kintisch, an attorney-at-law in the State of New York, is a member of the Bar of the U.S. Supreme Court and the U.S. District Courts. He is a consultant on procurement matters for industrial associations.*

Provision Number	Statutory Provisions Affecting Contractors	Statutory Reference Competition In Contracting Act PL 98-369	Summary of Statutory Requirements
1	Procurement procedures other than competitive	§2711(a)(1) (41 USC 253)	Procurement procedures other than competitive procedures may be used only when any of seven listed circumstances are present (e g , only one responsible source; no other type of property will satisfy needs; the need is of an unusual and compelling urgency; necessity to maintain facility in case of national emergency or industrial mobilization; etc.)
2	Unsolicited research proposals	§2711(a)(1) (41 USC 253)	Unsolicited research proposals may be considered as properly available from a sole source only if the proposal demonstrates a unique and innovative concept not otherwise available.
3	Justification for solicitations without competition.	2711(a)(1) (41 USC 253)	The contracting officer's justification for solicitations without competition must include a listing of the sources, if any, that expressed an interest in the procurement in writing.
4	Procurement procedures.	§2711(a)(1) (41 USC 253) §2723(a)(1) '10 USC 2304)	The cited statutory references set forth the requirement for competitive procurement procedures for civilian (section 2711) and defense (section 2723) agencies. Among other provisions, the cited sections permit restriction of competitive procedures limited to small business concerns; and permits non-competitive procedures to be used in specific circumstances, including when only a sole source is available. Notice is required to be given to Congress if non-competitive procedures are used. Justification for using non-competitive procurements must be approved by several levels of higher authority, depending on size of contracts affected.
5	Lack of advance planning and procurement through other agencies as excuses for non-competitive procurements	§ 2711 (a)(1) (41 USC 253(f)(5)) §2723(a)(1) (10 USC 2304(f)(5)	(A) Contracting officers are directed not to use the lack of advance planning or concerns as to availability of funds as excuses for procurement without competition. (B) Contracting officers may not make procurements through another agency unless they are assured that the other agency complies fully with the Competition Act.
6	Planning and solicitation requirements	§ 2711(a)(2) (41 USC 253A) § 2721 (10 USC 2301(a)(5))	Procurement agencies preparing for procurements are directed to use, among other things, advance procurement planning and market research.
7	GSA Multiple Awards schedule program	§2711(a)(3) (41 USC 259)	"Competitive procedures" includes GSA procedures for the multiple awards schedule program if participation is open to all responsible sources and contracts under the program result in the lowest cost alternative.
8	Requirement for cost or pricing data.	§ 2712 (41 USC 254) § 2724(e) (10 USC 2305(g)(1)	The requirement for submission of certified cost or pricing data has been lowered from $500,000 to $100,000.
9	Automated Data Processing Resolution	§ 2713 (40 USC 759)	A new subsection provides for the treatment of protests by interested parties alleging violations by contracting officers of statute or regulation concerning automated data processing acquisitions.
10	Congressional defense procurement policy	§ 2721 PL 98-525 § 1202	The statement of Congressional defense procurement policy set forth in 10 U.S. Code 2301, as amended by section 2721, ties in with the "Congressional findings and policy" provided in section 1202 of Public Law 98-525 (Defense Procurement Reform Act of 1984) and should be read together. For example, the use of standard or commercial parts and products is directed in both statements. Similarly, both statutes direct use of specifications which require descriptions in terms of functions to be performed or performance required.



Congressional Actions to Broaden Competition Present New Risks and Opportunities To Government Contractors.

Potential Contractor Risks	Potential Contractor Opportunities
Contractors who have heretofore been awarded appropriate sole-source contracts may find that there will be reduced opportunities to be awarded such contracts without competition	
The conditions imposed by section 303(d)(1)(A) may result in reduction of funds available for acquisition of unsolicited proposals and reduction of opportunity for their consideration	 The cited requirement provides an opportunity for contractors to be considered for award of contracts without competition or to open up procurements for competition by expressing their interest in writing.
The opportunity for contractors to participate in government procurement is inhibited by the precedence afforded to small business concerns. The notice required to be given to Congress on non-competitive procurements is likely to result in unwarranted delays in contract awards and the imposition by the Congress of conditions which will delay procurement further	The opportunity for small business concerns to participate in government procurement is enhanced. The restrictions on sole-source procurements likewise give contractors in general increased marketing opportunity to participate in government procurement. Contractors have the opportunity to affect the level of approval by higher authorities through pricing strategy.
	Contractors can enhance their market position by making themselves known to contracting agencies which engage in advance procurement planning and market research. The cited provision restricts contracting officers who may look for reasons not to engage in competitive contracting.
	The requirement provides an opportunity for industry to take part in government preparations for procurement by furnishing the information needed by procurement agencies for advance planning and market research, thereby placing themselves in a position to be considered for contract awards.
	Contractors interested in participating in the multiple awards schedule program should find it easier to participate by establishing themselves as responsible sources and offering competitive low prices
The requirement of a lowered floor for certified cost or pricing data will increase the workload of contractors in preparing certified data and will increase the risk of having such data called "inaccurate," "incomplete," or "noncurrent," to the detriment of contractors	
There is a greater prospect of delay in contract performance resulting from the authority of the Board of Contract Appeals to issue stop-work orders	The new subsection contains several opportunities for more effective handling of protests. These include the right of an interested party to ask for a prompt hearing and an interim suspension of contract award, the requirement for the Board of Contract Appeals to give priority to protests filed under the new subsection, the authority of the board to suspend, revoke, or revise procurement authority in favor of the protesting party, and the authority of the board to allow costs of filing the protest, including attorney fees and bid and proposal preparation costs
	The opportunity to enlarge the use of standard or commercial products and components enlarges the opportunities of contractors to take part in competitive contracting. Market availability of contractors will be enhanced by the new statutes.

Provision Number	Statutory Provisions Affecting Contractors	Statutory Reference Competition In Contracting Act PL 98-369	Summary of Statutory Requirements
11	Determinations and Decisions; Responsible Sources.	§ 2725 (10 USC 2310(b))	Determinations or decisions are required to be based on findings setting out facts and circumstances justifying the action taken, such as, the type of contract to be used, the impracticability of obtaining required property except by such contract, etc. The definition of "responsible source" in 41 USC 403 spells out the elements which qualify prospective contractors for contract awards.
12	Procurement Notice in *Commerce Business Daily*.	§ 2731 (41 USC(8)) § 2732 (41 USC 401)	The statute establishes an advocate for competition in each executive agency and in each procuring activity with the responsibility to challenge barriers and to promote full and open competition. The advocate also identifies and reports to the senior procurement executive of the agency opportunities to achieve full and open competition and any condition restricting competition, with appropriate recommendations. The head of the agency will make annual reports to the Congress describing all actions that the agency head intends to take during the current fiscal year to increase competition and to reduce non-competitive contracts.
13	Advocates for competition	§ 2732(a) (41 USC 403) PL 98-577 § 303 (41 USC 403) § 404 (15 USC 637)	Procurement agencies intending to solicit bids or proposals for contracts expected to exceed $10,000, or intending to award contracts exceeding $25,000 are required to publish notices of such actions in the *Commerce Business Daily*.
14	Procurement Protest System 	§ 2753	The Procurement Protest System enacted by PL 98-369 establishes a procedure for interested parties to protest procurement actions which violate statutes or regulations and the authority of the Comptroller General to decide such protests. The process calls for speedy action in decisions of protests and protects the rights of protesters by forbidding contract awards after filing of protests, except when urgent and compelling circumstances will not permit waiting for the decision. The protesting party has the right to demand copies of documents from the government which would not give it a competitive advantage. The Comptroller General may award a successful protesting party costs incurred in filing the protest, including attorney's fees, and the cost of bid and proposal preparation.
15	Competition for professional, technical and managerial services.	§ 2741 (31 USC 3551-3556)	The Congress has directed study by the Office of Federal Procurement Policy to increase the opportunities to achieve full and open competition in the procurement of professional, technical, and managerial services.

Reform Legislation, highlight significant provisions of the new laws for the benefit of government contractors.

The new legislation enacted during 1984 will certainly influence the way contractors approach the government market, no matter whether they are large or small businesses and whether they do business with civilian or military agencies. Failure to adapt quickly to the new procurement environment will likely result in a contractor's shrinking share of the government market. Contractors must be alert to recognize the new risks imposed by this recent legislation: new risks that will likely need to be reflected in contractor pricing. Government negotiators must remember that increased risks deserve increased reward. The following paragraphs summarize generally the applicability of the subordinate parts of the three new laws.

—Competition in Contracting Act of 1984 (PL 98-369, Title VII)

This law contains provisions that impact on civilian and military agencies. Its primary provisions address reduction of non-competitive procurements and establishment of a procurement protest system.

—Subtitle A: Provides amendments to the Federal Property and Administrative Services Act of 1949, affecting procurement by *civilian agencies* of the government.

—Subtitle B: Provides amendments to Title 10 of the United States Code, affecting procurement by the *military services, the Coast Guard, and NASA*.

—Subtitle C: Provides amendments to the Office of Federal Procurement Policy Act, affecting all procurement agencies of the government.

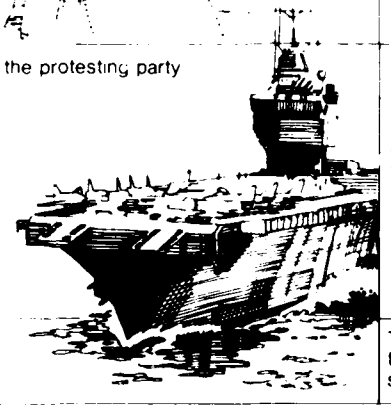
—Subtitle D: Establishes a new Procurement Protest System governing protests by interested parties affected by actions taken by government procurement agencies.

