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DEFENSE ACQUISITION: OBSERVATIONS TWO YEARS AFTER THE PACKARD COMMISSION

Volume II: Background Papers

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May 1989

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The 1986 Packard Commission report recommended changes in the defense acquisition process to reduce development times and costs and to produce weapons better suited to war fighters' needs. These recommendations included restructuring the acquisition organization, improving the work force, overhauling the acquisition decision-making process, and reforming regulations. The Office of the Under Secretary of Defense for Acquisition requested this study to help inform the next administration about the current status of acquisition reform: what has been tried, what is working and what isn't. It asked IDA to review developments within the Department in the last two years, to provide a progress report on acquisition reform, to make observations on the current status of the acquisition process, and to recommend priorities for further actions.

Volume I of this report summarizes IDA's findings and recommendations. IDA provides an assessment of the extent to which DoD has implemented the kind of management that the Packard Commission advocated. It notes several improvements but concludes that DoD has not yet made the fundamental changes required to implement the Commission's basic philosophy. IDA recommends actions in several areas in the next administration: organization, decision-making, personnel and procurement practices. Volume II contains background papers that provide an in-depth examination of selected issues in support of these recommendations.

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INSTITUTE FOR DEFENSE ANALYSES
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PREFACE

This study was requested by the Under Secretary of Defense for Acquisition to provide an independent review of the progress that has been made in the defense acquisition process in response to the Packard Commission and to determine what, if any, further improvements might be possible. The Commission's report, *A Quest for Excellence*, published in 1986, recommended a number of changes in defense organization, decision-making practices, policy and regulation, and infrastructure management. This study describes the changes that have resulted, assesses the degree to which the acquisition process complies with the Commission's management principles, and offers an agenda for the next administration. Volume I summarizes the findings of the study and provides its recommendations. Volume II contains five working papers that provide an in-depth examination of selected issues.

This study was conducted under contract MDA 903 89 C 0003; task order number T-G6-678, The Defense Acquisition Process.

The study relied on interviews with more than 100 acquisition officials and experts to gain a description of the current process and to obtain their views on how well it is working. The authors thank these interviewees for their time and for providing their candid views.

The authors also thank the IDA review panel, which provided helpful guidance at several stages of the study and reviewed an earlier draft of this report. The panel was chaired by General William Y. Smith, USAF (Ret.), and included Mr. Seymour Deitchman, Dr. Thomas L. McNaugher, Dr. Herbert Stein, Mr. John Walsh, Admiral Alfred J. Whittle, USN (Ret.), and Mr. R. James Woolsey. Mr. J. Ronald Fox and Robert D. Turner also provided valuable comments at several stages in the project.

Finally, we thank research assistants Mr. Michael Gilligan and Ms. Tara Santmire; our editors, Ms. Dorothy Mendonsa and Ms. Kathleen O'Boyle; and most especially Ms. Teresa Dillard who typed several drafts and the final manuscript.

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GLOSSARY

AAE	Army Acquisition Executive
ACAT	Acquisition Category
ADM	Acquisition Decision Memorandum
AFAE	Air Force Acquisition Executive
AFAES	Air Force Acquisition Executive System
AF/RD	Air Force Research and Development
AFSC	Air Force Systems Command
AF/XO	Air Force Deputy Chief of Staff Plans and Operations
AIS	Acquisition Information System
AMC	Army Materiel Command
ASAF/A	Assistant Secretary of the Air Force for Acquisition
ASARC	Army Systems Acquisition Review Council
ASD(C)	Assistant Secretary of Defense Comptroller
ASD(FM&P)	Assistant Secretary of Defense (Force Management and Personnel)
ASD(ISP)	Assistant Secretary of Defense (International Security Policy)
ASD(PA&E)	Assistant Secretary of Defense (Program Analysis and Evaluation)
ASD(P&L)	Assistant Secretary of Defense (Production and Logistics)
ASN	Assistant Secretary of the Navy
ASN(RE&S)	Assistant Secretary of the Navy (Research, Engineering, and Systems)
ASN(S&L)	Assistant Secretary of the Navy (Shipbuilding and Logistics)
ASPR	Armed Services Procurement Regulations
BA	Budget Authority
CBO	Congressional Budget Office
CCA	Centralized Civilian Acquisition Agency
C3I	Command, Control, Communications, and Intelligence
CICA	Competition in Contracting Act

CINC	Commander-in-Chief
CJCS	Chairman, Joint Chiefs of Staff
CNO	Chief of Naval Operations
COMNAVAIRSYSCOM	Commanders, Naval Air Systems Command
COMNAVSEASYSCOM	Commanders, Naval Sea Systems Command
COMSEC	Communications Security
CPAF	Cost Plus Awarded Fee
CPFF	Cost Plus Fixed Fee
CPIF	Cost Plus Incentive Fee
DAB	Defense Acquisition Board
DAE	Defense Acquisition Executive
DARPA	Defense Advanced Research Project Agency
DCAA	Defense Contract Audit Agency
DCNO	Deputy Chief of Naval Operations
DC/S/(I&L)	Deputy Chief of Staff for Installation and Logistics
DC/S(RD&S)	Deputy Chief of Staff for Research, Development, and Study
D(DR&E)	Director, Defense Research and Engineering
DG	Defense Guidance
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
D(PA&E)	Director of Program Analysis and Evaluation
DRB	Defense Resources Board
DSARC	Defense Systems Acquisition Review Council
DSMC	Defense Systems Management College
FAR	Federal Acquisition Regulation
FSED	Full-Scale Engineering Development
FY	Fiscal Year
FYDP	Five-Year Defense Program
GAO	General Accounting Office
GSBCA	General Services Board of Contract Appeals
JCS	Joint Chiefs of Staff
JLRSA	Joint Long-Range Strategic Appraisal
JMSNS	Justification for Major System New Starts

JPAM	Joint Program Assessment Memorandum
JRMB	Joint Requirements Management Board
JROC	Joint Requirements Oversize Council
JSPD	Joint Strategic Planning Document
MAJCOM	Major Command
MAM	Materiel Acquisition Management (Army)
MP	Materiel Professional
MYP	Multiyear Procurement
NAE	Navy Acquisition Executive
NSDD	National Security Decision Directive
OASD(ISP)	Office of Assistant Secretary of Defense (International Security Policy)
OASD(PA&E)	Office of the Assistant Secretary of Defense (Program Analysis and Evaluation)
OFPP	Office of Federal Procurement Policy
OMB	Office of Management and Budget
OPNAV	Office of the Chief of Naval Operations
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
PA&E	Program Analysis and Evaluation
PARMs	Participating Managers
PBD	Program Budget Decision
PD	Program Director
PDM	Program Decision Memorandum
PE	Program Element
PEM	Program Element Monitor
PEO	Program Executive Officer
POM	Program Objective Memorandum
PPBS	Planning, Programming, and Budgeting System
PPI	POM Preparation Instruction
RDT&E	Research, Development, Test, and Evaluation
SAE	Service Acquisition Executive
SAF	Secretary of the Air Force
SAF/AQ	Office of the Assistant Secretary of the Air Force (Acquisition)
SECNAV	Secretary of the Navy

SECNAVINST	Secretary of the Navy Instruction
SON	Statement of Need
SPO	System Program Office
SSPO	Strategic Systems Program Office
SYSCOM	System Commanders
TIARA	Tactical Intelligence and Other Related Activities
TOA	Total Obligational Authority
USD(A)	Under Secretary of Defense for Acquisition
USD(P)	Under Secretary of Defense for Policy
USD(RE)	Under Secretary of Defense (Research and Engineering)
VCJCS	Vice Chairman Joint Chiefs of Staff
WSAM	Weapon Systems Acquisition Management

INTRODUCTION

To examine the acquisition process, this study reviewed the acquisition organization, decision making, procedures, and personnel. The Department of Defense (DoD) acquisition process involves a vast array of players, from the Secretary of Defense and his office (OSD) to the four Military Departments, and includes complex decision making--the Planning, Programming, and Budgeting System (PPBS) and the major program milestone review. The Packard Commission recommendations and this study have focused on these organizations and processes. Volume II contains five working papers that examine, in depth, selected issues relating to the acquisition process and organization.

The first paper provides a review of key acquisition legislation enacted during the past six years. The survey begins with the Department of Defense Authorization Act, 1984, and continues through the proposed legislation before the current session of Congress. The proliferation of legislation during this period indicates congressional frustration with defense acquisition and attempts to improve various aspects of the process. In many ways, however, the increasingly detailed involvement by Congress has further complicated the process. The paper concludes by proposing an agenda for the next Under Secretary to consider in developing a relationship with Congress and some steps that could be taken to simplify defense acquisition within the current law.

The second paper focuses on the acquisition organization and specifically on streamlining the acquisition process. The Packard Commission strongly endorsed simplifying and streamlining defense acquisition. Though DoD has made numerous changes to respond to the commission recommendations and subsequent legislation, the process has improved little, if any. This paper begins with a discussion of the basic premises of streamlining. It addresses the relationships among acquisition personnel, their authority and responsibilities, and how they function within the organization. These concepts are then applied to OSD and the Services to illustrate how to better implement streamlining ideas within DoD.

The third paper describes DoD acquisition decision making as it is conducted in the OSD. The paper provides an overview of the major acquisition program milestone review, the acquisition program documents, and the PPBS. The paper traces DoD's response to reform recommendations in the DoD Directives and Instructions. How these changes have affected strategic planning in the acquisition process and the functions of the Under Secretary of Defense for Acquisition is evaluated, and recommendations for improvement are offered.

The fourth paper discusses the personnel within the acquisition organization. Key elements for lasting improvement in the acquisition process are the knowledge, skills, training, and experience of acquisition managers and contracting officers. This paper provides recommendations for improving the training and experience of acquisition managers and defines the types of skills these individuals need to better perform their duties. Moreover, it stresses the importance of a well-defined career path for personnel in the acquisition field. In addition, the paper addresses the need to create a system that provides the proper incentives for its managers and staff.

The final paper addresses the military requirements process with particular emphasis on the role of the joint organizations. The paper describes the enhanced role of the Chairman of the Joint Chiefs of Staff and the newly established Vice Chairman in the acquisition process. The Joint Requirements Oversight Council (JROC) and the participation of the CINCs in the requirements process is also discussed. In closing, the paper raises, for consideration, several issues concerning the requirements process and the evolving role played by the joint organizations.

PROCUREMENT REFORM LEGISLATION 1983-1988

Barbara A. Bicksler

and

Michael Gilligan

PROCUREMENT REFORM LEGISLATION 1983-1988

A. INTRODUCTION

The current decade has been an eventful period in defense procurement. It has been not only a time of rapidly rising defense budgets but also a period of great scrutiny of the procurement process, fueled by widely publicized stories of costly hammers, toilet seats, and coffeemakers. As a result, many changes have been made in the acquisition system in an effort to eliminate fraud, waste, and abuse. Studies have been commissioned to determine measures to reform the system and restore public faith in the weapons procurement process. The most notable of these studies, the Packard Commission, recommended sweeping changes in the defense acquisition process. Congress has also played a major role in the reform efforts, passing nine major procurement reform bills since 1983:

- Department of Defense Authorization Act, 1984
- Competition In Contracting Act of 1984
- Defense Procurement Reform Act of 1984
- Small Business And Federal Procurement Competition Enhancement Act of 1984
- Defense Procurement Improvement Act of 1985
- Goldwater-Nichols Department of Defense Reorganization Act
- Defense Acquisition Improvement Act of 1986
- National Defense Authorization Act, Fiscal Years 1988 and 1989
- National Defense Authorization Act, Fiscal Year 1989.

This legislation, which covers a range of procurement issues, focuses on increasing competition in weapons acquisition and ensuring that the Department of Defense (DoD) obtains goods at fair prices. Measures involving dual sourcing, technical data rights, the use of commercial products, prototyping, and small business set-asides are all aimed at increasing the competitiveness of the weapons procurement process. In addition, the legislation addresses program stability, streamlining the acquisition process, acquisition personnel, and other cost and pricing issues.

While the widespread changes have affected both DoD and industry, assessing the effects of the legislation is difficult. The reforms have led to measurable increases in competition in defense procurement and apparent streamlining of the acquisition organization. The mass of legislation has also resulted in confusion and excessive regulation. Administrative leadtimes have substantially increased, requirements for paperwork and reviews have become excessively burdensome, and DoD has reacted to statutes with regulations that extend beyond the intent of the law. The system is now plagued with checklists of requirements and decision making based largely on rules rather than common sense and logical reasoning.

From reviewing the defense procurement legislation, it is apparent that Congress has taken a detailed and piecemeal approach to addressing specific problems within the acquisition system. This approach has often resulted in amendments to and repeals of existing legislation, in efforts to clarify misinterpretation of the law and mollify tough DoD regulations. Many believe that Congress has become far too involved in legislating the day-to-day process of managing weapons acquisition and should instead focus on the broad policy issues that underlie the process.

The following sections review the major procurement reforms of recent years, beginning with the Department of Defense Authorization Act, 1984.

B. DEPARTMENT OF DEFENSE AUTHORIZATION ACT, 1984

The Department of Defense Authorization Act, 1984, contains landmark legislation regarding test and evaluation. This legislation advocates the introduction of operational test and evaluation (OT&E) early in a weapon system's acquisition cycle and creates the position of Director, OT&E, within the Office of the Secretary of Defense (OSD). The Director, OT&E, oversees and controls the OT&E function within the DoD, including approval of Service OT&E plans before they can be executed. He is also required to report to both the Secretary and Congress that a system is effective and suitable for combat before it can be approved for full-rate production. This independent office responsible for OT&E was created to reverse the lack of adequate and effective operational testing within the DoD.

C. COMPETITION IN CONTRACTING ACT OF 1984

1. Introduction

The main purpose of the Competition in Contracting Act of 1984 (CICA) is to establish new requirements, guidelines, and proceedings to achieve full and open

competition in federal procurement. CICA also creates offices of competition advocates within each procurement activity to monitor the use of free and open competition and to promote competition in federal procurement. Furthermore, it establishes new procedures for business to protest government contract awards.[1]

2. Provisions

a. Competition Requirements

Full and Open Competition. CICA establishes new requirements for federal procurement to "obtain full and open competition through the use of competitive procedures."[2] According to the conference committee report "full and open competition" is achieved when "all responsible sources are permitted to submit bids or proposals for a proposed procurement."[3] The law does not require that sealed bids be used in all circumstances; any free and open competitive procedure (such as open bids or discussions with all possible sources) will suffice. Competitive procedures are required for standard procurement of equipment and when procuring architectural and engineering services and setting basic research contracts.[4]

Limited Competition. CICA does establish circumstances in which competition can be limited; certain individual firms may be excluded from the competition. One example is dual sourcing, in which all sources can compete except the incumbent contractor. Dual sourcing is permissible only when it will enhance competition or when more than one source is deemed necessary for national security reasons. Another reason for limited competition is to achieve certain welfare objectives mandated by Congress. For instance, all sources except small businesses or firms owned by minorities or handicapped individuals may be excluded by law from competition.