—Defense Procurement Reform Act of 1984 (PL 98-525, Title XII)

This law contains provisions that affect military agencies. Its primary provisions address reforms in the areas of standardized parts design in major weapon systems, replenishment parts, technical data, and subcontracted parts and materials.

—Part A: Provides a statement of congressional policy and findings about replenishment parts.

Congressional Actions to Broaden Competition
Present New Risks and Opportunities
to Government Contractors

Potential Contractor Risks	Potential Contractor Opportunities
	Contractors have the opportunity to affect the decision of the contracting officer and other officials by submitting proposals containing appropriate language supporting the desired action to be taken. The contracting officer's determination that a prospective contractor is "responsible" must establish each of the elements included in the cited definition.
Contractors who engage in non-competitive procurement with the government may find the opportunities to obtain such contracts to be diminished	Prospective contractors have the opportunity to influence competition in government contracting by bringing to the attention of competition advocates instances of inappropriate non-competitive procurement actions. The agency head annual reports will provide opportunities to get marketing information for supplies or services to be competed by the agency
	Prospective contractors have the opportunity to gain information about proposed solicitations and contract awards by reading the *Commerce Business Daily*, especially if they are interested in opportunities for subcontracts
None from the point of view of the protesting party	Speedy decision of the protest, coupled with restrictions on contract awards after filing the protest, enhances the effectiveness of protests. Protesting parties are assured of fair treatment and can exercise their right to discover documents affecting the protested action. Award of the cost of filing and pursuing the protest and of bid and proposal preparation will cause procurement officials to consider fully actions which may lead to protest.
	The study report should provide a valuable source of marketing information for those involved providing professional, technical, and managerial services.

Part B: Provides amendments to Chapter 137 in Title 10 of the United States Code, primarily affecting technical data and major systems in procurements by the *military services, the Coast Guard, and NASA.*

Part C: Provides amendments to Chapter 141 in Title 10 of the United States Code, primarily affecting supplies, suppliers, and subcontractor sales in procurements by the *military services, the Coast Guard, and NASA.*

Part D: Provides amendments to add Chapter 142 in Title 10 of the United States Code, affecting the Procurement Technical Assistance Cooperative Agreement Program.

Part E: Provides temporary provisions, reports, and effective dates.

—Small Business and Federal Procurement Competition Enhancement Act of 1984 (PL 98-577)

This law contains provisions that impact on civilian and military agencies. Its primary provisions address standardized parts design in major systems, pricing, technical data, and qualifying contractors to bid on procurements.

—Title I: States purposes and definitions relating to technical data and major systems.

—Title II: Provides amendments to the Federal Property and Administrative Services Act of 1949, affecting procurement by *civilian agencies* of the government.

—Title III: Provides amendments to the Office of Federal Procurement Policy Act, affecting all procurement agencies of the government.

—Title IV: Provides amendments to the Small Business Act, affecting all procurement agencies of the government.

—Title V: States other procurement provisions relating to overhead, procurement personnel evaluations, and prime contractors qualifying additional sources.

Summary

The alert government contractor must adapt to a new and more fiercely competitive environment in which greater risks have to be borne to win the opportunities associated with government business. These risks, imposed by the new 1984 procurement laws, will require careful assessment and management. Contractors must determine the impacts of the new risks and opportunities upon pricing.■

Provision Number	Statutory Provisions Affecting Contractors	Statutory Reference		Summary of Statutory Requirements
		Defense Procurement Reform PL 98-525	Small Business & Federal Procurement PL 98-577	
1.	Use standard or commercial parts in development and production. Planning for future reprocurement.	§ 1213 (10 USC 2305(d))	§ 201 (41 USC 303B(f))	Offerors for design of major systems to include proposals for incorporating standard items available in supply systems or competitive, commercial items into the design; for production contracts, to include proposals identifying opportunities to ensure the ability of the U.S. to obtain future reprocurement items on a competitive basis, including providing the right to use available technical data for competitive reprocurement and qualifying or developing multiple sources. Foregoing to be negotiation objectives in noncompetitive contracts.
2	Personnel evaluations	§ 1215 (10 USC 2317)	§ 502	Personnel appraisal systems to give recognition to government procurement employees for increasing competition, achieving cost savings, and furthering the purposes of the cited statutes.
3	Encourage new competitors by publicizing standards for qualification to be met by potential offerors. Provide prompt opportunity to meet standards and prompt notice of results. Cost of small business qualification to be borne by procuring agency, if less than two manufacturers are qualified.	§ 1216 (10 USC 2319)	§ 202	Government procuring agencies must justify establishment of qualification standards, provide opportunity for potential offerors to qualify by meeting standards, and bear the cost of small business qualification under certain circumstances. 
4.	Rights in technical data	§ 1216 (10 USC 2320)	§ 301	Legitimate proprietary interests of the government and contractors are to be defined in the regulations part of the FAR system. The regulations shall not require data concerning design, development, or production of material sold to public (except for operation and maintenance by the government). The United States shall have unlimited rights in data developed exclusively with Federal funds. Regulations shall consider whether data was developed with Federal or private funds or both. Contracts shall contain certain provisions concerning technical data, including requirement that contractors keep data up-to-date; warrant currency of data provided; and be subject to withholding of payments for delinquency in delivery of data.
5	Validation of Proprietary Data Restrictions	§ 1216 (10 USC 2321)	§ 203	Restrictions on right of U.S. to use contractor's technical data may be questioned by the contracting officer and must be validated by contractor. If validity is not sustained, contractor will reimburse government for expenses; if validity is sustained, government will reinburse contractor for expenses.
6	Commercial pricing for supplies	§ 1216(a) (10 USC 2323)	§ 204	Non-competitive contract for supplies also sold to the public shall certify that price to the government is not more than lowest price paid by the public, or justify difference. Inapplicable if contracting officer determines that provision is not appropriate because of national security considerations or because of differences in terms from commercial contracts.
7	Identification of supplier and sources	§ 1231 (10 USC 2384)		Contractors will identify supplies with identity of the contractor, national stock number, and contractor's identification number for supplies. Regulations also to require identity of actual manufacturer or sources of supply, national stock number and manufacturer's identification number and sources of technical data.
8	Economic Order Quantities	§ 1233 (10 USC 2384(a)	§ 205	Government agencies to procure supplies at prices most advantageous to the government. Solicitations will invite offerors to state opinion whether quantity to be ordered is economically advantageous to government and, if not, what quantity would be more advantageous.
9	Prohibition of contractors limiting subcontractor sales directly to the United States	§ 1234(a) (10 USC 2402)	§ 206	Contracts shall provide that contractors will not enter into agreements with subcontractors unreasonably restricting sales by subcontractors directly to U.S. of items made or supplied by subcontractors and will not otherwise act to restrict unreasonably ability of subcontractors to sell directly to the United States

Congressional Actions to Reform Procurement Practices Present New Risks And Opportunities For Both Large and Small Government Contractors

Potential Contractor Risks	Potential Contractor Opportunities
Potential offerors may be excluded from consideration in competitive acquisitions by failing to include proposals using standard or commercial items and supporting technical data	Enhancement of marketing opportunities and competitive status by including standard or commercial components and supporting technical data in proposals
Contractors should be on guard that government employees' achievements are not at their expense	Contractors can enhance their own competitive image by helping to foster competition among their subcontractors.
Potential offerors may lose opportunity to qualify for consideration for contract awards 	Qualification of source or products by demonstrating ability to meet standards also enhances marketing opportunities. Small business companies may establish entitlement for government reimbursement of costs of qualifying for government contracts. 
Contractors are required to revise technical data, to keep it current, and to identify data to be delivered with restrictions. Contractors may be subject to withholding of payment for delinquency in performance of contracts concerning technical data. Other U.S. remedies are also to be provided in contracts.	To protect their rights, contractors should identify technical data subject to restrictions, and whether financed with Federal or private funds. Contractors may not be compelled to furnish data to the government on design, development, or production developed by them for products sold to the public (except for operation and maintenance by the U.S.)
If contractor is unable to sustain asserted technical data restrictions, he stands to lose his right to restrict data use and to bear the government's cost of questioning the validity of the restriction	Contractor may limit rights to government's use of technical data, enhancing his competitive position, by establishing that data were developed and produced at private expense, without government contribution
Failure to certify prices or to justify differences may result in decrease in price paid by the government	Contractors can charge prices higher than the lowest commercial prices, if justified by differences in quantities, quality, delivery, or other terms and conditions of commercial contracts.
Contractor may be charged with delinquency under contract if supplies and technical data are not properly identified as required	By proper identification of supplies and technical data, contractor enhances marketing position for subsequent purchases of supplies manufactured by it
	Contractors can enhance their marketing position by taking advantage of invitation to offer larger (or lesser) quantities as more economically advantageous to the government
Contractors who violate this section leave themselves open to claims for damages by the United States and to suspension and debarment, if offense is serious enough	

Provision Number	Statutory Provisions Affecting Contractors	Statutory Reference		Summary of Statutory Requirements
		PL 98-525	PL 98-577	
10	Contractor guarantees	§ 1234 (10 USC 2403)		After January 1, 1985, prime contractors for production of major weapon systems will provide written guarantees that: (1) the item conforms to design and manufacturing requirements; (2) the item is free from defects in materials and workmanship; (3) the item will conform to essential performance requirements; and (4) the contractor will correct defects at no cost to the government or will pay the costs incurred by the government. The guarantee requirement applies to weapon systems that are "in mature full-scale production" and may be waived.
11	Duration of assignment of program managers for major programs	§ 1244 (10 USC 2452 note)		The tour of duty of armed forces officers assigned as program managers after October 19, 1984, will be not less than four years or until completion of a major program milestone. The military department secretary may waive the length of the tour of duty.
12	Waiver of prohibition of payment of price increases for spare parts and replacement equipment	§ 1234		Defense procurement regulations prohibit purchase of any spare part or replacement equipment when its price has increased since last purchased, by a percentage fixed in the regulation. Section 1244 permits prohibition to be waived if the purchase was made through competitive procedures
13	Regulations on overhead	§ 1245	§ 501	FAR System will specify manner in which agencies will negotiate prices for supplies on non-competitive procurements; will specify incurred overhead appropriately allocated to such supplies; and will require contractor to identify supplies not manufactured by contractor or to which it did not contribute significant value.

Congressional Actions to Reform Procurement Practices Present New Risks and Opportunities For Both Large and Small Government Contractors.

Potential Contractor Risks	Potential Contractor Opportunities
The costs of guarantees can amount to large sums for which contractors may not be prepared. Including a cost element covering guarantees in the price may be insufficient to pay relevant costs.	The current emphasis on the requirement for guarantees has created an environment in which the cost to the contractor may be recognized by contracting officers with some liberalism. Contractors should be aware of the statutory provision allowing waivers and take advantage of it in appropriate cases.
	The lengthened tour of duty of program managers is expected to increase the stability of weapon system management, to the benefit of the government and major weapon system contractors.
	
Contractors may be restricted from recovering overhead costs on supplies which they do not manufacture or contribute significant value.	Contractors can recover their overhead costs on sales of supplies to the government by showing that they manufactured the items or contributed significant value to supplies manufactured by others.

This supplement has been designed for easy removal from Program Manager. Open staples to lift out section.

Striving to Increase Cost-Effectiveness of DOD Acquisition Requirements

Dr. Richard A. Stimson
Lieutenant Colonel Frank Doherty, USAF

treamlining is an acquisition strategy that offers new inroads into untapping the experience and ingenuity of our DOD and industry work force in defining the most cost-effective contract requirements for development of new weapon systems. This approach has proved to have significant potential to reduce weapon system cost, and can result in improved quality and performance. This article provides insight into the acquisition streamlining approach and the status of DOD implementation.

As American industry strives to increase productivity and quality, new management approaches are emerging that encourage greater worker involvement, innovation, and creativity. Acquisition streamlining, in tune with this approach, seeks to untap the ingenuity and creativity of people closest to the design process to define the most cost-effective contract requirements, at the most opportune time.

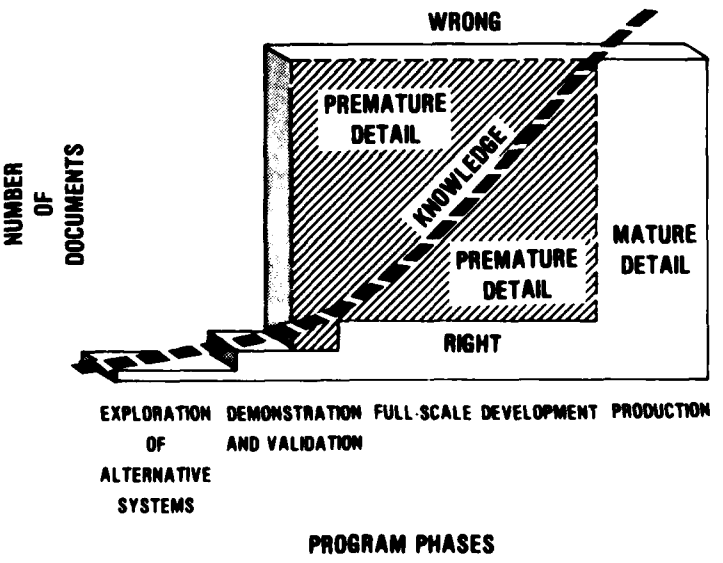
The objective of streamlining is to communicate clearly *what* is required in functional terms at the onset of the demonstration validation; also, to allow flexibility for the application of contractors' experience, judgment, and creativity in recommending application and tailoring of detailed (*how-to*) military specifications, standards and other detailed contract requirements as the weapon-system development evolves toward full-scale development (FSD) and production. The application and tailoring process becomes an integral part of the design process, rather than a distinct action at a point in time (usually prior to contract award). Contract requirements to be streamlined include specifications, standards and follow-on contract data, management systems, and terms and conditions. The goal is to have contract requirements identified at the proper phase with most requirements specified by the start of FSD.

The DOD specifications and standards are essential to technical procurement, and provide "lessons learned" to help ensure quality products. However, specifications can be called out that are inappropriate, premature, untailored, or accidentally referenced; these specifications drive cost and can prevent contractors from implementing optimum design solutions. The imposition of these unnecessary requirements can also result in extensive engineering change proposals (ECPs), which serve to remove inappropriate requirements.

It is in the design phase where specifications and standards have their ultimate impact. The application and tailoring of specifications and standards is basically a design issue: or, stated differently, applications and tailoring should be considered more an element of design rather than an element of contract definition. During early design (demonstration/validation) the contractor has the manpower base to handle effectively the labor-intensive task of tailoring. This manpower is not available during the proposal phase. Additionally, as knowledge of design grows, there is more information to base tailoring decisions effectively. This process is shown in Figure 1.

Some traditional problems with tailoring during the proposal stage are:
—Insufficient time during RFP preparation
—Insufficient manpower, skills, and information
—Functional organization bias and inclination to specify design solutions
—Desire to minimize risks by maximizing requirements
—Fear on the part of the contractor of being perceived as non-responsive, or fear of giving away information that

A Matter of Timing as Well as Substance



could compromise a competitive position

Lack of incentives.

Impact on Quality

The contractual imposition of unnecessary or untailored documents that impose inappropriate requirements can lead to poor discipline regarding compliance with contract requirements in general. This lack of discipline can impact quality as compliance with truly necessary requirements are ignored. Streamlining, on the other hand, can lead to development of fewer and more effectively defined contract requirements which, in turn, can result in disciplined adherence to all contract requirements.

> he streamlining approach is reinforced through application of warranties, and the current emphasis being given to government independent test and evaluation. Warranties, as well as requirements for government independent testing and evaluation of all pertinent contractual requirements, help provide contractor incentives to ensure that all pertinent contract requirements are identified and complied with. There is always the risk that essential requirements may be tailored out. While this risk exists and must be accepted, we believe that the intensive focus on requirements that occurs as the result of streamlining, and the associated benefits of allowing application of contractor ingenuity in optimizing requirements, can more than compensate for this additional risk.

Acquisition Streamlining Approach

The DOD streamlining approach was outlined in a DEPSECDEF memorandum dated January 11, 1984. Its purpose was to avoid costly and unnecessary requirements. The philosophy advocated was that the cost-effective application of specifications and standards should be an integral part of the design and development process. The imposition of detailed (*how-to*) specifications and standards before development of the design inhibits tradeoffs that are necessary to achieve overall system objectives such as affordability, producibility, reliability, and supportability, and contributes to suboptimum design and unnecessary acquisition costs. The actions required to implement this approach are already included in DOD policy. The memorandum called for implementing principles in new acquisition programs, as well as in selected programs currently in FSD and early production.

Acquisition Streamlining Principles

—Utilize contractor ingenuity and experience while retaining government program manager decision-making authority.

—Preclude premature contractual application of military specifications and standards. These documents should be identified for guidance during the demonstration validation (DV) phase and tailored into contract requirements for full-scale development and production.

—Specify system-level requirements in functional terms at the onset of the DV phase.

—State in the request for proposals and contracts for DV and FSD the results needed, rather than detailed (*how-to*) procedures and management systems for achieving those results.

—Require contractors to tailor specifications and standards during one phase for proposed application in the next phase.

—Control the establishment of contract requirements through referencing by limiting the contractual application of specifications, standards, and related documents for items under development.

Pursue economically producible, operationally suitable, and field-supportable designs.

—Ensure complete production specifications while providing contractor flexibility to optimize design.

Implementation Guidance

The following guidance was provided in the memorandum for implementation of the above principles.

—Streamlining should be implemented in major systems acquisitions and in procurements projected to involve RDT&E expenditious of more than $5 million when such procurements may evolve into major systems.

—Place emphasis on development of functional requirements and identification of candidate specifications that are reviewed on a case-by-case basis. Early industry involvement, including use of draft RFPs, is highly encouraged.

—Contractor effort for developing recommendations on the application and tailoring of contract requirements should be a separately priced item in DV and FSD contracts.

—Tailoring recommendations should be supported (where appropriate) with an analysis of benefits and potential penalties.

—Streamlining may be implemented through post-award reviews of selected, existing programs.

—Plans should be developed to allow for program office service retention of savings from these reviews for other program needs.

—There should be no relaxation of requirements for: (1) development and government approval of complete and definitive design data and specifications to support production and any contemplated reprovement actions; (2) testing and evaluation to ensure compliance with all pertinent contractual requirements.

Program Implementation

The programs initially selected to implement the acquisition streamlining approach are listed in Figure 2.

> mix of programs in pre-FSD, as well as programs in FSD and early production, were selected with the objective of initiating implementation and allowing each military department to gain experience. Guidance on streamlining is being developed to facilitate implementation. These documents are illustrated in Figure 3.

This guidance is being finalized based on feedback from the military departments and program office personnel involved in pilot-program implementation. It was the subject of a DOD-sponsored workshop (May 31-July 1, 1984) for program office and industry personnel associated with the programs selected for initial implementation. A public conference on streamlining was held in Washington, D.C., December 6-7, 1984, sponsored by the National Security Industries Associations (NSIA).