No Competition. CICA also defines situations in which procurement officers can resort to other than competitive contracting. The exceptions to competition include situations when the product or service is available from only one source or an unusually urgent need exists to obtain the product or service quickly. Procurement officers may also

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1 The Competition in Contracting Act is Division B, Title VII, of Public Law 98-369, the Deficit Reduction Act of 1984.

2 Public Law 98-369, Section 2711; 41 U.S.C. 253. We cite amendments from only Subtitle A; those in Subtitle B are parallel.

3 H. Rept. 98-432, pp. 1422, Public Law 98-369 Section 2711; 41 U.S.C. 253.

4 H. Rept. 98-432, pp. 1422-1423.

be exempted from competitive procurement requirements for national security reasons or because of international agreements or other needs determined by the head of the executive agency.

The reasons for exemption must be justified to the competition advocate or the senior acquisition executive (SAE) through explicitly described procedures.[5] The act also requires that all non-competitive contracts be reported to the General Services Administration. These requirements were designed to make it difficult for procurement officers to avoid the use of competition. These exceptions were not intended to be loopholes to competitive regulations; this is evident from the strict requirements for justification of any use of non-competitive procurement procedures.[6]

b. Planning, Solicitation, and Award Requirements

The act requires that procurement officers sufficiently prepare for any procurement. Market analysis must be conducted; the intent to procure must be made public so that all interested firms can enter competition; and specifications for the product must be carefully laid out so as not to exclude possible contractors.[7] The act also requires that all procurements greater than $10,000 be announced in *Commerce Business Daily* to ensure that all interested contractors have the opportunity to compete. Finally, the act calls for an annual report on competition from each executive agency to describe the agency's progress in achieving free and open competition.[8] The act details specific procedures to be used in evaluating bids and awarding contracts under full and open competition.[9]

c. Competition Advocates

One of the most important provisions of this legislation is the creation of offices for competition advocates in each procurement activity to challenge barriers to and promote free and open competition in federal procurement.

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5 Public Law 99-369, Section 2711; 41 U.S.C. 253.

6 H. Rept. 98-432, pp. 1425-1426.

7 Public Law 98-369, Section 2711; 41 U.S.C. 253a. Congress was concerned about reports that specifications were purposefully and unnecessarily made very strict to exclude possible contractors from competition. H. Rept. 98-432, p. 1429.

8 Public Law 98-369 Sections 2731-2732; 41 U.S.C. 417-419.

9 Public Law 98-369, Section 2711; 41 U.S.C. 253b.

d. Procurement Protest Procedures

CICA also establishes the procurement protest system. Any party wishing to protest a federal contract award can, by this act, submit a protest to the Comptroller General; the procurement activity will be halted until the matter is settled. The act describes the procedures the protestor and Comptroller General must follow. The protest system gives industry an incentive to monitor the degree of competition the federal government uses in awarding a particular contract. If a firm believes it has been wrongly excluded from the competition, it can receive a second opportunity for the contract by filing a protest.[10]

3. Consequences of the Competition in Contracting Act

a. Benefits

After 1984, the number of federal competitive contracts significantly increased; this increase may be attributable to CICA or to DoD procurement initiatives that would have occurred without CICA. Use of competitive contracts was 5.5 percent higher in FY87 than in FY86 and 51.5 percent higher than in FY83. In FY87, $82 billion or 60 percent of all federal contracts were the result of competitive procurements. In fact, by purchasing replacement parts through competitive procurement, rather than from the original manufacturer/contractor, the government saved $572 million in FY87.[11]

One clear benefit of CICA was the establishment of negotiations as competitive procurement procedures. This enabled DoD to increase competition while avoiding preparation of lengthy detailed specifications for products, which are required under a sealed bid process. As a result of CICA, procurement officers are no longer required to provide written justification for the use of negotiations instead of sealed bids, and paperwork has been somewhat reduced.

b. Increased Administrative Leadtimes

While CICA seems to have improved the procurement process, it has created some problems as well. One frequent complaint is that administrative leadtimes, the amount of time used to grant a contract, have increased substantially. Though Congress intended for CICA to force procurement officers to plan for future competition and wait for all available suppliers to bid, Congress may not have foreseen how much CICA would increase

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10 Public Law 98-369, Section 2741; 31 U.S.C. 3551-3556.

11 Secretary of Defense, *Annual Report to Congress, Fiscal Year 1989*, pp. 138-139.

leadtimes. This problem has been compounded by DoD's adopting the strictest possible interpretation of the legislation when issuing regulations. Congress, too, is at fault for creating such detailed legislation. This leadtime problem is being addressed by the Service buying agencies; recent steps have been taken to reduce contract leadtimes.

c. Increased Bid Package Requests

CICA has also led to a substantial increase in the number of requests for bid packages. Vendors, responding to short descriptions of desired items in *Commerce Business Daily*, request bid packages even when they have only a remote chance of receiving a contract. In many cases, vendors who are not even capable of manufacturing the required product request bid packages. Some vendors have bid on contracts only to receive certain technical data that can be sold to foreign firms. With CICA, Congress intended to ensure that all vendors would have an opportunity to bid on government contracts; however this privilege is being abused.

d. Protest System Abuses

The protest system has also been prone to abuse. Any firm that has bid on a contract can halt a contract award through the protest system without proving that it has a legitimate chance of prevailing. As one analyst described, the law allows "a protester to secure an injunction . . . for the price of a 22-cent stamp." Furthermore, some analysts have suggested that the General Service Board of Contract Appeals (GSBCA) has on occasion ruled in favor of the protester on unreasonable grounds.[12]

e. Confusion and Low Quality

CICA is also criticized because the principles of competition are at odds with other laws requiring preferential treatment of minority and handicapped-owned businesses. Other critics question whether the quality of products obtained from competitive sources is as high as those from sole-source contractors.

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12 Collen Preston, "Congress and the Acquisition Process: Some Recommendations for Improvement," *National Contract Management Journal*, vol. 20, no. 1 (Summer 1986), pp. 7-8, 22-23.

D. DEFENSE PROCUREMENT REFORM ACT OF 1984

1. Introduction

The Defense Procurement Reform Act of 1984 was created as Title XII of the National Defense Authorization Act for Fiscal Year 1985. This act addresses many of the same issues addressed in CICA, which was passed earlier in the session. In fact, a large portion of the legislation centers on efforts to increase competition. The bill uses two methods to increase competition--induce procurement officers to increase the use of free-market sources and make technical data on systems more readily available to procurement officers, so that alternate sources of products can be used. Other important considerations in this legislation are aid to small business contractors, establishment of contractor guarantees, and measures relating to procurement personnel.

2. Provisions

a. Competition

The bill contains various provisions to enhance competition. The act directs the Secretary of Defense to establish an appraisal system that rewards procurement officers for use of competition and establishes prerequisites for competition advocates on defense procurement projects. The act mandates that qualification requirements not be used to restrict competition. As in the CICA, Congress included provisions to reduce requirements and qualifications that restrict competition.[13] In addition, procurement officers are required to certify that items not purchased through full and open competitive procedures are purchased at a price equal to or lower than the price charged to the general public by the contractor.[14]

b. Non-developmental Items

The act attempts to prevent unnecessary development of items that are available in the open market or through the federal government's procurement system, by requiring

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13 Public Law 98-525, Sections 1215 and 1216, 10 U.S.C. 2317-2318.
14 Public Law 98-525, Section 1219, 10 U.S.C. 2323.

DoD to search for items within the government's acquisition system or the open market as a first option.[15]

c. Technical Data

A major stumbling block for procurement officers attempting to find off-the-shelf and competitive sources of products is a lack of technical data necessary for determining whether items can meet their needs.[16] To resolve this problem, the contractor's willingness to supply technical data was established as an important criterion to use in determining a contract award. Such data enhance DoD's ability to acquire spare parts in the future under competitive bid. Contractors are not required to provide technical data because of speculation that such a measure could deter qualified contractors from bidding.[17]

DoD's desire to acquire technical data often conflicts with the rights of contractors who wish to keep the data confidential for competitive commercial reasons. To resolve this issue, DoD is directed to establish regulations balancing these two objectives. The act also outlines procedures to be used by procurement officers to challenge contractors who unnecessarily restrict the availability of technical data.[18]

d. Direct-Source Purchasing

This act attempts to eliminate intermediaries by establishing procedures to procure spare parts or other items directly from subcontractors. Congress requires contractors to identify any subcontractors supplying items purchased by the government so that in the future the government can purchase these items directly from the manufacturer.[19] To support this requirement, the law prohibits contractors from taking action to prevent the purchase of supplies directly from subcontractors.[20]

e. Contractor Guarantees

This act also prohibits a procurement officer from entering into a contract to purchase a major weapon system without guarantees from the contractor that the weapon

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15 Public Law 98-525, Department of Defense Procurement Reform Act, Section 1213; 10 U.S.C. 2305(d)(1)(B).
16 H. Rept. 1080, p. 318.
17 Public Law 98-525, Section 1213(d)(2); H. Rept. 98-1080, pp. 318, 320-321.
18 Public Law 98-525, 10 U.S.C. 2320-2321.
19 Public Law 98-525, Section 1231; 10 U.S.C. 2384.
20 Public Law 98-525, Section 1234; 10 U.S.C. 2402.

system will function as promised or will be corrected at the contractor's cost if it does not.[21]

f. Personnel

In an attempt to bolster the expertise of the defense procurement work force, the law sets the minimum tour of duty for a procurement officer at four years.[22]

g. Economic Order Quantities

The act instructs the Secretary of Defense to take into account the quantity of goods that can be most economically produced and the most efficient rates of production in setting the quantities of goods that will be procured.[23]

h. Technical Assistance Program

This legislation created the Procurement Technical Assistance Cooperative Agreement, which provides technical assistance to state and local governments and non-profit organizations to help businesses in disadvantaged areas, small businesses, or businesses owned by minorities or handicapped individuals to compete more effectively for defense contracts.[24]

3. Summary

The Department of Defense Procurement Reform Act, like CICA, was aimed at fostering competition in defense contracting. Miscellaneous provisions were added to eliminate intermediaries, establish contractor guarantees, increase the quality of defense procurement personnel, and achieve certain social objectives through defense contracting. However, the overall focus of the legislation was to increase the use of competition to reduce the cost of defense purchases.

The effect of the law has been similar to that of CICA. Because both acts sought to increase competition and to force DoD to plan its procurements, this legislation is also responsible for increased leadtimes in defense procurement. The requirement that procurement officers certify the prices of all non-competitive procurements proved to be impossible to implement.

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21 Public Law 98-525, Section 1234; 10 U.S.C. 2403.
22 Public Law 98-525, Section 143; 10 U.S.C. 139(a)-(b).
23 Public Law 98-525, Section 1233; 10 U.S.C. 2384.
24 Public Law 98-525, Section 1241; 10 U.S.C. 2411-2416.

Again, many of the problems created by this legislation were exacerbated by DoD's strict implementation. For example, DoD required its contractors to provide much more technical data than was originally intended by the law; Congress was, in fact, reluctant to impose the technical data requirements. However, charges that Congress's legislation was too detailed are also valid.

E. SMALL BUSINESS AND FEDERAL PROCUREMENT COMPETITION ENHANCEMENT ACT OF 1984

The purpose of this act was to enhance competition in government contracting while aiding small business by forcing procurement officers to allow small businesses a fair chance to compete for government contracts. The act made few additions to existing law. In fact, most of the passages were copied verbatim from the DoD Procurement Reform Act and CICA. This act primarily extended the measures of the DoD Procurement Reform Act to all federal procurement.[25]

The only new language in this legislation was the establishment of breakout procurement center representatives to ensure the competitive purchase of replacement parts. Like the competition advocates appointed to each federal procurement project, breakout procurement center representatives were to be stationed at each federal procurement center to foster the use of competition in procuring replacement parts.[26]

F. DEFENSE PROCUREMENT IMPROVEMENT ACT OF 1985

1. Introduction

This legislation, composed of variations on several themes that predominated the 1984 legislation, also emphasizes increased competition. Two areas included in the 1984 legislation, cost and price controls and measures to increase the quality and integrity of procurement personnel, were expanded in the 1985 legislation. The Technical Assistance Program received renewed funding and certain legal restrictions on contractors were also major categories in this act.[27]

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25 Public Law 98-577, Small Business and Federal Procurement Competition Enhancement Act of 1984. The Conference Report is S. Rept. 98-523.

26 Public Law 98-577, Section 403; 15 U.S.C. 644.

27 The Defense Procurement Improvement Act of 1985 is Title IX, the Department of Defense Authorization Act for 1986, Public Law 99-145.

2. Provisions

a. Competition

As in 1984, Congress created new legislation to further bolster competition in defense contracting. First, the law prohibits the Secretary of Defense from proceeding to full-scale development of a major procurement program until an acquisition strategy providing competitive alternative sources of the system and its subsystems is prepared and submitted to Congress. According to the act, if no alternative sources for an item can be found, an explanation must be sent to Congress as well. Second, the Secretary of Defense is required to report an annual goal for competitive contracts as a percentage of total dollars contracted in procurement.[28]

b. Cost and Pricing

Unallowable Costs. Much of the act is dominated by efforts to control payments of unreasonable costs or payments for items that are deemed to be exorbitantly priced. The act lists 10 costs that are not allowed in defense contracts. Furthermore, the Secretary of Defense is directed to regulate payments of costs for 16 unallowable items contained on a separate list. Strict fines and penalties are set for contractors who include these costs in their contracts.[29]

Reporting Requirements. The Armed Services Committees of both houses requested a report from the Secretary of Defense on the widespread problems of high costs in DoD contracts and directed him to submit ideas for future legislation to control these costs. Congress further requested a yearly report from the Secretary of Defense on plans for cost analyses of major systems procurement. The law also directs the Secretary to ensure that progress payments or payments made in unidentified contracts be commensurate with the work that is done.[30] The law mandates that all price and cost data for labor, material, subcontracts, overhead, general and administrative costs, as well as fees and profits, and recurring and nonrecurring costs be recorded for all procurement projects covered under Title 10 of the US Code. These data are to be used for auditing, accounting, and management of the program.[31] The Secretary of Defense is also directed

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28 Public Law 99-145, Defense Procurement Reform Act of 1985, Section 912-913; 10 U.S.C. 2305a.
29 Public Law 99-145, Section 911; 10 U.S.C. 2324.
30 Public Law 99-145, Section 914-916.
31 Public Law 99-145, Section 917; 10 U.S.C. 2406.

to establish a system to account for expenditures to 14 types of firms defined as "advisory and assistance services," such as consulting firms.[32]

c. Procurement Personnel

The Defense Procurement Improvement Act contains two types of policies directed toward procurement personnel. The purpose of these policies is to ensure the integrity of procurement personnel by combating conflict of interest and to ensure that procurement personnel possess the skills necessary to carry out their jobs effectively.