Deputy Secretary of Defense William H. Taft IV issued a memorandum to the military departments on December 5, 1984, requesting that an acquisition streamlining advocate (flag officer or equivalent) be identified in each military department, with the responsibility and authority to broaden implementation. Progress in application of the streamlining approach will be addressed as a part of DSARC reviews, with overall program implementation to be monitored by the Defense Council for Integrity and Management Improvement (DCIMI).

"Lessons Learned"

The principal "lessons learned" stressed at the NSIA conference on streamlining were:

—Streamlining has been shown to have the potential to generate significant reductions in cost.

—A positive "spin-off" of streamlining is the better understanding by both industry and government of the technical content of a program.

Program manager involvement and leadership are critical.

Streamlining can be a significant tool in the process of rescoping programs to accommodate funding reductions. Funding reductions were viewed as one of the best motivating factors.

A contractor-proposed approach to conduct streamlining can be treated as a rated evaluation factor in source selection.

—Streamlining can achieve results in programs that are in the later phase of FSD or early production.

—A combined government industry tiger team approach to reviewing program requirements has yielded significant benefits.

—Streamlining is compatible with existing service specification and standard automated information systems such as the Air Force MILPRIME and the Navy ASSIST systems.

Conclusion

Tailoring has been a part of DOD policy for many years. The streamlining approach can be viewed as a natural evolution in the traditional tailoring approach. It recognizes that cost-effective application and tailoring of specifications and standards are inherent parts of the design and development process, rather than the contract definition process. The streamlining approach allows for greater participa-

ARMY:	**LHX**	**EXPERIMENTAL LIGHT HELICOPTER**
	AATWS	**ADVANCED ANTI-TANK WEAPON SYSTEM**
	PERSHING II	**MISSILE SYSTEM**
	MICNS	**MODULAR INTEGRATED COMMUNICATIONS & NAVIGATION SYSTEM**
NAVY:	**VTXTS (T-45TS)**	**UNDERGRADUATE JET FLIGHT TRAINING SYSTEM**
	JVX	**JOINT SERVICES ADVANCED VERTICAL LIFT AIRCRAFT PROGRAM**
	CV IZ ASW HEL	**REPLACEMENT INNER ZONE AIR ASW VEHICLE**
	LHD-1	**AMPHIBIOUS ASSAULT SHIP (MULTIPURPOSE)**
AIR FORCE:	**ATF**	**ADVANCED TACTICAL FIGHTER**
	INEWS	**INTEGRATED ELECTRONIC WARFARE SYSTEM**
	ERAM	**EXTENDED RANGE ANTI-ARMOR MUNITION**
	AFWIS MODERNIZATION	**AIR FORCE WORLDWIDE MILITARY COMMAND AND CONTROL SYSTEM INFORMATION SYSTEM MODERNIZATION**

DOD DIRECTIVE 4120.21	**— DEVELOPMENT OF COST EFFECTIVE REQUIREMENTS FOR DEFENSE MATERIAL ACQUISITIONS**
DOD HNBK 248B	**— OPTIMIZING CONTRACTUAL REQUIREMENTS FOR COST-APPLICATION IN DEFENSE CONTRACTS**
PROPOSED FAR CASE	**— SOLICITATION AND CONTRACT PROVISIONS**

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■ *Lieutenant Colonel Doherty is on the staff of the Industrial Productivity Office within the Office of the Under Secretary of Defense (Research and Engineering). He holds a B.S. degree in business administration from Boston University and an M.S. degree in industrial management from the University of North Dakota. He is a graduate of the Program Management Course at DSMC.*

tion by people closest to the design by defining what requirements are essential to support the design development and manufacturing process. Cost-effective application and tailoring of requirements under the streamlining approach do not represent a relaxation in the ultimate requirements for complete and complaint documentation of a suitable design.

For the program manager, acquisition streamlining offers the potential benefits of a more cost-effective and technically well-defined program. This, in turn, can result in better pricing and a clearer understanding of program risks. Streamlining removes constraints of overly restrictive, unnecessary, or prematurely applied requirements which, in turn, can result in improved design and quality.

Experience has shown that successful application of streamlining requires extensive program-manager involvement and leadership. The general feeling shared by program managers implementing this approach is that the benefits far outweigh the additional work.

The challenge that lies ahead for the DOD is in broadening implementation of streamlining. The assignment of military advocates within each military department will help to facilitate this process.■

Improving Utilization of Engine-Driven Generators

Seventy-five representatives from the Army, Navy, and Marine Corps recently attended a Tactical Power Systems Symposium sponsored by the Belvoir Research and Development Center. Part of an Army effort to improve utilization of its engine-driven generators, the symposium's purpose was to present ideas to improve techniques for the selection and application of mobile power generation and distribution equipment throughout the Army, and to exchange information on current and proposed methods for power-systems planning. Topics included power system planning and management, power systems engineering, characteristics of military standard generators, power distribution equipment, "wetstacking" and load banks, load measurement techniques, (user constraints and tradeoffs), and anticipated changes to operating procedures.

The size and variety of the Army fleet of watercraft often surprises people. There are large landing craft (LCUs) and small landing craft (LCMs); large tugs (100 feet) and small tugs (65 feet); supply ships; roll-on, roll-off ships (RO ROs); wheeled amphibians; air cushioned "vehicles"; and barges of every size and description. When you add the self-elevating DeLong Piers, Floating Causeway, Floating RO RO Platform, and the 250 foot Logistics Support Vessel, it seems the Army has its own navy.

Responsibility for managing and supporting the Army fleet belongs to the Belvoir Research and Development Center, Marine Division, Logistics Support Laboratory. For example, when a piece of equipment on a boat breaks down and the soldier in the field finds no replacement in the supply system, he requests a substitute item. This request makes its way down to the Marine Division where an engineer searches for an adequate replacement, a process taking a considerable amount of time. It often ends with a substitute piece of equipment for only one type of boat, even though the same obsolete item may be found on other boats where it is equally unsupportable. To reduce manpower hours, the division has begun to use an automated inventory system.

Already on line is a data base featuring 15 billion bytes (information on more than 30,000 items) representing the inventory of three floating machine shops, the beach discharge lighter page, and two flights of small landing craft. The inventories include all items installed on a vessel, as well as everything on board when it embarks.

Hansel "Skip" Smith, division chief, feels the automation effort is a positive reflection of the resource self-help affordability planning effort (RESHAPE) because it saves costly engineering resources. Information once obtained after hours of tedious research is now available in minutes.

In the future, a computerized inventory network is planned for all Army watercraft with electronic links between the engineers at the Center, and watercraft users worldwide, and the project manager office at the Troop Support Command.■

The U.S. Army Belvoir Research and Development Center has awarded nearly $13 million to Litton Guidance and Control Systems Division, Woodland Hills, Calif., to build 45 Position and Azimuth Determining Systems (PADS). This is the first military system that can provide "real time" position, azimuth, and elevation data to fire support units. Consisting of computer keyboard display, inertial measurement system, and power source, the system can be installed in a jeep, truck, or helicopter. In the field, the operator enters his position into the system computer and moves to a new location; PADS then provides a read-out of the new site's grid coordinates without external survey or lengthy calculations. Two men using PADS can survey 120,000 square meters in about eight hours; by conventional methods, it would take ten men 120 hours.

The award is an add-on to previous contracts for the manufacture of 222 PADS, delivery of which is scheduled to be completed in March of 1987.■

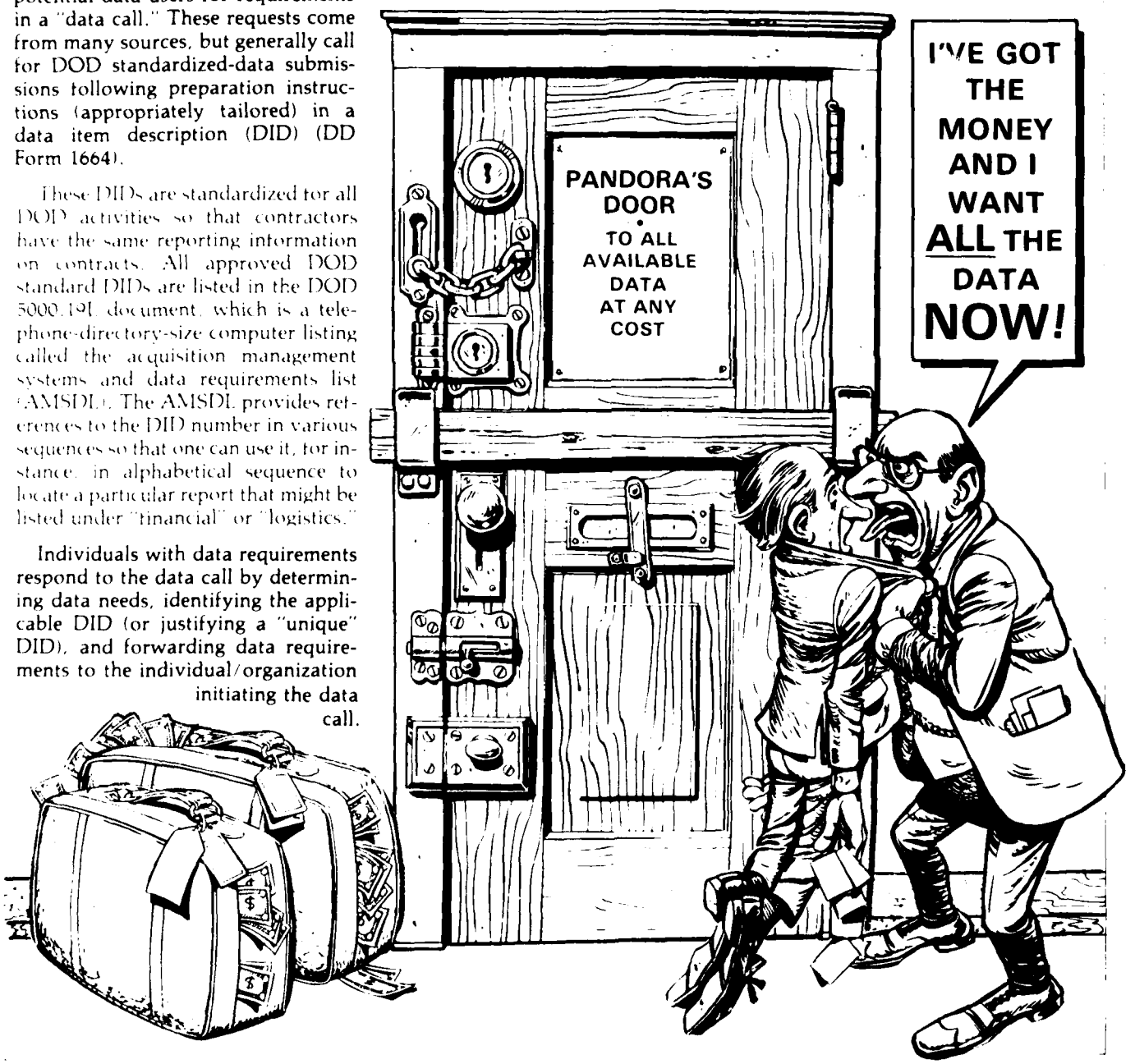
e "buy" or require delivery of data on Department of Defense (DOD) contracts by listing requirements on the DD Form 1423, contract data requirements list (CDRL). This tells the contractor what data to deliver; when and how data will be accepted; where to look for preparation instructions; where in the contract the preparation effort is required; and, other information.

How much data to buy is a difficult question. The obvious answer is: Buy what you need. Management's challenge is to determine what is needed. The basic procedure involves asking potential data users for requirements in a "data call." These requests come from many sources, but generally call for DOD standardized-data submissions following preparation instructions (appropriately tailored) in a data item description (DID) (DD Form 1664).

These DIDs are standardized for all DOD activities so that contractors have the same reporting information on contracts. All approved DOD standard DIDs are listed in the DOD 5000.19L document, which is a telephone-directory-size computer listing called the acquisition management systems and data requirements list (AMSDL). The AMSDL provides references to the DID number in various sequences so that one can use it, for instance, in alphabetical sequence to locate a particular report that might be listed under "financial" or "logistics."

Individuals with data requirements respond to the data call by determining data needs, identifying the applicable DID (or justifying a "unique" DID), and forwarding data requirements to the individual/organization initiating the data call.

Alan W. Beck



Data "Wish List"

Various responses to the data call may be redundant or seemingly excessive. A review process by a Data Requirements Review Board (required for major programs), must scrub down the data "wish list" to that which is necessary and cost-effective for the government.

Often, individuals requesting data may not realize their cost or be in a position to do a cost-benefit tradeoff. Sometimes, that information can be gained from potential contractors through responses to draft solicitations that ask for comments on excessive-data requirements, or areas where contractor-format data would suffice.

After reviewers agree on essential data, the final CDRL must be cross-checked against the proposed contract statement of work to ensure that cross references are correct. Then, these documents join the rest of the purchase request package inputs to enable the contracting officer to assemble a solicitation. Although preparing a CDRL is normally a function of the requiring office rather than the contracting officer, some teamwork in preparation can help to determine when and how data are best delivered. In some cases, the contracting officer may help construct special contract requirements allowing for later delivery of data after specific events, official requests, or even later pricing where pre-pricing would be impracticable. Where technology is involved, there may be a need for careful consideration of possible proprietary rights (ownership) of data by contractors and, therefore, a need to evaluate the situation and select the best course of action.

DD Form 1423

The DD Form 1423 is the key to getting data delivered on your contract. The real form is "legal" size but often is reproduced in regular page-size form by cutting off detailed pricing information. The contracting officer keeps the entire form, including pricing information, in the official contract file. Contractors are cautioned to price-in as data cost only those costs associated with producing the actual data; not the costs of basic work on which the data report. However, government requirements for data items often have stringent specifications that can make a simple request—like a copy of an engineering drawing—seem very expensive because the contractor must convert from contractor-format drawings to government-format drawings.

To reduce data costs, consider using contractor-format data. The price information on the side of the DD Form 1423 is one key to identifying where much of the data cost is in the conversion effort. A careful pre-negotiation review by someone with authority (or tasked to request authority) to cut data-preparation requirements, can save considerable money while providing necessary information.

Another cost-saver on DD Form 1423 is the distribution block. Do 40 offices *really* need voluminous data?

The acceptance code also can drive costs. Data may be delivered with a simple letter of transmittal, or may require a formal DD Form 250 acceptance and payment document. Critically important data should have careful inspection and formal acceptance, but requiring a formal DD 250 on a routine report is overkill.

Formally delivered data may be separately priced with payment to the contractor after each accepted data submittal, or may be priced-in with other contract line items (or combinations thereof). Pricing associated data with basic contract-line items saves extra administrative effort in separately pricing and paying for the data. On the other hand, data that represent a significant contractor effort may deserve to be paid on delivery. Of course, you don't want to pay for the manual now, get the system months later, and then find the manual is inadequate. Likewise, you don't want the system delivered now with no manual until later, which leaves you with no choice but (sole source) contractor maintenance. Careful management is necessary, in coordination with maintenance training and other logistics-support people, to ensure that necessary data are available at the right time.

Delivering Data

When should data be delivered? Your contracting officer can provide some flexibility on data-delivery dates to help get the latest and best data when needed. Delivery can be tied to contractual events; i.e., manuals for maintenance 60 days before scheduled government testing (to permit government training time that may need its own contract).

By using a "deferred delivery" clause, the contract can call for certain data items to be delivered within a set time after notice from the contracting officer. This technique has been useful for items such as engineering drawings, for which you want to wait to get the latest possible version in case there are changes.

Where more data may be desired later, but you don't know exactly how much or what they should cost (perhaps items are not yet designed when the contract is priced), a deferred-ordering clause can list data items for later ordering (pricing/negotiating). Later in the program when specific requirements are known, those items may be ordered. This technique can be used for buying

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reprocurement data. Early in a program, you would not want to buy all possible drawings if only a few were needed for reprocurement purposes. The deferred-ordering clause permits later identification of exactly which parts are identified for reprocurement, and then permits buying drawings for those items. Buying reprocurement data this way can be a difficult sole-source negotiation. One cost and administrative effort solution to prevent later difficult negotiations is to consider prepricing a fixed price for each size reprocurement drawing. Thus, each "A" size (regular page) drawing would be a certain price, and so on up for drawings through the large "E" drawing, which would be more expensive. Then, when it is time to order reprocurement drawings, the pricing would consist of extending the prices per size by the number of drawings of that size.

Getting the right data requirements on contract require management's attention. A good data manager can help save costs and help a program run smoother by putting an aggressive effort on data review, tailoring requirements, and ensuring accurate preparation of the CDRL, and any special contract requirements.

Reducing Data Cost

The first and best place to try to get a handle on data costs is at the data call. The tone of the call letter or communication will tell people whether to open their AMSDL/DOD 5000.19L and order all data items in their field like a shopper with a free credit card or whether to consider carefully exactly what data are needed—and why. Responses to the data call may reveal redundancy where several users could agree to use the information from one report rather than different reports. Looking at the DID preparation instructions may reveal numerous opportunities to cut out unnecessary detail or encourage alternative contractor format data so that the contractor doesn't have to reprogram its computer or change its internal procedure just to transmit data in government format.

References on the DID are provided to other applicable MILSPECS or STDS. Often several documents will refer also to other references—this is

[illegible]

In January 1985 [illegible] Secretary of Defense [illegible] OUSDRE AMEP as [illegible] a test program to [illegible] effective contract [illegible] this DOD initiative [illegible] selected major programs to review aggressively and reduce unnecessary data and specification requirements. Policy is thus changing on data requirements toward justifying inclusion, rather than ordering whenever in doubt. To communicate the new policy and provide useful "how to" hints and guidance for limiting data requirements, DOD has drafted a handbook (248B) for program-managment use.

There are difficult judgment areas regarding how much data to order at the start of a program. We need to consider and tailor requirements carefully to specific needs, using functional requirements and contractor-format data where applicable. With more communication about the problem, and less *how to*, we release the creative ingenuity of industry unhampered by unnecessary requirements.

Do We Need Data For Competitive Reprocurement?

Some people argue that DOD should acquire all data that might be needed for possible maintenance support. Some general contract language is set up to do this. Contractors are asked to propose prices that cover all data needed for operation and maintenance of the system. Thus, the price offered to the government will normally include the price of unlimited data rights to permit operation and maintenance. Nobody knows the cost of this policy. Many assume savings of future competition may repay the initial acquisition expense of proprietary data, but this is not necessarily so.

Let's assume you are buying a (low-volume) system that uses a commercial, high technology state-of-the-art component like a new computer. In simple terms, let's assume you are buying a vehicle—a small truck that will be modified to carry a military item. Assume the manufacturer has a "black box" computer managing the engine spark, fuel injection, and other functions. If this proprietary technology is a key to its competitive business, would the contractor even offer its latest technology system to DOD if we insisted on unlimited data rights? Perhaps not! Perhaps we would get a less-reliable old carburetor if we insisted on data. Or, perhaps, our $5,000 basic chassis and engine would be offered at $5 million, which might be a fair and competitive price for the technological secret.

What does this mean? *We need common sense in our data acquisition policy.* We need to consider cost versus benefit to make intelligent decisions about what data we really need. If a limited-quantity system has one proprietary IBM computer, it might be cost-effective to hire IBM for repair beyond the capability of the military technicians (if even necessary), rather than to consider buying the proprietary data to allow competing the computer maintenance to another firm.