Revolving Door. The first measure taken to prevent conflict of interest was to slow the "revolving door" between defense procuring and defense contracting. This legislation forbids defense procurement officers from accepting a job with any contractor they have conducted business with as a procurement officer for at least two years. Congress also expanded the reporting requirements of former DoD employees who have taken jobs with contractors. In addition, procurement officers are required to report any offer of employment by a contractor they have dealt with as a procurement officer and either reject the offer or disqualify themselves from procurement activity with that contractor. Penalties for failure to comply with any of these restrictions or requirements are quite severe.[33]

Personnel Competency. Other measures with regard to procurement personnel include a directive to the Secretary of Defense to establish prerequisites of education, training, and experience for procurement officers. This legislation also requires the Secretary to establish a training program for procurement personnel and to develop and report a policy on rotation of procurement personnel.[34]

d. Legal Restrictions and Requirements for Contractors

This legislation increased penalties for false claims by contractors. Persons convicted of felonies related to defense contracts were barred from employment as a manager or supervisor on any defense contract for at least one year, and reimbursements, interest payments, and penalties were established for overcharges by defense contractors. A provision was made outlining the procedure for the Defense Contract Audit Agency to

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32 Public Law 99-145, Section 918.
33 Public Law 99-145, Sections 921-923; 10 U.S.C. 2397-2397a.
34 Public Law 99-145, Sections 924-925; 10 U.S.C. 1621-1624.

subpoena records to aid in audits. This statute also placed the burden of proof on the defense contractor to establish justification for reimbursement of indirect costs.[35]

e. Technical Assistance Program

The Procurement Technical Assistance Cooperative Agreement, created in 1984, was revised and extended in 1985. The purposes and target groups were the same as in 1984, but the dollar amount of support available increased.[36]

3. Summary

The Defense Procurement Improvement Act of 1985 addressed many of the same issues as 1984 legislation. Competition enhancement, a focus of the 1984 legislation, was also emphasized in 1985. Costing and pricing, while mentioned in the 1984 legislation, received much more attention in this legislation. Congress also seemed more concerned with unethical contractors and procurement officers, mandating new statutes for acceptable behavior for them and strict penalties for those who did not adhere to the regulations.

As in 1984, the 1985 regulations that DoD wrote to implement this law were more confining than the law itself. The revolving door legislation was implemented in such a way that it precluded virtually all procurement personnel at all levels of the bureaucracy from accepting employment with a contractor they had done business with for two years, yet the intent of the legislation (according to its author) was not that extensive.[37] The unallowable cost provisions are another example of DoD's strict enforcement of the legislation. Congress disallowed 10 costs and asked the Secretary of Defense to clarify the allowability of 16 other costs. DoD clarified the allowability of the costs by restricting industry's ability to recover them.[38] Once again, DoD's response to detailed legislation led to a more rigid defense acquisition process.

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35 Public Law 99-145, Sections 931-935.

36 Public Law 99-145, Section 919; 10 U.S.C. 2411-2414.

37 House Armed Services Committee Report 99-63, *Acquisition Reform 1986*, pp. 83-87.

38 Stephen D. Knight, "Limiting Cost Recovery: Significant Legislative and Regulatory Developments," *National Contract Management Journal*, vol. 20, no. 1, p. 36.

G. GOLDWATER-NICHOLS DEPARTMENT OF DEFENSE REORGANIZATION ACT

1. Introduction

The Goldwater-Nichols Act differs from other procurement reform legislation in that it was first and foremost a reorganization of DoD. While its effects on procurement may be substantial, they are indirect. Goldwater-Nichols enhanced the role of the Chairman of the Joint Chiefs of Staff (JCS) in the planning and budgeting processes and also enhanced his role in the defense acquisition process. The law established the Chairman as an important policy advisor to the Secretary of Defense, on matters including procurement policy. Goldwater-Nichols also established the position of Vice Chairman of the Joint Chiefs of Staff to aid in formulation of procurement policy.

This bill also expanded the role of the combatant commands in policy formulation, including procurement policy, and specified the JCS Chairman as the primary spokesman for the Commanders-in-Chief (CINCs). In addition, the bill reaffirms the Service Secretaries' authority over their branches, establishing them as sole authority for acquisition in their Services.

While the Under Secretary of Defense for Acquisition (USD(A)) is believed to have been created by Goldwater-Nichols, the position was actually created in the Military Retirement Reform Act of 1986. Furthermore, the duties of the new Under Secretary were codified in the Defense Acquisition Improvement Act of 1986.

2. Provisions

a. Chairman of the Joint Chiefs of Staff

Goldwater-Nichols grants the Chairman of the JCS a significant role throughout the entire planning, programming, and budgeting process. Specifically, the Chairman is to prepare strategic, logistical, and contingency plans, including requirements for the resources to carry out those plans. He is to receive the procurement requests of the combatant commands, rank them according to order of priority, and ensure that the Secretary of Defense fulfills these needs to the extent possible within the budget.[39] While the act made it possible for the Chairman to become deeply involved in the procurement

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39 Public Law 99-433, Section 201; 10 U.S.C. 153.

process, the conference report warned that "the Chairman should not be required to spend too much time and energy on the acquisition of defense systems."[40]

b. Vice Chairman of the Joint Chiefs of Staff

The position of Vice Chairman was created to assist the Chairman in his augmented duties.[41] The Vice Chairman gained additional influence in the acquisition process because he was later assigned the position of Vice Chairman of the Defense Acquisition Board.[42] Nevertheless, the conference report warned against the Vice Chairman's devoting too much time to defense acquisition matters.[43]

c. Combatant Commands

As described in the preceding paragraphs, the Chairman is charged with ensuring that the needs--including the materiel needs--of the combatant commands are fulfilled. Thus the role of the combatant commands is strengthened in the acquisition process.[44]

d. Service Secretaries

Despite the augmented powers of the JCS to advise policy, Goldwater-Nichols increased assurances that authority for policy and ultimately command of the military are held firmly in civilian hands.[45] The Service Secretaries are given sole authority for acquisition in their service. No office in the staffs of any of the branches can assume control of this function, and the conference report stressed that these words were chosen carefully to strengthen civilian control over the procurement process.[46]

3. Summary

Goldwater-Nichols enacted many of the reorganization measures specified in the Packard Commission report. The act consolidated control of the acquisition process in the civilian offices of DoD, while at the same time ensured that the combatant commands had access to the decision process so that their needs would not be overlooked.

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40 H. Rept. 99-824, p. 110.
41 Public Law 99-433, Section 201; 10 U.S.C. 154.
42 DoDD 5000.1, p. 8.
43 H. Rept. 99-824, p. 111.
44 Public Law 99-433, Section 163(b)(2).
45 Indeed, one of the stated purposes of the act was to "strengthen civilian authority in the Department." Public Law 99-433, Section 3.
46 H. Rept. 99-824, p. 150.

H. DEFENSE ACQUISITION IMPROVEMENT ACT OF 1986

1. Introduction

The Defense Acquisition Improvement Act of 1986, created as Title IX of the Defense Authorization Act for Fiscal Year 1987, was the second of the 1986 procurement reforms. Much of the act clarifies, amends, and repeals earlier legislation. In addition, the legislation responds to a majority of the recommendations and guidance contained in the Packard Commission report released earlier in the year. Among the issues covered in this act are the authorities and duties of the USD(A); baselining, streamlining, and deregulation in the acquisition process; the use of commercial products; competition; work measurement; and cost and pricing policies.

2. Provisions

a. Management of the Acquisition Process

In keeping with the President's request for minimum legislation to implement the Packard Commission recommendation, the Defense Acquisition Improvement Act establishes the broad duties and authorities of the USD(A) but relies on the Executive Branch to further support the Under Secretary with the necessary authority to reorganize DoD acquisition. The duties of the USD(A) include supervising the entire DoD acquisition system and establishing policies relating to acquisition. The Under Secretary is also responsible for coordinating audit and oversight activities, establishing policies for maintenance of the defense industrial base, and directing the Secretaries of the Military Departments and OSD personnel on matters for which the Under Secretary is responsible.

The positions of Deputy USD(A) and the Director, Defense Research and Engineering, are also created.

b. Program Stability

The act sets out several measures designed to enhance program stability and streamline program management. The first directs DoD to prepare cost, performance, and schedule baselines for all major defense acquisition programs before the program enters full-scale engineering development and before the program enters full production. Congress required baselining to discourage buy-ins and gold plating and minimize

unnecessary program changes. If programs deviate from the costs or schedules established in the baseline, the program manager must submit a program deviation report.

The bill also provides for the establishment of defense enterprise programs. This program creates a streamlined management structure for acquisition programs by eliminating many of the reporting layers between the program manager and the senior procurement executive. The bill requires the Services to designate at least three defense enterprise programs for FY88. In addition, the conference report indicates that all major acquisition programs should become defense enterprise programs. Congress is to provide stable funding for these programs by authorizing funds for an entire acquisition phase of the program, not to exceed five years.

To increase the use of multiyear contracting authority, the multiyear procurement goal is raised to 10 percent.

c. Non-developmental Items

As part of the Competition in Contracting Act, Congress directed that procurement policies should "promote the use of commercial products whenever practicable." However, DoD has made little progress in this area. In an effort to further encourage the use of commercial items, this act establishes a "preference for the acquisition of non-developmental items." DoD is required to state its requirements in broad functional terms so that commercial items may be used to fulfill those needs.

d. Prototypes

The law endorses expanded use of competitive prototype procedures in the acquisition process by requiring their use in the development of major weapon systems.

e. Small Business Set-Asides

An important purpose of small business set-asides is to ensure that small businesses have the opportunity to compete for government contracts and to provide incentives for them to grow and modernize. Measures are established to adjust the use of these set-asides and improve competition in the small business market. Because contract award goals in this area have been concentrated in a small number of industries, agencies are required to ensure that a fair proportion of contracts are awarded to small businesses across industry categories. It also requires that the contractor perform at least 50 percent of the cost of the contract (except where impractical due to industry practices). The act also directs the Small

Business Administration to review the standard used to classify small businesses for industries in which more than 30 percent of the dollar value of contracts during the past 3 years have been awarded under the set-aside. In addition, this section requires that the cost of a contract awarded under a set-aside not exceed a fair market price.

f. Cost and Pricing

The 1985 Defense Procurement Improvement Act required contractors to certify that the price offered to DoD is not greater than the price given to commercial customers. This measure caused a great deal of confusion among contractors. The new legislation clarifies that the measure was not an overall requirement, nor was it intended to afford the government a favored customer status. This pricing requirement applies to only spare or repair parts and establishes exceptions to the price limitation. The intent of this measure is to ensure that the government pays a reasonable price in comparison with the commercial price of the same item.

The act contains an important revision to the work measurement provision in the FY86 Authorization Act. Regulations implementing the initial measure were excessively costly and burdensome to contractors. This revision establishes the cost and pricing data that contractors must make available to DoD but clarifies that contractors need not maintain additional data or data in forms that differ from the contractor's standard operating procedures.

Other pricing measures in the bill address the allocation of overhead, the evaluation of factors other than price in contracts for services, and the distinction between factual and judgmental cost and pricing data in the Truth-in-Negotiations Act.

g. Procurement Personnel

The law placed limits on the employment of procurement officials by contractors. As the conference report explains, these measures are intended to eliminate the possibility or appearance of conflict of interest by DoD procurement personnel and to establish post-employment reporting for former government procurement officials. A former DoD employee may not accept compensation from a contractor for a two-year period following employment in DoD if the official has "personal and substantial responsibility for a procurement function involving contact with that contractor during the two-year period preceding separation" or was principally involved in the negotiation of a contract of more than $10 million.

Congress requires the Secretary of Defense to develop a plan to enhance the professionalism of acquisition personnel. This plan would include criteria for selection, education, and training; the feasibility of an alternative personnel system for acquisition personnel; and legislative recommendations. In addition, the law requires the Secretary to submit a plan for the coordination of DoD educational programs for acquisition personnel.

h. Technical Data

Because of DoD's strict interpretation of the 1985 legislation pertaining to technical data rights, the bill amends the US Code to clarify the previous legislation. This legislation more carefully establishes provisions for the rights to technical data, based on who incurred the costs of developing the data. The Secretary of Defense is directed to draft regulations in accordance with these provisions and, through regulations, to define the terms *developed* and *private expense*. According to the conference report, in earlier regulations, DoD took an excessively stringent view in defining these terms. Congress intends to establish an appropriate balance between the government's need for technical data and the contractor's legitimate rights to the data.

i. Other Measures

Other measures in this bill address contractual actions, survivability and lethality testing, non-competitive contract award procedures, revisions to the Selected Acquisition Reports, and other minor requirements for defense contractors.

I. NATIONAL DEFENSE AUTHORIZATION ACT, FISCAL YEARS 1988 AND 1989

1. Introduction

The 1987 procurement reforms were far less encompassing than previous legislation. The legislation makes amendments to familiar areas of the US Code, such as oversight, truth in negotiations, small business set-asides, and technical data rights. In addition, one section of this law directs the Secretary of Defense to establish a uniform policy addressing contractor costs for special tooling and special test equipment, an issue of great concern to defense contractors in recent years.

2. Provisions

a. Program Costs

The law changes the reporting requirements for program deviation reports that are associated with the baselines established for major acquisition programs. Deviation reports must be submitted if the total cost of completing a program exceeds the baseline by 15 percent or more within the development stage, 5 percent or more in the production stage, or misses a scheduled milestone by more than 90 days.

b. Truth in Negotiations

Because of many revisions to the Truth-in-Negotiations Act, Congress enacted a statutory definition of cost or pricing data in 1986. Instead of clarifying the definition, the legislation resulted in confusion and misinterpretation. This bill attempts to resolve the confusion between cost or pricing data that are factual and data that are judgmental. The intent of Congress is that contractors make available all facts that "a prudent buyer or seller would reasonably expect to affect price negotiations significantly."

c. Other

Other measures cover the inclusion of product improvement programs in survivability and lethality testing of major systems, to further encourage the use of such testing. In addition, the responsibility of this type of developmental testing is designated to the USD(A), as distinct from operational testing, which the Director of OT&E is responsible for. The law excludes "golden parachutes" from allowable costs.

d. Minority and Small Businesses

The bill requires the Secretary of Defense to make substantial progress in increasing contract awards to minority and small businesses by issuing regulations that would result in a "more meaningful implementation" of prior legislation. This would include establishing incentives for prime contractors to increase subcontract awards to minority and small businesses and expanding such awards to all industry categories.