Predetermination of Rights

It is far better to resolve who will own rights to data before contracts are awarded than it is to argue later. The contracting officer can insert a clause in the request for proposals,

which essentially says the government will receive unlimited rights in all but certain areas. Then, the contractor's response simply lists areas that it feels are proprietary; this becomes a basis for negotiated agreement in the contract to specify what (if any) data may be delivered with less-than-unlimited rights. Clarifying data rights before award by predetermination can preclude later problems.

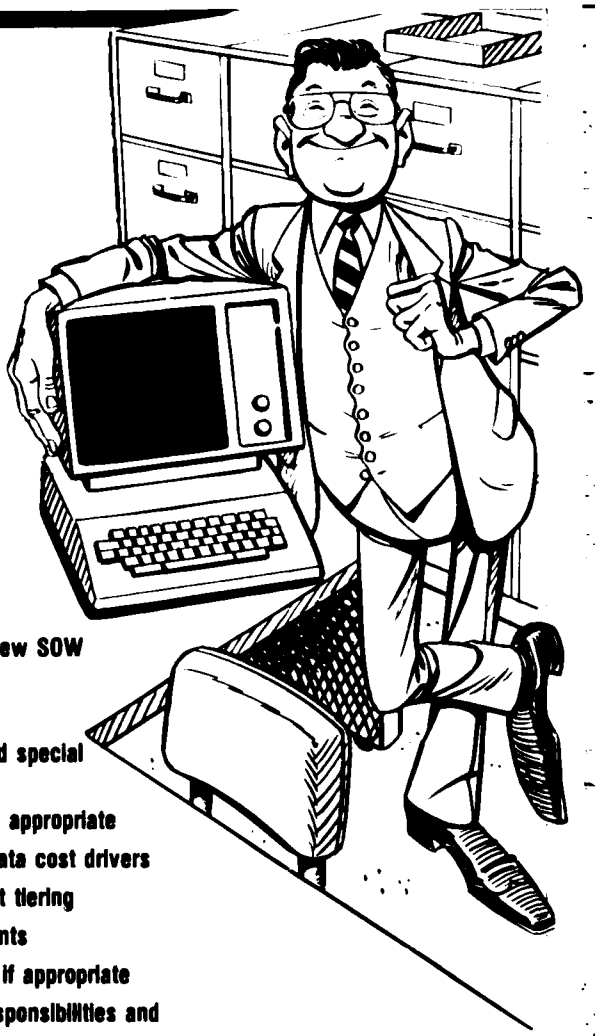
Data Management

After contract award, data begin to flow in as required by the CDRL. Careful planning before award, and management after award can ensure data are received as needed and when needed. In addition to the special techniques for deferred delivery, deferred ordering, or milestones related delivery, data managers should establish a solid management suspense system to ensure data are received on time, and that any necessary action is complete.

Simple receipt of a data package does not mean it is adequate. Time must be alloted for review, government comments if necessary and possible resubmission with corrections. Where instructions are vague, or a contractor has less than top-quality people preparing data, the government data manager can anticipate need for corrections and resubmissions. Sometimes, government reviewers are too critical and the contractor expects its first submissions to be routinely rejected with lengthy comments. This can degenerate into a game where the contractor puts minimal effort into initial submissions and letters so that the government reviewer must be the proofreader and editor. This wastes time and money, so the program manager will want to take preventive action.

Getting Good First Submission

Government management's interest and contractor management's interest determine the quality and timeliness of data submissions. Where no one cares or mentions data requirements, you may expect less effort and, perhaps, poorly prepared or late work. Contractor interest is the secret for getting good data on time. This interest may be automatic due to company pride or a sense of responsibility. But, it can be stimulated before the due date via monthly review or follow-up questions by the government program manager. Quality of data submissions is a subjective area that may be effectively improved by an award-fee provision.



Data strategy discussions

Data call emphasizing strategy

Data review:

- **max tailoring**
- **eliminate redundancy**
- **to allow contractor format when possible**

Draft CDRL

Draft SOW to match CDRL/Review SOW for cross-referencing to CDRL

Consider data-rights questions

Draft RFP with SOW, CDRL, and special requirements for industry

Use predetermination clause as appropriate

Review industry feedback on data cost drivers

Tailor final requirements to limit tiering

Coordinate final data requirements

Include data in award-fee plan, if appropriate

Designate data-management responsibilities and approach for post-award monitoring

Timely Response to Data Submissions

If comments need to be made to data submissions, consider and establish reasonable times for action. Many contracts require contractor response to government comments within a number of days (30, 45, 60) for resubmission; therefore, similar time limits should be placed on government personnel for government action. It is interesting to see the impact on the government bureaucracy if your contractor has a clause saying "lack of response by the government within 45 days shall be deemed government approval."

The Bottom-Line

How we approach data acquisition drives overall program costs and potential success. Basic information above provides a general framework of considerations for management improvement.

The data checklist (Chart 1) shows only big-picture reminders, each of which needs careful consideration, sound planning, and aggressive implementation to gain success. The bottom-line is reduced data cost *while still obtaining essential information.* Exactly how much data are essential is the subjective management judgment of which is worth buying.

The fiscal imperative must become "order only if absolutely needed" rather than "order in case someone might need it."■

James P. Wade, Jr.

These remarks were made at the National Security Industrial Association Conference on "The Streamlining Initiative," Arlington, Va., December 7, 1984.

I am pleased to discuss some major initiatives taking place within the Department of Defense to improve the way we conduct our business. Optimization of Department of Defense contract requirements is receiving high-level emphasis.

The need for the streamlining initiative gets back to the overall requirement for the department to use sound business judgment in its acquisition procedures. Recent cases involving matters like high-priced spare parts and coffee pots, taken in isolation, have given a misleading impression that the DOD acquisition process is fraught with inefficiencies and is highly vulnerable to fraud. Considering the number of purchases the department makes we do an excellent job, and that's because of dedicated people in government and industry. We have made significant strides during the past 3 years to improve the acquisition process.

This administration entered office determined to improve the way the Department of Defense does business. We knew we could improve national defense not just by increasing the DOD budget, but by spending our resources more responsibly in accordance with sound management principles. Three deputy secretaries of defense have been consistent in their efforts to make institutional, systematic improvements to the acquisition process.

You have heard Deputy Secretary of Defense Taft speak on the key area of quality and over-specification. I will give further thought to these subjects.

Tailoring and related approaches to defining the most cost-effective contract requirements have been part of DOD policy for many years. Until now, implementation has been spotty at best. Much resistance to tailoring stems from a fundamental misconception that full application of the entire stable of military specifications and military standards is a desirable ideal—to be given up reluctantly. In fact, since these documents have been developed during the course of many diverse system and equipment acquisitions, their *optimum* application to any one program almost invariably calls for intelligent tailoring. Such tailoring is not a retreat from the ideal simply to save money; but, rather, a selection of the program-applicable elements from a broader collection of related experience. Optimum tailoring involves multidisciplinary tradeoffs among competing program objectives; i.e., performance, reliability, weight and cost, rather than merely shaping each specialized document to fit, independent of other specialties involved in the program.

The essence of standardization is making pertinent, economic, and flexible selection of standards to be promulgated, and acceptance of those choices by government and industry users. This is more easily said than done. Lack of time during source selection and lack of knowledge early-on regarding specifics of design, personal biases, a risk-adverse environment, and other factors enter into the judgment of which choice is correct.

I feel strongly that we have the potential under the streamlining initiative to overcome these real-world difficulties. The January 11, 1984, deputy secretary of defense memorandum consolidates and states the elements of this policy area in a more concise and integrated way than has existed before. The streamlining initiative recognizes that cost-effective application and tailoring of specifications are inherently parts of the design and development process, rather than of the contract-definition process. It recognizes that the issue of defining the most cost-effective approaches extends far beyond the 40,000 or so documents in the index of specifications and standards to include data, management systems, and all other facets of our contract requirement. It is based on the premise that we need to reduce the adversarial relationship existing between industry and government, be willing to increase communication, and make tradeoffs to establish the most cost-effective approaches.

We have to develop a climate of application, which will encourage greater ingenuity and cost-consciousness in the hundreds of decisions and on detail "how to" requirements associated with acquisition programs. No specification should be treated as infallible or inviolable. We must create an atmosphere in which government and industry personnel are encouraged to treat specifications and stand-

■*Dr. Wade is the Acting Under Secretary of Defense for Research and Engineering.*

ards as living documents — as baseline guidance to government and industry program managers.

We should recognize that the existing acquisition environment is basically conservative and encourages *cautious conformance* rather than *forceful and innovative ingenuity*. The government program manager and functional organizations supporting him (including contracting) must be encouraged to realize that strict, parochial application of specifications and standards is neither required nor desired.

Optimizing contract requirements cannot be dictated by a set of hard and fast ground rules. It requires management and technical judgment on the parts of government and industry personnel. A decision to modify, or waive provisions in specifications, implicitly carries the possibility of being wrong, even if the savings are significant. Optimizing contract requirements must be strongly supported and publicized by Department of Defense management if the program is to succeed. I can envision a campaign in which successful examples of tailoring and requirements optimization are identified and publicized, with responsible individuals singled out for recognition and, perhaps, more tangible rewards. It will be necessary for the Department of Defense to ensure that there is appropriate program guidance, as well as a system of feedback and accountability to ensure that effective tailoring is accomplished. Progress in implementing the streamlining initiative will be reviewed in the defense systems acquisition reviews for all new systems.