A series of amendments were made to the Small Business Act in the Defense Acquisition Improvement Act of 1986. The Senate amendment to the FY88 and FY89 Authorization Act included provisions to amend many of the changes made only a year earlier. The conference committee agreed that an extensive examination should be

conducted before further amendments were made. However, the conference report raised many concerns regarding implementation of the 1986 legislation and attempted to clarify several of these areas including standards used to determine small business size within industry categories, the intent of the fair market price standard, and the requirement that the contracted work be performed by the contractor's own employees.

e. Technical Data

Further amendments were made to clarify the rights of the government and the contractor with respect to technical data. According to the conference report, this clarification was necessary because DoD regulations were not consistent with the legislation established in the Defense Acquisition Improvement Act of 1986. The conference report urges the Secretary of Defense to rescind or revise regulations that are inconsistent with the law and strongly supports the effort underway between DoD and the Office of Federal Procurement Policy (OFPP) to establish government-wide regulations in this area.

f. Costs of Special Tooling and Test Equipment

The law directs the Secretary of Defense to establish a uniform policy for payment to contractors for production special tooling and production special test equipment. The law requires the government to fully reimburse the contractor if the government does not plan to make further purchases of the item or if the equipment is to be used only for final production acceptance testing. The government is required to only partially reimburse the contractor (for at least 50 percent of the cost of such equipment) if the government plans to make further purchases of the item.

J. NATIONAL DEFENSE AUTHORIZATION ACT, FISCAL YEAR 1989

Procurement reform remains on the Congressional agenda for 1989. The National Defense Authorization Act, Fiscal Year 1989, contains a number of provisions relating to acquisition policy and management. Among these provisions, the Secretary of Defense is directed to create an advisory board to recommend an appropriate methodology to determine contractor profits. In addition, DoD is directed to establish criteria for evaluating bids for professional and technical services; the Under Secretary is required to report to Congress on the current programs regarding simplification and streamlining of acquisition procedures; and an advisory panel is to be established on industry-government relations to discuss issues such as the use of debarment and suspension. Congress is also strengthening the quality requirements for the procurement of spare parts and precluding

the use of fixed-price development contracts that exceed $10 million without approval from the Under Secretary. The bill contains comprehensive provisions intended to revitalize the US defense industrial base, including centralized policy guidance through the USD(A) and a requirement for analyses on industrial base capability. The bill also establishes an industrial base office within the Under Secretary's organization. Other provisions address a critical technologies plan, offset policies, extend the 5 percent contract goal for disadvantaged businesses one additional year, and establish protections for members of the military who report instances of waste, fraud, and abuse within the defense contracting arena.

K. THE LEGISLATIVE AGENDA FOR THE NEXT CONGRESS

The subject of several bills proposed this year are likely to be raised again by the next administration. In an effort to improve professionalism and remuneration for certain acquisition personnel, a bill sponsored by Senator Jeff Bingaman would create demonstration projects patterned on the Navy China Lake pay experiment, which gives managers increased flexibility for pay and promotion of engineers, technicians, and scientists. The bill would create 10 demonstration pay projects, 5 within DoD. Another bill, sponsored by Senator Alan Dixon, is intended to enhance and strengthen the authority of the USD(A) by making the Service acquisition chiefs directly responsible to him.

Three bills propose the creation of a professional acquisition corps. Representative Barbara Boxer introduced a bill to create an Independent Procurement Corps, which would be independent of the Pentagon and would manage the acquisition of weapons and equipment exceeding $300 million. Representative Dennis Hertel proposed a similar bill creating a Defense Acquisition Agency that would reside within DoD. A third, proposed by Senator William Roth, calls for DoD to set up a civilian defense acquisition agency headed by the USD(A). The agency would be made up of civilian personnel, who would perform all weapons acquisition functions within DoD, effectively removing the Services from management of the entire acquisition process. The Services would continue to identify threats to national security and develop weapon system requirements.[47]

Congressional concerns about the defense acquisition process are likely to remain a priority on the agenda in the coming year, fueled in part by the recent procurement scandals. The past five or six years have witnessed a proliferation of legislation dealing with various aspects of defense acquisition, but the system still suffers from many of the

47 Morrison, David C. "Tinkering with Defense," *The National Journal* (3 September 1988), p. 2178.

problems repeatedly identified by those who study the process. Congress recognizes the need for fundamental change in the system and is beginning to consider major organizational alterations, such as a centralized acquisition agency to resolve the defense procurement issues. The acquisition debate in the next Congress is likely to focus on these issues.

L. OVERVIEW OF GENERAL PROBLEMS

1. Micro-management by Congress

The acts of Congress described in the preceding sections differ greatly from past legislative action regarding weapons procurement in that they dictate specific management action for DoD. With widespread tales of procurement waste, fraud, and abuse, Congress was impelled to take strong, specific action to reform the huge Pentagon bureaucracy. These congressional efforts have not, however, been successful.

The recent legislation has, for the most part, resulted in widespread confusion in the procurement community and increased complexity in the weapon systems procurement process. While reports such as the Packard Commission's called for greater streamlining, the legislation created more reporting layers and higher echelons in the "army of advocates." Program managers do not have significantly more influence over programs, yet are still responsible for the outcomes. The result is poor procurement management along with lengthy paper trails documenting and justifying each decision, intended to insulate program mana - from criticism.

2. Excessive Regulation by the Department of Defense

In responding to congressional mandates, Pentagon officials often overreacted, interpreting the law in the strictest possible sense, further constricting and obfuscating the procurement process.

3. Litigation

An additional problem that always occurs after such sweeping legislative action is a flood of costly litigation. The new laws are interpreted differently by various parties, leading to disagreements and law suits.[48]

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48 Preston, p. 14.

4. Contradictions in Legislation

In some cases, different measures required by the legislation conflict. For example, the DoD Procurement Reform Act of 1984 requires contractor guarantees. The same piece of legislation and others like it stress the need to find alternate sources of spare parts; however, if any parts other than those of the original manufacturer are used, the contractor guarantee will be void.[49]

5. Weighing Costs and Benefits

While congressional actions were generally motivated by sound principles, they were often excessive, so that any benefits to be received were outweighed by the costs. CICA is perhaps the most striking example. Increased competition led to lower costs of weapon systems yet also brought about great increases in procurement costs due to additional requests for bid packages and technical data and increased administrative leadtimes.

M. A POSSIBLE LEGISLATIVE AGENDA

One possible objective for the new USD(A) is to build support in Congress for initiatives to greatly simplify procurement legislation. The Bingaman Bill explicitly requests the USD(A) to make suggestions to simplify procurement regulation. The following provisions could be part of the new USD(A)'s response:

- Repeal all legislation that dictates management activities to program managers and replace it with more general objectives. Managers should be given the authority to run their programs. (This measure would include completely deleting several sections of the legislation discussed in the preceding sections.) Congressional oversight is a continued necessity, but Congress should be concerned only with certain results (such as increasing the use of competition) and permit managers to determine how they will achieve these goals.
- Reduce the number of audit personnel and advocates that a program manager must answer to.
- Expand implementation of the management system developed at China Lake.
- Take action to increase budgetary stability for defense purchases.

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49 Preston, p. 14.

The fact that the Bingaman Bill contains many of these proposals indicates that Congress may be receptive to these initiatives; however if they are not welcomed in Congress, less ambitious and more specific changes might be suggested. The following paragraphs describe some possible improvements.

1. Thresholds for Small Purchases

Much paperwork associated with defense procurement could be eliminated if Congress would exempt procurements of less than $25,000 from the many requirements placed on procurement officers. For example, more than 12 pieces of legislation (not included in this report) require procurement officers to give preferential treatment to small or minority-owned businesses or businesses owned by handicapped individuals. Many small procurements could be greatly streamlined if they were exempted from these requirements. Since 70 to 97.6 percent of DoD procurements could be considered small procurements by this definition, a reform exempting them from these requirements could have a significant effect on the amount of paperwork required.[50]

2. Charge for Technical Data

Many contractors complain of incredible delays in receiving bid information from DoD; however contractors request bid packages even when they have only the slightest inclination to bid on a project. By charging contractors for the cost of reproducing the bid data, including labor and use of equipment, DoD could offset the costs of providing the data and possibly limit the requests to serious inquiries.[51]

3. Repeal Small Business Set-Asides

CICA has given small businesses an equal chance to compete for awards; thus the small business set-aside program does nothing more than offer these firms a protected market. It also includes strong disincentives for small business to expand because they would loose their small business set-aside contracts.[52]

4. Change Bid Protest Procedure

Protestors under the bid protest procedure established in CICA should be required to prove that they have a legitimate case before an injunction on the contract award is

50 Preston, p. 18.
51 Preston, pp. 19-20, 21-22.

granted. Furthermore, the GSBCA should be instructed to follow more established norms in awarding in favor of the protestor.[53]

5. Reduce Excessive Regulation Of Legislation

In addition to promoting the repeal of selected legislation, the new USD(A) could try to reduce the overly stringent DoD regulations that resulted from it. The following measures would not require acts of Congress for implementation:

- Using quality and technical expertise, as well as price, as criteria in awarding competitive contracts
- Reassessing the allowability of certain costs that were not specifically dictated by Congress as unallowable
- Narrowing the number of procurement personnel covered by the revolving door legislation.

A more limited approach of changing a few regulations and pieces of legislation is the historic pattern of reacting to symptoms of the faulty system rather than attempting to change the system itself. More fundamental change to the defense procurement system may be required to achieve the results needed for improvement.

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52 Preston, pp. 18-19.
53 Preston, pp. 22-23.

THE DEPARTMENT OF DEFENSE ACQUISITION PROCESS:

DECISION MAKING AND DIRECTION AT THE OFFICE OF THE SECRETARY OF DEFENSE LEVEL

Robert D. Turner

THE DEPARTMENT OF D'FENSE ACQUISITION PROCESS: DECISION MAKING AND DIRECTION AT THE OFFICE OF THE SECRETARY OF DEFENSE LEVEL

A. INTRODUCTION

This paper describes the Department of Defense (DoD) acquisition process--the decision-making process associated with oversight of the execution of major defense system acquisition programs--as it is conducted at the Office of the Secretary of Defense (OSD) level and as it is revealed in formal DoD Directives and Instructions. It also attempts to identify and characterize DoD responses to various acquisition reform recommendations that are embodied in this formal documentation. Resource allocation for developing, producing, and deploying DoD systems and equipment, in competition with other claims on the DoD budget, is treated peripherally, to delineate an important interaction between the two decision-making functions.

B. DEFINITIONS AND SCOPE

References 1 and 3 define the DoD acquisition system as a "single uniform system whereby all equipment, facilities, and services are planned, designed, developed, acquired, maintained and disposed of" within the DoD. Reference 2 defines the acquisition process as "the sequence of acquisition activities starting from the agency's reconciliation of its mission needs with its capabilities, priorities and resources, and extending through the introduction of a system into operational use or the otherwise successful achievement of program objectives."

For the purposes of this paper, an acquisition program is a sequence of development activities, including test and evaluation, aimed at achieving a producible piece of equipment or system, and production and depioyment, including operational and

maintenance training and logistics support, of such equipments or systems.[1] This paper focuses on major defense acquisition programs, in the context of References 2 and 3. Such programs consist of several types of activities, including

- Defining technical specifications for a piece of equipment or a system that, if met, will enable the item to meet capability requirements that have been stated by or for potential users and relating these specifications to the technological state of the art for the purpose of determining feasibility of their attainment.[2]
- Deciding how the various stages of development and procurement will be accomplished (sometimes referred to as acquisition strategy), including the extent of competition, types of contractual arrangements, and the management structure of the acquisition program within the responsible agency.
- Developing or procuring a tangible item or system that can be tested, evaluated, demonstrated, considered for deployment, and ultimately produced and supported in sufficient numbers to meet quantitative deployment requirements.
- Overseeing the development or procurement action, or the transition from development to production and deployment, to ensure that performance, cost, and schedule standards are met.

This paper centers on the DoD acquisition decision-making process, an activity conducted under the auspices of the OSD, with participation of the Joint Chiefs of Staff (JCS) and other DoD Components.[3] This process provides oversight and governs the development and procurement of major defense systems,[4] by determining

- Whether major development activities should be initiated to correct a deficiency or fulfill a need of the military forces and whether such activities should be aimed at developing common-use solutions

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1 Routine procurement activities, which do not require a sequence of efforts to determine feasibility, demonstrate producibility, etc., are not addressed in this discussion, except to the extent that they affect the resource allocation processes described in Section C.3.

2 The rather complex issues of requirements identification, development, and validation, and the relationship of these procedures to the acquisition process are not addressed; however, see the discussion of responsibilities of the USD(A) in Section E.1.

3 These include the Military Departments and Defense Agencies. Use of "Organization of the Joint Chiefs of Staff (CJCS)" was terminated by an OSD memorandum of 29 September 1988, subject: The Joint Staff, in accordance with the DoD Reorganization Act of 1986.

4 A major defense acquisition program, by definition (Ref. 3, p. 2), is one that is not a highly sensitive classified program (as determined by the Secretary of Defense) and has either been designated as such by the Secretary of Defense (because of urgency, development risk, joint funding, significant Congressional interest, or other considerations) or requires research, development, test, and evaluation expenditures in excess of $200 million or procurement expenditures in excess of $1 billion (FY80 dollars).

- The pace and goal of the activities; for example, whether an existing system should be modified or a new start is required
- What steps are required in the development process to establish that
  - -- the approach is technically feasible
  - -- the approach is operationally effective and suitable
  - -- the end item resulting from the development effort is producible, affordable, deployable, and supportable
- How such findings are to be validated
- Whether a suitable acquisition strategy has been defined, including
  - -- how a competitive development and procurement base is to be established
  - -- whether and how opportunities for Allied participation should be exploited
- Whether sufficient progress has been made to warrant focusing the development effort on realization of a producible and deployable piece of equipment or system
- Whether the objectives of the development efforts have been sufficiently attained and demonstrated to warrant recommending that the piece of equipment or system enter full-scale production and be deployed.

C. PROCESS DESCRIPTION

1. Acquisition Milestones

Figure 1 provides an overview of the OSD-level decision-making process for a single major acquisition program, as described in References 3 and 4. This process consists of discrete decision points, referred to in Figure 1 as milestones; it is carried out under the supervision of the Defense Acquisition Executive (DAE), who is the Under Secretary of Defense for Acquisition (USD(A)).

Each milestone action requires a decision by the Secretary of Defense and is documented in the form of an Acquisition Decision Memorandum (ADM) to the head of the Service or Defense Agency responsible for execution of the acquisition program.[5] The

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5 Major defense acquisition programs are designated by the Secretary of Defense, on recommendation of the DAE, as DAB programs or as Component programs. Designation as a Component program delegates the authority to make milestone decisions to the Component head [Ref. 3, p. 2]. The description presented in this paper refers to DAB programs.

Figure 1. Overview of Defense Acquisition Decision Milestones

action taken is based on determinations of whether certain criteria have been met and whether certain thresholds have been breached. These criteria and thresholds, which may change during the life of an acquisition program, generally pertain to feasibility, projected costs, performance, operational effectiveness and suitability, technical risks, and producibility. Each milestone additionally entails assigned organizational responsibilities for ascertaining whether or not the criteria have been met or the thresholds have been breached.

The milestone reviews are conducted by the Defense Acquisition Board (DAB) [Reference 6], which is chaired by the DAE; the Vice Chairman, JCS, serves as the Vice Chairman of the DAB.[6] Program managers play a central role in the reviews by presenting the program status, issues pertaining to execution, and their recommendations for resolving the issues.

The DAB is supported by 10 Acquisition Committees with oversight responsibilities for science and technology; nuclear weapons; strategic systems; conventional systems; command, control, communications and intelligence (C^3I); test and evaluation; production and logistics; installation support and military construction; international programs; and policy and initiatives. The function of these committees is to identify and resolve program issues prior to DAB milestone reviews.[7] Acquisition Committee chairpersons attend meetings of the DAB "as appropriate" [Reference 6, p. 2]. Prior to meetings of the Acquisition Committees, the following individuals and organizations are briefed by the Component staffs on certain topics:

- Program status: Acquisition Committee action officer [Reference 4, p. 10]
- Program baseline, independent cost estimate: Cost Analysis Improvement Group
- Test activity results and plans: Director, Operational Test and Evaluation and the Deputy Under Secretary of Defense (Test and Evaluation)
- Acquisition strategy, transition from development to production: Assistant Secretary of Defense (Production and Logistics) (ASD(P&L))
- Readiness and support planning: Director, Weapons Support Improvement Group

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6 The other permanent members of the DAB include the SAE of the Army, Navy, and Air Force; the ASD(C); ASD(P&L); ASD(PA&E); and the Director of Defense Research and Engineering.

7 Reference 4, p. 5 states that "every effort shall be made through the committee process to reach consensus on issues before the DAB meeting."

- Manpower: Assistant Secretary of Defense (Force Management and Personnel) (ASD(FM&P))
- Threat definition: Director, Defense Intelligence Agency
- Additional subjects specified by the cognizant Acquisition Committee chairperson.

2. Documentation

Extensive documentation is required in support of the acquisition decision-making process. Appendix A (derived from Reference 4) lists the documents that are developed in preparation for the milestone reviews. These documents are submitted in draft form by the Component to the DAE and the cognizant chairperson three months before review by the Acquisition Committee. Comments of the DAB members are transmitted to the Component two months before the meeting of the DAB, and the Component transmits final updates of the documentation to the DAE and the cognizant Acquisition Committee chairperson three weeks before the Board's meeting.

The Program Baseline document (described in greater detail in Reference 8) is central to oversight and management of a major system acquisition program. Introduced at Milestone I, the Program Baseline is prepared by the program manager and constitutes a formal agreement between the DAE, Service Acquisition Executive (SAE), Program Executive Officer (PEO), and program manager. It summarizes functional specifications, cost, schedule, operational effectiveness, and suitability requirements, which the program will subsequently be evaluated against [Reference 3, p. 3]. Changes to the Program Baseline are permitted only under extreme circumstances [Reference 8, p. 3]. At Milestone II, the Baseline document evolves into a Development Baseline document. This document identifies measurable performance parameters that are critical to mission success, provides a program milestone schedule leading to an initial operating capability, and states goals for total development and unit production costs. At Milestones III and IV, the document becomes a Production Baseline document, which incorporates a full set of demonstrated performance parameters (along with acceptable limits of variation of these parameters), validated estimates of the remaining program costs and the average unit production cost, and a production delivery schedule.

At all stages, the Program Baseline defines thresholds that pertain to performance, schedule, and cost. If these thresholds are breached, a review of the program is initiated. The program manager is required to notify the SAEs and DAE of the occurrence, its

causes, and recommended actions (including a zero-cost-growth alternative) to correct the problem [Reference 8, pp. 2-3].

Recommendations of the DAB are presented by the DAE to the Secretary of Defense for decision approval; such approval results in formal issuance of the Acquisition Decision Memorandum to the Component head.

3. The Department of Defense Resource Allocation Process

The procedures for oversight and approval of acquisition programs described in the preceding paragraphs result in decisions for individual acquisition programs regarding the reasonableness of cost estimates and whether performance in controlling actual and projected costs is adequate. These procedures, and the associated ADMs, do not, however, provide resources for execution of development and procurement efforts. A second kind of decision-making process, formally known as the DoD Planning, Programming and Budgeting System (PPBS), is conducted at the OSD level.[8] PPBS delineates fiscal and personnel resource requirements for support of the acquisition process (and other DoD programs) in the President's budget. Congressional and subsequent DoD actions then result in funds being made available for expenditure during execution of acquisition programs.

Figure 2 provides an overview of the total resource allocation process, of which the PPBS is a major part.[9] Five categories of activity are shown (the Congressional Authorization and Appropriation processes are considered one phase). Associated with each phase is a frame of reference--a categorization of activities to be addressed in that phase (shown as topical listings adjacent to the box corresponding to each phase). The planning, programming, and budgeting phases are conducted under the general oversight of the Defense Resources Board (DRB) and are subject to recommendations of the Board and decisions by the Deputy Secretary of Defense, who serves as chairman of the DRB.

At the beginning of the process, development of the **Defense Guidance** is undertaken by OSD with participation by JCS, the Components, Commanders-in-Chief

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8 Reference 12 establishes policy and outlines procedures and responsibilities for the PPBS. Responsibilities for the planning, programming, and budget review phases are respectively assigned to the USD(P), ASD(PA&E), and ASD(C). The Under Secretary of Defense for Research and Engineering, and therefore presumably the USD(A) today, "shall coordinate the interface of the acquisition process with the PPBS."

9 Additional details are provided in Appendix B.

(CINCs) of the Unified and Specified Commands and the Office of Management and Budget (OMB). The purpose of the Defense Guidance is to provide an integrated and coherent basis for planning, by collectively addressing national security policy, grand strategy for implementing the policy, force planning for executing the strategy, and resource allocation guidelines (in part stated as ranked mid-term objectives, to be accomplished within the planning period, and long-term goals, to be accomplished subsequently).[10] Fiscal guidance provides a top-line allocation of resources for use by the Components in the next phase.

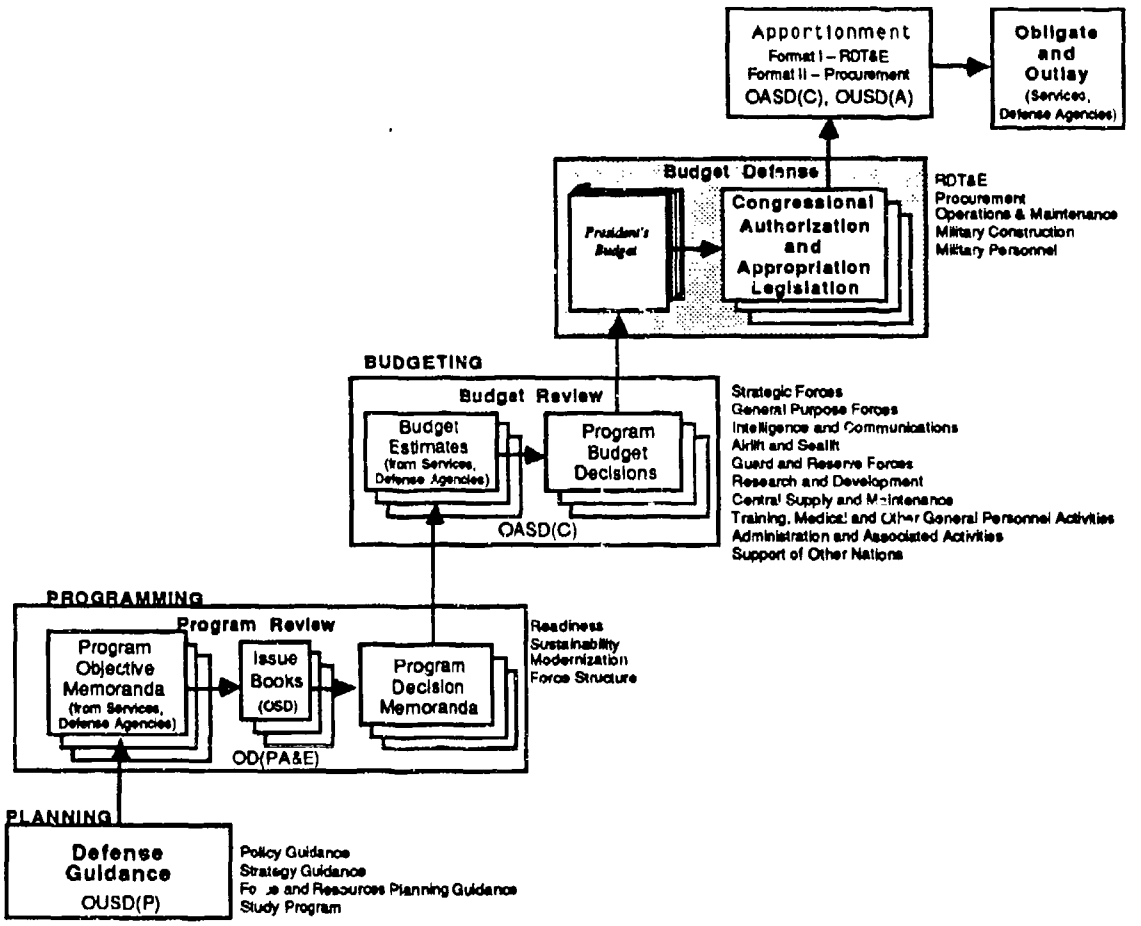

Figure 2. Overview of the Department of Defense Resource Allocation Process

10 The strategy guidance stems from the Joint Strategic Planning Document, which is prepared by the Joint Staff and approved by the JCS prior to development of the policy guidance.

The Components develop Program Objective Memoranda (POM) in response to the Defense Guidance to describe how they would use the resources stipulated in the Fiscal Guidance to support the policy and strategy of the Defense Guidance and fulfill its higher priority objectives and goals; submission of these documents to OSD initiates the **Program Review**. With participation from JCS and the Components, OSD prepares eight Issue Books for review by the DRB. These books contain staff proposals to change the programs outlined in the POMs, together with analyses of the effect and costs of these alternatives. The rationale for changing the programs generally is to more closely align them with the objectives and goals of the Defense Guidance. The Program Review concludes with decisions by the Deputy Secretary of Defense, which are documented in Program Decision Memoranda (PDM); these are signed by the Secretary of Defense and transmitted to the Component heads (the Secretaries of the Military Departments and the directors of the Defense Agencies) as direction for preparation of their Budget Estimates.

The **Budget Review** commences when the Components submit their Budget Estimates to OSD. The central purpose of the Budget Review is to "scrutinize" the programs contained in the Budget Estimates to ensure that the efforts are well defined and the cost estimates are accurate. The Budget Estimates should comply with the PDM; however some flexibility is allowed to cope with revised cost estimates and other changes that have occurred subsequently. Significant changes can occur in program funding and issues can be raised to better align programs with the results of the Program Review. Such issues are documented in Program Budget Decisions, which contain concisely described alternatives and are approved by the Secretary of Defense or the Deputy Secretary of Defense. Approved changes are applied to the Budget Estimates, and the revised submissions are incorporated in the President's budget, for transmittal to the Congress.

On receipt of the President's budget, the Congress schedules hearings and the **Budget Defense** phase commences. Testimony is provided by DoD officials, and, ideally, the Congress passes an authorization bill and an appropriation bill before the beginning of the fiscal year for which funds are requested in the President's budget. While the budget defense is not an integral part of the DoD resource allocation process, its outcome affects the DoD process. In particular, the hearings and mark-up sessions conducted by the Congress overlap the periods used for DoD review of programming and budgeting resources for the following fiscal year, forcing DoD to conduct these reviews without fixed budget levels.

The final phase of the resource allocation process, **Apportionment**, commences at the beginning of the fiscal year and deals with the funds that have just been authorized and appropriated by the Congress. Two administrative controls are available to the Offiice of the USD(A). These controls provide for withholding funds for research and development and procurement activities pending final Congressional budget action or until appropriate standards have been met by the Component responsible for executing the program.

While this discussion does not describe the relationship between the resource allocation process and the acquisition decision making process, Reference 13 [p. 5] states that the milestone decisions made by the Secretary of Defense for the acquisition process are required for consideration of programs in the PPBS:

> The interface between the weapons acquisition process . . . and the PPBS is achieved by designated membership of the [Defense Acquisition Board[11]] and the Defense Resources Board and the requirement to develop an acquisition strategy for all major systems . . . Milestone decision points are identified in the acquisition strategy. . . . A requirement validation. . .is submitted as part of [the Program Objective Memorandum]. Secretary of Defense directions are included as part of his [Program Decision Memoranda] . . . . Approval to proceed is contingent upon the Military Department's demonstration that sufficient funds are included in [the Program Objective Memorandum . . . to fund the acquisition and support of the weapons system.

D. DOCUMENTATION OF DEPARTMENT OF DEFENSE RESPONSES TO REFORM RECOMMENDATIONS

1. Introduction

A number of the recommendations resulting from recent studies of the DoD acquisition process have been included in government directives:

- Reference 2, published in 1976, calls for expression of needs and program objectives in mission terms; competitive exploration of alternative system design concepts; establishment of clear lines of authority, responsibility, and accountability for management of major system acquisition programs; and designation of a focal point for integrating and unifying the system acquisition management process and monitoring policy implementation.
- The March 29, 1982, version of Reference 3 cites Reference 2 (as does the current version) and calls for effective design and price competition, a range of

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11 Current language states "Defense Systems Acquisition Review Council."

initiatives to promote program stability, and delegation of authority with clearly established responsibility and accountability.

- The March 8, 1983, version of Reference 4 encloses a list of 39 "acquisition management and system design principles" to be considered in planning major system acquisitions, including economical production rates, preplanned product improvement, deployment requirements, and evolutionary development and acquisition of command and control systems. While the current version does not contain this listing, it does contains additional references dealing with some of these subjects.

2. Hierarchical Description of Department of Defense Acquisition Directives and Instructions

The assemblage of DoD Directives and Instructions pertaining to the acquisition process is extremely complex. Figure 3 provides a partial illustration of this point.[12] DoD Directive (DoDD) 5134.1 [Reference 1], at the top center of the figure, is the charter directive for the USD(A). This directive cites as references three directives shown in Figure 3; of these, DoDD 5000.1 [Reference 3] is the core document for describing the acquisition process. DoDD 5000.1 provides a top-level view of policies, acquisition phases, procedures, and responsibilities of key personnel.

Seven DoD directives are shown in the figure as referenced in DoDD 5000.1; three of these, DoDD 4245.1 [Reference 7], DoDD 5000.45 [Reference 8], and DoDD 5000.49 [Reference 6], are discussed in greater detail in the following section. The core directive for describing the acquisition decision-making process and associated procedures is Department of Defense Instruction (DoDI) 5000.2. DoDD 5000.1 and DoDI 5000.2 are published simultaneously and constitute the primary sources of formal direction for acquisition decision-making.