Inherently, tailoring should not be relegated to just a tool, or an initiative that the program manager can use if desired. Tailoring must be an integral part of a program manager's job.

uring each development phase, an alert program manager will be presented with many opportunities to modify subsystem requirements, based on test results, if the changes will save cost without compromising overall systems goals. Although, in principle, every requirement should have been generated from a base [illegible] system requirements [illegible] use of reasonable [illegible] on judgment or engineering [illegible] is often as good as [illegible] elaborate studies. The [illegible] provide the flexib[illegible] offs to the plan.

On the C-17 program [illegible] the Air Force and the McD[illegible] Douglas Company have agreed that:

> Plans submitted with the proposal (reliability, quality, *et al.*) are not contractually binding and, in fact, are annotated not for contractual application. This permits intelligent revision of the plans as the program matures and obviates the need of repetitive contractual amendments involving the always-difficult question of consideration.

These steps have been advocated for several years, and it is encouraging to see that they are finally being implemented.

As a program transitions into production, a new set of tailoring opportunities surfaces. Processes tend to be peculiar to a given manufacturing organization. Process specifications called out on the contract may not reflect practices in a plant.

We see a close tie-in between the streamlining initiative and our department's initiative to improve the transitioning of systems from development to production. Both of these initiatives have significant potential to enhance quality. The streamlining initiative can serve to eliminate unnecessary requirements that can diffuse attention from the high-priority contract requirements. This in turn allows for a greater focus on the important aspects of a program, such as quality.

The transitioning initiative provides the authority to follow an in- [illegible] approach [illegible] Depart[illegible] DOD Dir[illegible] DOD [illegible] pro[illegible] and [illegible]

The directive [illegible] use of a manual of templates or checklists to help identify and reduce production risks in executing a program. This manual has been formatted as a DOD publication and, as you know, a for comment version of the manual is in review.

e have other initiatives that reflect heightened interest and emphasis on producibility on the part of DOD. The parent, defense production management directive was revised and reissued earlier this year as DOD Directive 4245.6. Most importantly, the new version requires that the development program include a comprehensive producibility engineering and planning effort termed "PEP." This effort embraces production engineering, planning, and other activities necessary to an efficient production transition. "PEP" is being increasingly specified in our request for proposals (RFPs), weighed in source selections, and incorporated by contract. We are working on better ways to scope and itemize the work, estimate its cost, and measure performance.

I believe that the streamlining initiative and others, such as the transitioning initiative, offer new inroads to improve our acquisition process.

The objective of the acquisition process is to field *affordable* systems that are capable, effective, reliable, and supportable; systems that allow us to be as ready as possible to respond to challenges that will confront us. The timing and climate is right for streamlining to become an integral part of our program management process. We need industry knowledge of the cost drivers in the acquisition process. Just as importantly, we need the skills and dedication of our best people to devise creative and cost-effective methods for achieving our system acquisition requirements. ■

Lieutenant Colonel Samuel Craig, USAF

An ILS Approach to Prevent Late Delivery of Tech Manuals

here's the technical manual? This typical question is asked by the user when critically needed technical manuals are not delivered concurrently with associated support equipment. The user's hands are tied because without technical manuals he cannot—due to safety reasons—operate, test, maintain, or repair delivered equipment. Contractor support or delays in initial operational capability are the only alternatives to this untenable situation.

Since this is an especially common occurrence in major weapon systems for contractor-furnished equipment, let's look at an integrated logistics support approach that could prevent late delivery of technical manuals.

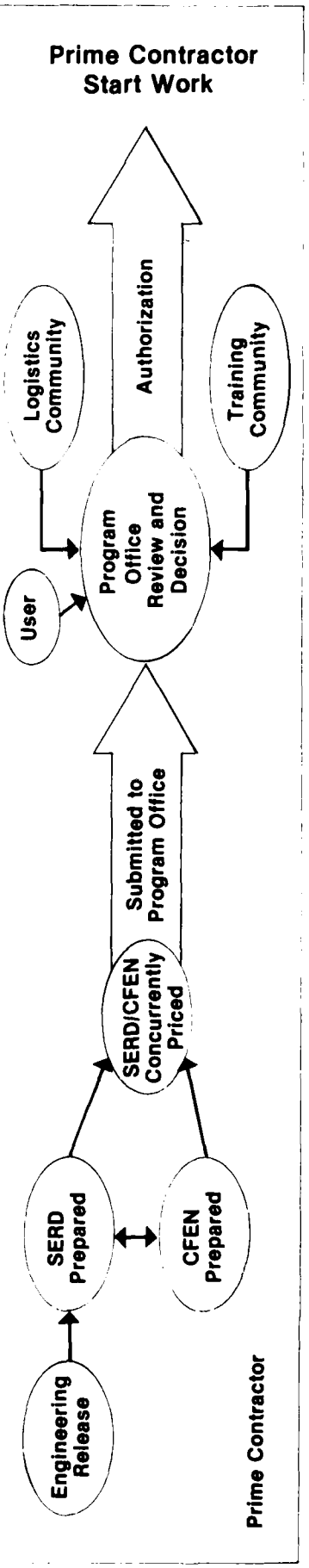
Background Information

The prime contractor recommends contractor furnished equipment (CFE) to the program office in the support equipment recommendation data (SERD). This document includes a functional analysis that provides, in technical terms, a description of the function requiring support; i.e., nature and measure of input required to perform a specific task. Based upon this functional analysis, a specific item of support equipment and a description of the associated computer program (if required) are recommended to satisfy the requirement.

The prime contractor recommends technical manuals to support CFE to the program office via the contractor-furnished equipment notice (CFEN). This document identifies technical manuals required to operate, test, maintain and repair—at the appropriate level of maintenance—the CFE identified in the SERD. Data to develop SERD and CFEN are obtained from the logistics support analysis process and logistics support analysis records. MIL STD-1388-1A and MIL STD-1388-2A, respectively.

Approach

Let's assume a piece of CFE is required and technical manuals are needed to operate, test, maintain, and repair it. If the intent is to deliver technical manuals concurrently with support equipment, it is critical that the prime contractor initiate a CFEN when the requirement for a SERD is identified (see Figure 1).



This is the most important step because now the SERD and the CFEN can be developed, priced, and submitted simultaneously to the program office. Once the SERD and CFEN are reviewed and approved by the program office and appropriate reviewers the program office authorizes the prime contractor to start work. This is the next most important step because now the prime contractor can authorize hardware vendors under one contract, to develop and produce simultaneously the support equipment and required technical manuals (see Figure 2).

This approach has advantages:

It decreases administrative cost by eliminating separate non-concurrent SERD CFEN proposals and authorizations

Vendor hardware design engineers are available to support development of technical manuals

Program office has more economic leverage to withhold funds, for late delivery of technical manuals, from the prime contractor because of the relatively high-dollar amount of a combined contract versus a separate contract for technical manuals

Prime contractor has more economic leverage to withhold funds from the hardware vendor for the same reason

Increases the probability that support equipment and technical manuals will be delivered concurrently

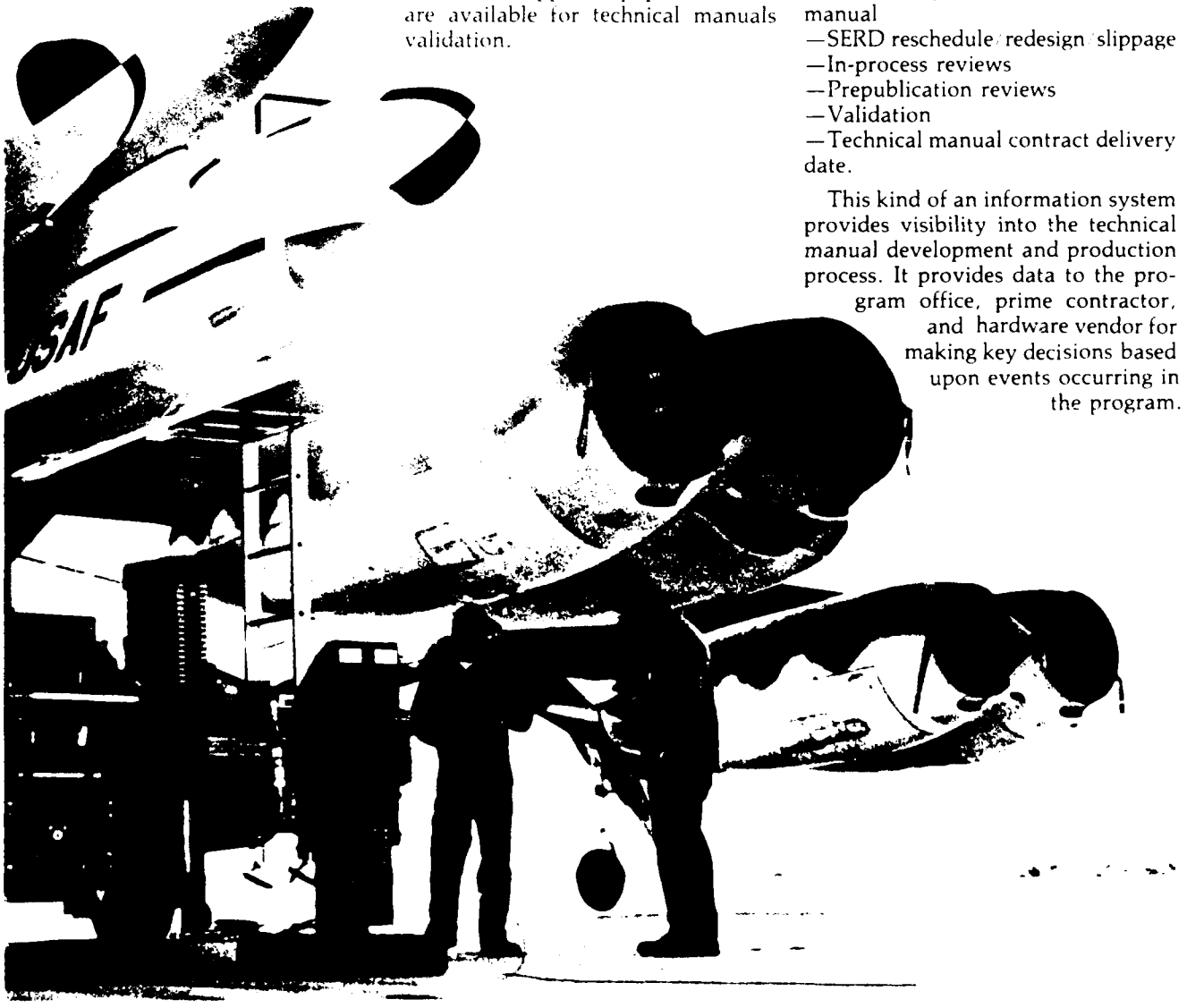
--Ensures support equipment assets are available for technical manuals validation.