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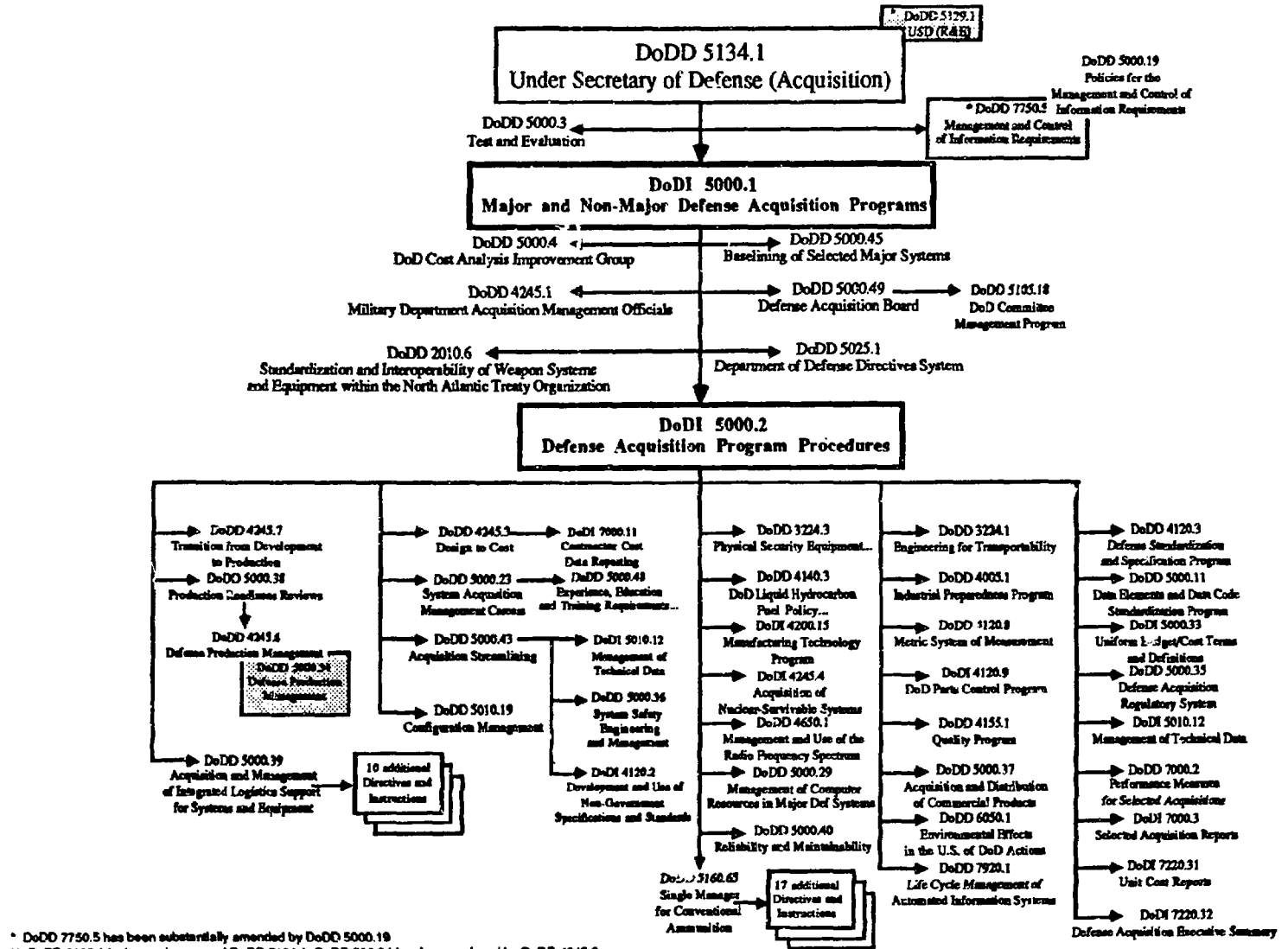
12 Note many other DoD Directives and Instructions relate to those shown in Figure 3 but are not specifically referred in the directives. Such items have not been included in the set depicted in Figure 3.



* DoDD 7750.5 has been substantially amended by DoDD 5000.19
** DoDD 5129.1 is the predecessor of DoDD 5134.1; DoDD 5000.34 has been replaced by DoDD 4245.6.
Shading indicates directives that have been amended or replaced.

Figure 3. Relationship of DoD Acquisition-Related Directives and Instructions

Thirty-two directives and instructions are shown in Figure 3 among the references cited in DoDI 5000.2, and the range of subjects they cover exemplifies the complexity of the DoD directive structure and the acquisition processes that are governed by that structure.[13] Many other acquisition-related directives cite DoDD 5000.1 and DoDD 5000.23, but are not part of the hierarchical structure shown in Figure 3. A number of directives and instructions make reference to nonexistent positions, address policies that may no longer be valid, or deal with issues that might well be delegated to the Components. The OSD should consider simplifying and rationalizing this maze of conflicting and frequently anachronistic formal direction.

3. Explicit Responses

The most explicitly responsive DoD Directive found in the preliminary search was Reference 7, which

- References National Security Decision Directive 219[14]
- Establishes the positions of SAE (as a civilian Presidential appointee) and PEO
- Requires that there be no more than one layer of supervision between a program manager and the SAE.

This directive clearly sets forth some essential steps for streamlining the DoD acquisition process.[15] It states the DoD policy that "authority for the development and implementation of DoD acquisition *policies* will be clearly delineated" (emphasis added), but it does not state how authority and responsibility for acquisition program management is to be determined or established.

Reference 7, is cited in DoDD 5000.1 [Reference 3], deals with responsibility for military acquisition officials. Reference 3 specifies a streamlined acquisition organization (though it is vague on how the authority and responsibilities of program managers will be

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13 Many of the directives and instructions referenced in DoDI 5000.2 contain further citations of additional directives and instructions, and raise questions concerning the kind of issues that prevailed at the time DoDI 5000.2 was issued.

14 This document, "Implementation of the Recommendations of the President's Commission on Defense Management", 1 April 1986, was not available for review during the study.

15 Conversely, Reference 9, "Acquisition Streamlining," appears to belie its title and impose new constraints and documentation requirements for acquisition programs. In addition, it calls for an Acquisition Streamlining Plan (updated annually) and initiatives to train acquisition personnel and recognize outstanding performance in acquisition streamlining but makes no mention of establishing clear lines of authority.

determined). Reference 3 also calls for a tailored acquisition strategy, including competitive prototyping, and enhanced program stability, including program baseline agreements, but does not include the Joint Requirements Management Board (JRMB) recommended in acquisition reform studies.[16]

Reference 11 is a late 1986 revision of the 1974 DoD Directive on system acquisition management careers and cites the FY86 Defense Authorization Act as a reference. It does not cite Reference 7, and there is no evident reason why a separate directive is needed.

Reference 10, the DoD Instruction on Selected Acquisition Reports, was recently revised to respond to the Goldwater-Nichols Department of Defense Reorganization Act of 1986 and cites that legislation and the 1987 DoD authorization bill as references.

Reference 8 is a new (mid-1986) DoD Directive on baselining for major system acquisition programs, and contains language pertaining to the SAE and other related topics. In addition to providing detailed outlines and formats for elements of the Program Baseline Document, it defines responsibilities of the program manager in dealing with breaches of baseline criteria.

Note that References 12 and 13, the core directive and instruction for describing the DoD resource-allocation process, do not contain any explicit responses to acquisition reform efforts, although Reference 13 was recently augmented with a new enclosure delineating procedures for CINCs participation in the PPBS process.

E. CRITIQUE

1. Functions of the Under Secretary of Defense (Acquisition)

The acquisition decision-making process described in the preceding paragraphs entails certain actions and responsibilities that are assigned to the USD(A). In addition to presiding over meetings of the DAB, the USD(A) appoints an Executive Secretary to the DAB, who provides administrative assistance and support for the Board's activities; approves charters and selects chairpersons for the Acquisition Committees and ad hoc

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16 The JRMB is mentioned in Reference 8 in the context a review that is to be scheduled within 30 days after notification of a breach of a baseline parameter (p. 2); JRMB milestone reviews and a JRMB Executive Secretary are also mentioned (p. 3). These may be anachronistic, because Reference 8 predates Reference 6, which establishes the DAB. However, Reference 6 makes no mention of any function of the DAB for reviewing programs after notification of a baseline breach.

working groups needed to accomplish the Board's mission; decides on appropriate action when the Board members do not agree on implementation issues; and forwards recommendations, together with any dissenting opinions of Board members on substantive issues, to the Secretary of Defense.[17]

The responsibilities of the USD(A) extend beyond the oversight of individual major system acquisition programs.[18] In particular, the USD(A) is responsible for oversight of the total acquisition program and for ensuring its coherence, relevance, and affordability. Within the near-term (five-year) planning cycle, the USD(A), as a member of the DRB, must address the allocation of resources to readiness and sustainability deficiencies, as well as modernization initiatives. In this regard, policies must be formulated and decisions must be made with regard to investment strategy for the following areas:

- Direct enhancements to mission-performance capabilities through
  - -- increased technical performance of equipment and systems
  - -- improved reliability of equipment and systems
  - -- improved training systems
- Incorporation of non-functional enhancements to reduce vulnerability or to enhance maintainability and supportability
- Improvements in efficiency of day-to-day operations
- Provision of future options through support of the technology base and retaining sufficient flexibility in the acquisition program to exploit technological advances from non-DoD sources
- Improvements in affordability of military supplies, equipment, and systems through enhancements of the defense industrial base.

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17 Reference 4, pp. 4-6 and 10 provides additional responsibilities of this position. The material, however, appears to relegate much of the substantive work of detailed program review and delineation of actions to the Acquisition Committees and their chairpersons, and leaves unexplained such matters as how the criteria and thresholds for program baselines are determined and how the relevance and validity of Component-provided cost data, performance measures, test results, and producibility and supportability determination are assessed.

18 This paper does not delve into the procedures for formulating and validating requirements, but there are serious issues concerning how stated capability needs and critical mission-performance deficiencies are to be correlated with technical specifications for development and production of systems. There appears to be no formal arrangement for addressing this matter within the context of acquisition decision making. The DoD problem in this regard is complicated in several ways, including the fact that mission-performance deficiencies and capability needs are to emanate from the CINCs of the Unified and Specified Commands, while doctrine and tactics (the formulation of which can influence technical specifications) for use of new systems and equipment are developed by the Services.

This list addresses a complex spectrum of investment channels (the technology base and the industrial base, for example, as well as major systems acquisition programs) and a long-term planning cycle, which must ensure that technology is available to meet future threats and to accommodate major changes in national security policy as well as ensure that acquisition efforts meet near-term readiness and sustainability requirements. In addition to striving for balance in these two dimensions, the USD(A) must also attempt to balance the on-going major system acquisition activities across mission areas and requirements and ensure that the total acquisition program is affordable.

Reference 1 indicates that the USD(A) has substantial responsibilities beyond those of the DAE and the related function of DoD Procurement Executive. Reference 1 assigns the following functional areas: basic and applied research, logistics management (including transportation, energy, and warehousing), scientific and technical information, industrial base resources and productivity, environmental services, and installation management and construction. The USD(A) also exercises direction and authority over the Defense Advanced Research Projects Agency, Defense Communications Agency, Defense Mapping Agency, and Defense Nuclear Agency, as well as the Defense Logistics Agency and Defense Systems Management College, and provides technical guidance for the Electromagnetic Compatibility Analysis Center and policy guidance for use of Federally Funded Research and Development Centers.

2. Strategic Planning as a Line Function

At any specific time, 30 to 50 ongoing major system acquisition programs will be subject to milestone reviews by the DAB. While individual reviews address affordability considerations, the Board (and, especially the supporting Acquisition Committee structure) is not well suited to the task of ensuring affordability for the total acquisition program. Given the level of defense procurement activity, 10 or more major system acquisition programs may be candidates for Milestone III decisions within one fiscal year, and available resources (as identified in the Fiscal Guidance section of the Defense Guidance) may not be iadequate for initiating and sustaining full-scale production efforts at efficient rates. In addition, it is not likely that resources would be available to provide the funding required to achieve the benefits of multi-year procurement for many of these Milestone III candidates.

This resource allocation problem should not be addressed by the DRB because the scope of DRB deliberations is very large. In fact, "the ultimate objective of the PPBS is to

provide the operational commanders-in-chief with the best mix of forces, equipment and support attainable within fiscal constraints." [Reference 12, p. 1] DRB deliberations, at least until recently, have been limited to a relatively short planning cycle, and the Board's actions have been limited to steps such as program cancellation, reduction of quantitative levels of procurement, and deferral of initial operational capability dates--measures that may be inimical to an efficient and responsive acquisition program.

There appears to be a substantial hiatus in the format for planning in the DoD acquisition and resource allocation processes with regard to prioritizing the major system acquisition programs.[19] Failure to close this gap will limit the options available to the USD(A) for enhancing the relevance, efficacy, and affordability of the DoD acquisition program. The USD(A) should consider the entire range of acquisition programs under way at any given time. To implement such a review, an acquisition-related prioritization document must be developed to serve as a basis to assess mission-oriented requirements and associated priorities (as documented in the Defense Guidance), for use by the USD(A) in his milestone recommendations to the Secretary of Defense and during Program Reviews. This document would emphasize the problem of allocation of acquisition resources (including facilities, personnel, and emerging technologies) and recommend priorities for funding major system acquisition increments according to such factors as

- Cost, schedule and technical risks, including changes in threat projections that could affect key system parameters and availability of qualified acquisition personnel
- Program stability enhancement opportunities, such as expanded test and evaluation efforts
- Availability of competitive development or production resources
- Transition opportunities and effect of emerging technology, to permit innovative approaches for enhancing mission capabilities
- Effects of emerging manufacturing technology, to reduce production costs, and requirements for DoD funding to establish or accelerate production capabilities using that technology
- Evolution of related training and logistics support capabilities.

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19 A related point was made by the Packard Commission: "But the DSARC process, while adequate to determine whether the proposed specifications will meet the stated user requirements, lacks a viable mechanism for *challenging* those requirements." However, the Commission does not appear to have addressed the issue of ranking individual efforts within the overall DoD acquisition program (Ref. 14, p. 58).

It is not proposed that these considerations be addressed by the DAB and its associated Acquisition Committees, in addition to the many items that are already reviewed by these groups.[20] Instead it is recommended that strategic planning be established as a line function in the acquisition decision-making process, to operate in parallel with the DAB Strategic planning should allow a more informed and rational approach to affordabilty throughout the acquisition program and thereby strengthen the position of the USD(A) in competing for resources in the DRB arena.

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20 Streamlining the functions of the Board may, in fact, be possible.

APPENDIX A

ACQUISITION PROGRAM DOCUMENTATION

The following documents are developed in preparation for milestone reviews.

Milestone 0

Mission Need Statement: a short document submitted to the DAE, with or before the Component's POM, in which funds are requested for a new major defense acquisition program; summarizes information about the mission, threat, alternative concepts, technology, funding, and acquisition strategy.

Cooperative Opportunities Document: examines the possibilities for cooperation with Allied nations; assesses advantages and disadvantages of a cooperative approach.

Independent Cost Estimate: estimates life-cycle cost, prepared by Component.

Milestone I

System Concept Paper: summarizes results of the concept exploration and definition phase; describes acquisition strategy, including identification of concepts to be carried into the concept demonstration and validation phase (and reasons for elimination of alternative concepts); establishes goals and thresholds for program costs, schedule, operational effectiveness, and suitability for use at Milestone II (see Reference 4, Enclosure 4 for format).

Competitive Prototyping Strategy: no documentation is required if such a strategy is planned; otherwise the Secretary of Defense must provide written notification and a report to Congress.

Test and Evaluation Master Plan: defines test objectives and critical issues, specifies developmental and operational test events, identifies test resource requirements, analyzes implications of resource shortages, and provides a list of currently approved evaluation criteria and critical parameters.[1]

Cooperative Opportunities Document: see Milestone 0.

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1 Reference 5, pp. 12-13 contains additional details on to the content and purpose of the Test and Evaluation Master Plan.

Independent Cost Estimate: prepared by Component and independently by the OSD Cost Analysis Improvement Group.

Cost and Operational Effectiveness Analysis Report: assesses the operational effectiveness and suitability of proposed concepts in the context of specific tasks addressed in the DoD Component's mission area analysis.

Common-Use Alternatives Statement: provided by SAE, deals with feasibility of common-use alternative systems; independent assessment is provided by JCS.

Program Baseline: see Section C.2 of paper.

Milestone II

Cooperative Opportunities Statement: see Milestone 0.

Independent Cost Estimate: see Milestone I.

Cost and Operational Effectiveness Analysis Report: see Milestone I.

Common-Use Alternatives Statement: see Milestone I.

Program Baseline: development baseline; see Section C.2 of paper.

Decision Coordinating Paper: summarizes results of the concept demonstration and validation phase; identifies program alternatives; and establishes explicit goals and thresholds for program cost, schedule, and operational effectiveness and suitability (see Reference 4, Enclosure 4 for format).

Updated Test and Evaluation Master Plan: see Milestone I.

Manpower Estimate Report: documents the total number of personnel (military, civilian, contractor) required to operate, maintain, support, and train for the program when full operational deployment is achieved.

Acquisition Strategy Report: describes plans to ensure availability of competitive alternative sources from beginning of full-scale development through the end of production.

Milestone III

Cooperative Opportunities Document: see Milestone 0.

Independent Cost Estimate: see Milestone I.

Program Baseline: see Section C.2 of paper.

Manpower Estimate Report: see Milestone II.

Acquisition Strategy Report: see Milestone II.

Updated Decision Coordinating Paper: see Milestone II.

Updated Test and Evaluation Master Plan: see Milestone I.

Beyond-Low-Rate-Initial-Production Report: Director, Operational Test and Evaluation, provides an assessment of adequacy of operational test and evaluation and operational effectiveness and suitability of the system; required before any approval to proceed beyond the low-rate initial production phase.

Milestone IV

Cooperative Opportunities Document: see Milestone 0.

Independent Cost Estimate: See Milestone I.

Updated Decision Coordinating Paper: see Milestone II.

Updated Test and Evaluation Master Plan: see Milestone I.

Updated Production Baseline: describes program status, changes, and issues.

Milestone V

Cooperative Opportunities Document: see Milestone 0.

Independent Cost Estimate: see Milestone I.

Updated Decision Coordinating Paper: see Milestone II.

Updated Test and Evaluation Master Plan: see Milestone I.

Updated Production Baseline: see Milestone IV.

APPENDIX B

THE DEPARTMENT OF DEFENSE PLANNING, PROGRAMMING, AND BUDGETING SYSTEM

The central framework and decision-making process for resource allocation in the Department of Defense (DoD) is the Planning, Programming, and Budgeting System (PPBS).[1] The stated objective of the PPBS is to provide the operational Commanders-in-Chief (CINCs) with the best possible mix of forces, equipment, and support attainable within fiscal constraints [Reference 12, p. 1]. This appendix provides a concise description of the PPBS, with emphasis on aspects of concern to the Under Secretary of Defense for Acquisition (USD(A)).

A. PLANNING

The Planning function is accomplished in the late fall and winter of each year[2] and results in a one-volume document, the Defense Guidance.[3] Its purpose is to outline US national security concerns, delineate policies and strategies for coping with these concerns and associated threats, and provide a general framework and set of priorities for establishment and evolution of force capabilities. More than 110 committees work to produce the Defense Guidance under general supervision of the Office of the Under Secretary of Defense for Policy (OUSD(P)).[4] The product has an introductory section on threat assessment and opportunities, followed by sections on

- Policy Guidance
  - -- Provides general guidelines on roles and employment of forces in support of US national security interests

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1 The material furnished here supplements that provided in References 12 and 13, with emphasis on elements of particular interest to the USD(A).

2 The description that follows applies to the resource allocation process for a one-year budget cycle; some changes, especially in the authorization and appropriation phases, are required for a two-year budget cycle.

3 Annexes may also be prepared for dealing with special topics.

4 These committees consist of representatives of the USD(P), the JCS and the Services, and, as appropriate, other offices within the OSD. Representatives of the OMB also participate on a selective basis.

- -- States priorities for the broad DoD mission areas and for allocation of resources[5]
- -- Includes a number of special topics and regional policies

- Strategy Guidance
  - -- Prepared under leadership of the JCS, enunciates generalized strategies for coping with various levels of crisis and conflict and regional situations
- Force Planning Guidance
  - -- Furnishes general bases for quantitative force sizing on a Service-by-Service basis
  - -- Provides two tabular appendices: one compares current, programmed, and planning force levels; the other provides generalized scenarios for assessment of force levels and associated support functions (mobility)
  - -- Most committees for this section are led by OUSD(P) and Assistant Secretary of Defense (Program Analysis and Evaluation) (ASD(PA&E))
- Resources Planning Guidance
  - -- Establishes ranked mid-term objectives and long-term goals for development, procurement, and related activities by mission area
  - -- States desired capabilities and schedules for achievement, such as initial operational capability dates
  - -- Committees are led by the Office of the Under Secretary of Defense For Acquisition (OUSD(A))
- Fiscal Guidance
  - -- Provides the Services and Defense Agencies with top-line fiscal planning data for use in preparation of Program Objective Memorandums (POMs), on the basis of inputs from the Office of Management and Budget (OMB).
  - -- Committee is led by ASD(PA&E) and the Assistant Secretary of Defense (Comptroller) (ASD(C)).

Issues raised during the Planning phase are usually resolved by the Defense Guidance Steering Group, a working group that is subordinate to the Defense Resources Board (DRB) and chaired by OUSD(P). Issues not resolved at this level may be elevated for consideration by the DRB. The draft Defense Guidance is provided to the Department

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5 Thus relatively high priority is given to deterrence of nuclear conflict; for conventional forces, priorities are assigned to the broad areas of readiness, sustainability, modernization, and force structure (force size).

of State, the staff of the National Security Council, and OMB for comment [Reference 13, Enclosure 2]. Prior to submitting the final draft of the Defense Guidance for signature by the Secretary of Defense, the DRB meets with the CINCs of the Unified and Specified Commands to obtain their views as to the adequacy of the Defense Guidance. After approval by the Secretary of Defense, the final version of the Defense Guidance is sent to the Services and Defense Agencies to initiate the next phase.

B. PROGRAMMING

The Programming phase commences in mid-spring, when POMs are submitted to the Secretary of Defense by the Military Departments and Defense Agencies in response to the Defense Guidance.[6] Each POM outlines how the Component proposes to use the resources allocated (for planning purposes) by the Fiscal Guidance. In so doing, the Component attempts to achieve, at least, the highest priority objectives and goals set forth in the force planning and resource allocation sections of the Defense Guidance, consistent with the guidance on policy and strategy. The assessment of how well the Components have succeeded in this effort, the Program Review, begins in the early summer and is conducted under the general supervision of ASD(PA&E).

On the basis of preliminary analyses, the various participating organizations in the Office of the Secretary of Defense (OSD)[7] prepare and submit one-page outlines of proposed issues.[8] Almost immediately, ASD(PA&E) compiles an aggregated list of issues (issues submitted by more than one office but related to the same topic are combined). An issue, in this context, results from an apparent discrepancy between the Defense Guidance and the POM.[9] The proposed issues are reviewed by the Program Review Group, a

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6 The POMs are multivolume documents that include programmatic and fiscal summaries prepared in accordance with annually issued POM Preparation Instructions (PPIs). The PPI is prepared by ASD(PA&E), with inputs from other organizations in OSD and concurrence of the Military Departments.

7 The JCS may submit a Joint Program Assessment Memorandum for consideration in this review. This document furnishes their evaluation of risks for meeting national security policy requirements with the composite force levels and capabilities proposed in the POM, and where appropriate recommends alternatives for improving overall defense capabilities. The JCS will also propose issues, as may representatives of OMB.

8 These are known as thumbnail sketches, and although the time available for preparing them is very limited, several hundred are usually generated by the participating offices.

9 An acquisition-related issue could arise because the Component, for example, did not propose any approach for dealing with a high-priority objective stated in the Resource Allocation Guidance; proposed acquiring a system less capable than what is believed to be needed to meet the objective; or deferred achievement of the objective by delaying development or by procuring equipment at a lower rate than would be needed to meet the objective. Issues may involve personnel strengths as well as

working group subordinate to the DRB. Issues that are deemed appropriate for consideration by the DRB are assigned to one of eight Issue Books. A lead office is designated by the Program Review Group for development of the ensuing Issue Paper, and representatives of other cognizant organizations and Components are assigned to participate in that development, which takes place in the early summer.

The Issue Books are as follows:

- *Policy and Risk Assessment*: does not contain issues as such, but establishes a broad context for force and program decisions; assembled by OUSD(P) with additional contributions, mainly from JCS and ASD(PA&E).
- *Nuclear Forces*: includes both strategic and theater nuclear force issues; assembled by ASD(PA&E) with additional contributions, principally from OUSD(A) and the Office of the Assistant Secretary of Defense (International Security Affairs) (OASD(ISP)).
- *Conventional Forces*: assembled by ASD(PA&E) with additional contributions from OUSD(A) and Office of the Assistant Secretary of Defense International Security Policy.
- *Modernization and Investment*: includes issues that are not appropriate for the Nuclear Forces or Conventional Forces Issue Books; assembled by OUSD(A) with additional contributions from ASD(PA&E).
- *Readiness and Other Logistics*
- *Manpower*
- *Intelligence*: addresses DoD elements of the National Foreign Intelligence Program, the Defense Reconnaissance Support Program and compartmented Tactical Intelligence and Related Activities (TIARA). Other TIARA issues are addressed in the Modernization and Investment issue book.
- *Management Initiatives*: addresses acquisition management initiatives; assembled by OUSD(A) with contributions from ASD(C).

Each Issue Paper includes a background discussion of its topic, an assessment of the Component-proposed approach and reasons for seeking an alternative approach, and descriptions and evaluations of a limited number of alternatives for addressing the matters

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fiscal resources and can arise from inconsistencies among two or more POMs in dealing with cross-Service and Defense-wide objectives.

of concern.[10] In the course of developing the Issue Paper, the costs of implementing the alternatives (relative to the cost of the approach proposed in the POM) are stated, and organizations advocating an alternative are usually required to find ways to offset increased costs entailed in executing their alternatives by identifying cuts in other expenditures proposed in the POM. This requirement creates offset issues; these are less elaborately developed than the original issues.[11] Offsets can be created by a number of means, such as cancelling programs, deferring the onset of full-scale development of a program (stretching the development cycle), deferring initiation of full-scale production, or projecting a lower rate or total quantity of production.

The Issue Books are reviewed in turn by the DRB, and on the basis of this review, the Deputy Secretary of Defense decides on the actions to be taken on an issue-by-issue basis.[12] These actions are documented in late summer, through Program Decision Memoranda (PDMs) addressed to the Component heads and signed by the Secretary of Defense. The PDMs are relatively succinct and deal strictly with exceptions--a Component's proposed programs, as described in its POM, are approved for development of budget estimates, except as ed in the PDM.

C. BUDGETING

In early fall, the Components submit their Budget Estimates. The Budget Review commences immediately and is tightly controlled by OASD(C). The Review, in part, is aimed at ensuring that the funds requested in the Budget Estimates are solidly justified and

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10 Alternative 1 invariably refers to the approach embodied in the POM, and subsequent alternatives reflect different views or strategies advocated by those organizations participating in development of the Issue Paper. Alternative 2 is usually the approach advocated by the lead office and a majority of the other participants. Alternatives 3, 4, etc. (up to Alternative 6), can represent variations on the approach embodied in Alternative 2 or radically different approaches advocated by a minority. The scope and structure of the alternatives is controlled by the lead office and can itself determine the outcome of the review. No other provision is made for expression of minority views within the Issue Paper; however, in theory, the organization holding those views may bring them to the attention of the DRB through its representative to the Board.

11 Offsets need not be taken from the same POM affected by the cost-increasing alternatives but must be taken in the same mission area, that is, generally within the same Issue Book. There is an element of risk in generating offset issues (especially in the later Issue Books), because the DRB can (and will) accept an offset issue without accepting the corresponding cost-increasing alternative in the original Issue Paper.

12 Issues may arise because of oversights or other errors in preparation of the POMs. In addition, the circumstances that favor one approach during development of a POM may change by the time of the summer Program Review. Accordingly, a mechanism exists for making a direct agreement, an Out-of-Court Settlement, with the Component to modify its POM, without intervention by the DRB. Out-of-Court Settlements are incorporated in the appropriate Issue Books for information purposes.

in compliance with numerous regulations and laws concerning such requests. The Budget Estimates deal with outlays and personnel strengths as well as obligational authority and should comply with the PDMs--they should be refined versions of the programmatic and fiscal decisions provided in their POMs, as adjusted by the PDMs. Some adjustments are invariably necessary, however, due to changes in fiscal guidelines, such as Congressional actions subsequent to the Program Review, and there may be significant changes in specific programs. In part, these changes can arise from increased projected costs for programs to which the Component assigns high priority. Such increases must be balanced by cuts in other programs, and in its submission, the Component can apply such cuts to completely unrelated activities. Issues concerning the allocation of resources in the Budget Estimates are documented in Program Budget Decisions.