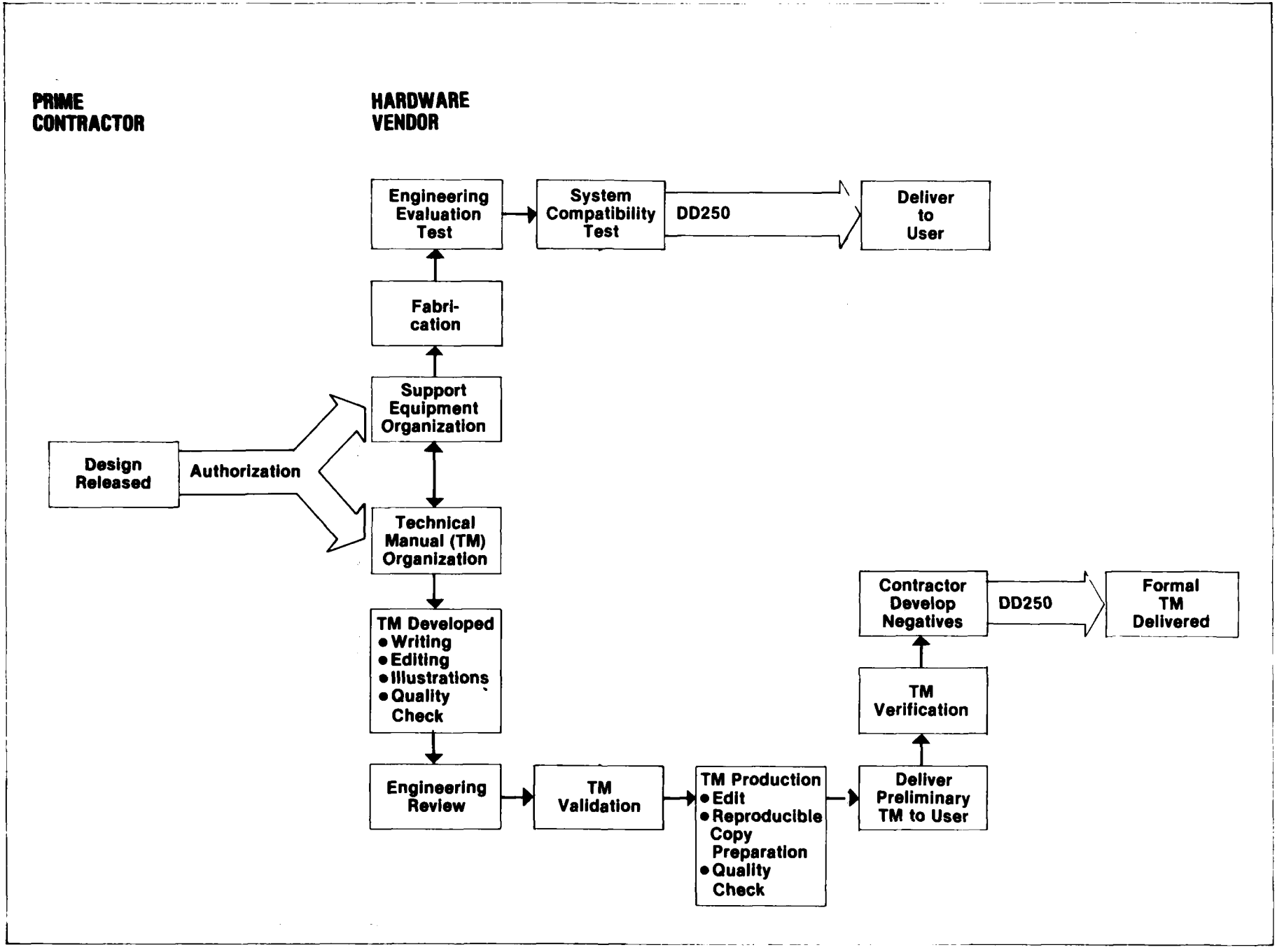
Management Information System

To manage development and production of technical manuals the program office should task the prime contractor to develop a technical-manuals tracking system (as near real-time tracking as is possible). This system should track technical manuals from CFEN authorization to delivery of the technical manuals. Some important items that should be used to track technical manual development and production are:

—Technical manual number assigned
—Engineering source data release date
—Name of vendor
—Writing start
—Writing complete
—Illustration start
—Illustration complete
—Edits
—Quality reviews
—Preliminary or formal technical manual
—SERD reschedule/redesign/slippage
—In-process reviews
—Prepublication reviews
—Validation
—Technical manual contract delivery date.

This kind of an information system provides visibility into the technical manual development and production process. It provides data to the program office, prime contractor, and hardware vendor for making key decisions based upon events occurring in the program.

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Simple Example. Suppose the design engineer determines it necessary to redesign a piece of support equipment whose technical manual is being developed. This information is put into the management information system and a decision is made to stop work on the technical manual. Actions are identified to determine when source data will be released for the redesign. Does the redesign impact on *just* hardware, *just* software, or *both*. Does redesign impact on technical manual delivery date? If so, inform, discuss with program office and make appropriate schedule changes.

Earlier, I asked you to look at an integrated logistics support approach that could help prevent late delivery of technical manuals. Note the words "help prevent" because no integrated logistics-support approach can guarantee concurrent delivery of technical manuals with associated support equipment. Since the acquisition process is full of "known unknowns" and "unknown unknowns," let's look at the technical-manual business from a real-world perspective.

Real-World Perspective

Invariably, as major weapon system programs proceed through the acquisition process, technical problems occur that cannot be easily resolved. Technical problems in a program have a direct impact on the quality and schedule of technical manuals. Note in Figures 1 and 2 that engineering release must occur before work can begin to develop technical manuals. This means that technical risk as it relates to technical manuals must be assessed as early as possible in the full-scale development phase. If technical risk is determined to be high, the option to use contractor support must be addressed. Technical risks should be identified and explained to the user *immediately* so that a decision can be made whether or not to use contractor support to cover resulting technical-manual shortfalls.

Contractor support makes sense when planned for and used properly. Where technical problems exist in the program, it makes sense to use contractor support to cover technical manual shortfalls because of constant engineering changes taking place to solve problems.

This brings me to the use of preliminary technical manuals. It is logical to deliver preliminary technical manuals to the user when a high rate of change is expected based upon a risk assessment. The benefits of preliminary technical manuals are as follows:

Increases probability that technical manuals will be delivered concurrently with support equipment.

—Response time of a change to a preliminary technical manual is far shorter than a change to a formal technical manual because the contractor makes technical manual changes and ships changes directly to user.

—A viable alternative allowing design to stabilize before formalization.

—Provides flexibility to both user and contractor to address unique text and illustration problems identified during technical manual verification.

Summary

To help ensure that technical manuals are delivered concurrently with the associated CFE, the following should occur.

Prime contractor simultaneously develop, price, and submit SERD and CFEN to program office for authorization.

Program office conducts review of SERD and CFEN and, if appropriate, approves and authorizes prime contractor to begin work on technical manuals.

Prime contractor authorizes hardware vendor under one contract to simultaneously develop and produce the CFE and required technical manuals.

Program office should have prime contractor develop a technical manual tracking system for key items of interest from CFEN authorization to delivery of technical manuals to user.

In programs where extraordinary technical problems occur, the probability increases that technical manuals will not arrive concurrently with the CFE due to lead time required to put last-minute technical changes into technical manuals. A work-around alternative is to use contractor support to handle the resultant technical-manual shortfalls; if this alternative is considered, the user should be involved in the decision to use contractor support. While using contractor support for an interim period, preliminary technical manuals are a viable alternative for both user and contractor.

If the program office and the contractor follow the above ILS approach, the user should not have to ask the question: "Where's the Technical Manual?"■

■*Lieutenant Colonel Craig is a professor of acquisition management in the Technical Management Department, School of Systems Acquisition Education, at DSMC. He also is the functional director for integrated logistics support.*

The *Program Manager* welcomes letters to the editor addressing issues of concern or in response to articles we have published. All letters must be signed, and we reserve the right to edit for clarity or space limitations. Address letters to the *Program Manager*, DSMC, Fort Belvoir, Va., 22060-5426.■

Whenever in this publication "man," "men," or their related pronouns appear, either as words or parts of words (other than with obvious reference to named male individuals), they have been used for literary purposes and are meant in their generic sense.■

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Plans are well underway for the Second Program Managers' Symposium to be held June 12-14, 1985, on the DSMC campus, Fort Belvoir, Va. "The Program Manager: Controlling the Controllables" is the theme.

The program will consist of 3 days of government industry speakers, panels, and workshops focused on current topics of interest to the program manager. Registration will include three luncheons, a Thursday reception and banquet, and a Wednesday evening alumni activity. Friday's agenda will include a DSMC update and the Alumni Association annual membership meeting.

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