D. BUDGET DEFENSE

While the Budget Defense phase is not part of the DoD PPBS, activities that occur during this phase can have a dominant role in determining the outcomes of the other phases. The phase commences in the late winter or early spring, when hearings are held by the Congress. Testimony is provided by officials from OSD, JCS, the Components, the Unified and Specified Commands, and from any other witnesses that the congressional committees choose to admit. DoD officials may submit written statements, in addition to making oral statements and answering questions posed at the hearings by the committee members and committee staff members. In the course of the hearings, congressional staffs will submit hundreds of questions to be answered in writing, after oral testimony has been completed.

The objective of the process is to produce an authorization bill and an appropriation bill, but if the process is not completed in the fall, the Congress will pass one or more continuing resolutions.[13] The principal cognizant committees are the Senate and House Armed Services Committees (for the authorization bill) and various subcommittees of the Senate and House Appropriations Committees; however, many other committees may also require testimony. During this activity, the Congress will cut specific programs, add funds

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13 Under a continuing resolution, the affected agencies are to continue "business as usual." This means, for example, that an acquisition program continues at the same rate of expenditure that had been maintained during the prior fiscal year, unless one of the cognizant committees reports an adverse finding. If this occurs, the continuing resolution can substantially reduce the program funding, which might have been restored under normal procedures via a House-Senate conference action. Note also that even if all cognizant committees approved a budget request for increased funding (e.g. after a favorable Milestone III decision) the planned acquisition effort would be disrupted.

for programs that were not requested by the DoD (and require that cuts be made in unspecified programs to compensate for the addition of funds), and impose undistributed cuts. The Congress will also impose conditions (for example, requiring that the Secretary of Defense submit a report) that must be fulfilled before authorized and appropriated funds can be obligated.

The actions that take place during this phase can and frequently do influence execution of the Programming and Budget Review phases for the following year. If, for example, Congress defers initiation of full-scale production of a system, then the program must be adjusted accordingly. However, if the Congress takes such an action after completion of the Program Review, then attempting to compensate for the cut during the Budgeting phase may be necessary.

E. APPORTIONMENT

The Apportionment phase is the final step before money is available to be obligated by the Component. The Components submit apportionment budget requests with supporting justification, and changes in resource requirements are reviewed (changes such as those reflecting congressional actions to cut or expand specific programs). In addition to providing a final budget review, the Apportionment phase provides a mechanism for withholding funds. The ASD(C) will withhold funds if, for example, Congress has imposed a condition that must be fulfilled before obligation can commence. Program funding may be withheld, pending resolution by the OSD staff, if appropriate acquisition management, policy, technical, or programmatic standards are not met [Reference 13, pp. 2-4]. To withhold funds during Apportionment, OUSD(A) can use Format I (for RDT&E) and Format II (for procurement). Action can be deferred by a Component indefinitely, until the criteria stipulated by the action officer have been met.

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STREAMLINING THE ORGANIZATION

John R. Transue

STREAMLINING THE ORGANIZATION

A. INTRODUCTION

The numerous investigations of the Department of Defense (DoD) acquisition process consistently find it overly complex, with muddled lines of authority and excessively involved review and oversight. The Packard Commission states that "the acquisition system [has become] more bureaucratic, and acquisition management more encumbered and unproductive. . . . authority for executing acquisition programs--and accountability for their results--has become vastly diluted."[1] A 1988 ad hoc advisory committee reported to the Senate that "the acquisition process has become overburdened with unnecessary management layers, excessive delays in program decision approval, inordinate redirections in programs and cumbersome and often inconsistent oversight and regulation."[2] These and other investigations assert that one way to improve the process is to streamline the organization that handles DoD acquisition.

Congress, acting on the recommendation of the Packard Commission, enacted the Defense Acquisition Improvement Act of 1986 to implement streamlining and other improvements. To comply with the new legislation, DoD made numerous changes, some organizational and some procedural. Nevertheless, diverse researchers, such as the ad hoc industry advisory group, a Brookings Institute member, and the Center for Strategic and International Studies, all conclude that many DoD improvements are less than adequate. This conclusion has been confirmed through numerous interviews with people directly involved in the process, conducted as part of the IDA study.

This investigation reviewed the directives, instructions and other instruments, issued by the Office of the Secretary of Defense (OSD) and the Services, (the Military Departments), in response to the Packard Commission recommendations and the legislation regarding simplifying the organization. (Organization is used in this paper to refer to the

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1 The President's Blue Ribbon Commission on Defense Management, *A Formula for Action*, April 1986.

2 Ad Hoc Industry Advisory Committee headed by John D. Rittenhouse, senior vice president, General Electric, "Report to the subcommittee on Defense Industry and Technology, Senate Armed Services Committee," February 1988.

relationships among the people involved in acquisition--the responsibilities and authorities--as well as the manner in which people and functions are collected in an organization chart.) The investigation also included interviews with people in OSD and the Services to determine how well the revised system is working and the factors that influence its performance. Some individuals (those in more senior positions) perceive improvement; others believe the system has worsened. Nearly everyone interviewed agreed, however, that much additional improvement is needed.

The investigation clearly indicates that the changes have failed to achieve the desired improvement; one major cause of this failure is that the attempts at streamlining were conducted with far too much concern about disturbing the current organization. Consequently, relationships, responsibilities, and authorities have changed very little. Few people, if any, have been removed from the process, and program managers do not consider their tasks any less difficult.

Based on a careful review of the changes that have been made and numerous conversations with people experienced in the acquisition process, it appears that the lack of improvement seems attributable to less-than-adequate implementation efforts--much more could be done to streamline the system. This paper contains suggestions for further streamlining. The following section describes streamlining--what it provides, why it is needed, and how to implement it. Subsequent sections apply these basic ideas to OSD and the Services.

B. THE BASICS OF STREAMLINING

The Packard Commission interim report states that "establishing short, unambiguous lines of authority would streamline the acquisition process and cut through bureaucratic red tape."[3] The Commission argues that smaller staffs with clear responsibilities and direct lines of communication could be more effective than the existing staffs and, consequently, streamlining should result in staff reduction. By trimming the layers of management to a maximum of four and having the program managers take direction from this short line of command only, the Packard Commission believed that the program managers would benefit in several ways. They would receive more definite decisions more rapidly, they would have fewer diversions, and they could give greater attention to program management.

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3 The President's Blue Ribbon Commission on Defense Management, *An Interim Report to the President*, 28 February 1986, p. 16.

Streamlining concepts can be applied to both OSD and the Services. Both have several layers within their acquisition organizations, both have responsibilities divided among parallel organizations, and both impose serious limitations on the control of resources. In addition, those with operational authority cannot always reward personnel for exceptional performance.

There are various ways to streamline an organization, and they have all been discussed in some form in the many investigations of the DoD acquisition process, in standard books on management, or during the interviews conducted as part of the current investigation. While the ideas may seem less than innovative, even these standard guidelines are not currently being adequately applied.

The basic ideas of streamlining are

- Enforce a single line of authority and responsibility. If a matrix style organization is used, establish the program manager as the authority for all program decisions unless overruled by his superior.
- Provide the program manager the authority and resources required to meet program goals. Give him control of his resources and hold him responsible for meeting the goals.
- Organize for disciplined oversight by minimizing the management layers of oversight and controlling the number of oversight interactions with the program staff.
- Delegate detailed oversight of lesser programs to lower levels. Provide these programs with the same advantages as the larger programs--control of resources, clear line of authority, and disciplined oversight.
- Reduce the number of management layers consistent with span of control. Delegate to immediate staff or to lower levels to avoid excessive span of control.

Each of these ideas is briefly discussed in the following paragraphs.

Enforce a single line of authority and responsibility. To emulate the most successful commercial programs, the Packard Commission called for a "short, unambiguous chain of command."[4] The Commission stated that "program managers for these programs should be responsible directly to their respective PEO [Program Executive Officer] and, on acquisition matters, report *only* to him. . . . The Defense Acquisition Executive should insure that no additional layers are inserted into this program chain of

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4 The President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, June 1986, p. 50.

command."[5] Note that the Commission stated "chain of command" rather than "line of communication." The current implementation of this Packard recommendation is not a chain of command; it is little more than a line of communication. For example, the Air Force implementation "is not intended to replace existing responsibilities for resource management within the chain of command. Therefore resource allocation decisions *and program direction* [emphasis added] will be through the Air Force corporate structure."[6]

At OSD and the Services there is ambiguity within the lines of authority and responsibility. While the Defense Acquisition Executive (DAE) appears to be the final authority on acquisition matters, other OSD staff members, both within and outside of the DAE's staff, feel responsible for some aspects of the programs, and these individuals request or demand action by the program manager. The program manager is inclined to try to satisfy their demands because it is not clear what authority these people have. Often these staff members are interested in just one aspect of a program, such as testing, competition, or specifications, and are not concerned with the multiple trade-offs that the program manager must make to satisfy their requests.

This problem also occurs at the Service Secretariat and Service Chief levels. Each Service has a Service Acquisition Executive (SAE) who corresponds to the DAE; however, individuals in the Secretariat and the parallel military organization influence or dictate program decisions. When their authority is unclear and they represent a single interest, they pose a problem for the program manager.

In the Services, program managers usually must work within a matrix organization; some or all of the staff working for a program manager are provided by functional groups. Matrix organizations, common in industry as well as DoD, can work well; however, the functional managers in a matrix organization often feel responsible for the programs their staffs are supporting. These functional managers, sometimes senior to the program manager in both rank and tenure, may forcefully assert their views, and program managers may lose rein of their programs.

Provide the program manager both with the necessary authority and resources and hold him responsible for meeting program goals. Program managers operate with constraints on their resources, and some of the program managers interviewed say these constraints are sometimes unreasonable. The program managers usually must operate with a System Program Office (SPO) staff provided by functional managers, and the program

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5 The President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. 54.

6 From material used in the 15 July 1988, Acquisition Leadership Conference at Fort Belvoir.

manager has limited authority to reward staff members or to make staff changes. Even program funding can be altered or impounded by elements beyond the program manager's control, sometimes even beyond the acquisition line of command. This disruption can affect the program schedule and cost.

Disrupting external factors, while not totally avoidable, can be minimized by properly defining the authority and responsibility within the matrix organization and permitting the program manager to control his financial resources.

The Packard Commission suggested that all program managers handpick their staffs, yet this may not be practical. Granting the program manager the right to refuse candidates nominated by functional managers and to return staff members who do not perform adequately or who are no longer needed to the function groups would greatly benefit the program managers.

None of the interviewees suggested that program managers should have authority to spend program funds without controls and constraints; however, the current system allows individuals with no program accountability to use their funding authority to influence program decisions.

In keeping with the principle that the program manager should be required to take direction from only the DAE-SAE-PEO chain of command, funding authority that influences program direction should be limited to individuals in this chain of command. Such a policy would not interfere in any way with the legitimate functions of controllers, auditors, and inspector generals.

To make such a policy effective within OSD, the Secretary of Defense or his Deputy should instruct the DoD Controller to act on only Format Is signed by the DAE or designated staff members. Service Secretaries should take a corresponding action.

In addition to the problems of funding authority, program managers often face unrealistic program baselines. Determining the time and money needed for development is difficult--programs are often scheduled and funded with unrealistic goals. Program planning should account for risks and allow time and funds to reduce risks and solve any associated problems. While inadequate time and funding is often the result of political factors, better discipline on the part of program managers and their superiors would also make the program baseline more achievable. Once realistic goals are established, the program manager should be held accountable for achieving this baseline.

Organize for disciplined oversight. Program oversight is difficult because the overseer is expected, especially by Congress, to maintain current, detailed knowledge of the program. Keeping abreast of a program is extremely time consuming for both the overseer and the staff members who provide program information. Program oversight requirements can cause problems for program managers and the various management levels supervising them.

This problem can be reduced in several ways. First, the number of levels of detailed oversight can be minimized. For most programs a single level will suffice; for Defense Acquisition Board (DAB) programs, two levels may be necessary.

Second, reporting of program information can be simplified. A single report may satisfy both Service and OSD requirements, and an OSD representative can attend Service oversight briefings and Service representatives can attend OSD briefings. Another possible solution is reporting by exception and reporting on significant events, which can eliminate the need for frequent detailed reports.

Third, an organization overseeing or monitoring a program can control its contacts with the program. For example, establishing a single point of contact in the oversight organization will ensure that information requests are reasonable and in keeping with the overall reporting or briefing cycle. This point of contact can also ensure that individuals do not attempt to impose requirements in their areas of interest on the program.

Duplication of oversight also occurs within the Services. The Service Secretariats must oversee Service executive programs because they represent the senior Service organization responsible for acquisition. The staffs of the Service Chiefs also oversee programs.

The Chiefs and their staffs must be kept informed because, in all Services, these staffs exercise control over program funding, duty assignments, and promotions. In fact, in the Navy and Air Force, the organizations performing acquisition program management work for and report to the military Chiefs. This situation results in duplication in oversight, and the program managers responding to two separate lines of command--both can influence the future of the program and the managers' personal futures. While the latter problem could be solved by removing or curtailing control of funding and assignments and promotions of acquisition personnel by the military staffs, this would be poor management practice since acquisition personnel work for the military organizations--they work for the Service Chiefs. Another solution would be to make the organizations that manage

acquisition work for and report to the SAE only. Reporting requirements could then be tailored to meet the legitimate needs of the military staff.

Delegate Detailed Oversight Of Lesser Programs To Lower Levels. OSD usually provides oversight of major programs and programs designated as special interest by the Secretary of Defense or Congress.[7] There are approximately 100 such programs. For each of these programs, an OSD staff member attempts to maintain current, detailed knowledge of the program schedule, funding, testing, performance, and deliveries. If the program is experiencing problems of any sort, the OSD staff member is expected to understand the problem and the actions being taken to solve it and to bring this information to the attention of superiors. As a result, the program manager is often asked to brief OSD on the problems and solutions.

Service staffs also provide oversight, on the programs that OSD oversees, and their oversight is usually more detailed than that of OSD. The Services also monitor programs that are not considered major programs and programs that have been specifically delegated to the Services for oversight.

The duplication of oversight of major programs may be unavoidable, but the effect of the duplication can be minimized by the techniques described in the preceding section. Further reduction in OSD workload and in OSD demands on the program manager can be achieved by reducing the number of programs that OSD closely monitors. The amount of reduction in OSD workload will depend on the reduction in detail that OSD is willing to accept on programs they delegate to the Services.

Reduce The Number Of Management Layers. The Packard Commission recommendation to reduce the number of management layers between the DAE and the program manager to two has been implemented. However, the implementation has had little effect on the number of layers as seen by the program manager because each of the existing levels is, in fact, two or more levels. OSD has two or three levels below the DAE, the Service Secretariats have two or more levels below the SAE , and the military staffs have two or more levels that parallel the Secretariats. All of these levels believe that they must maintain current knowledge of programs and influence them.

The usual explanation for these multilayered levels is span of control. The number and complexity of the programs requires many individuals to maintain proper oversight.

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7 Major programs are currently defined as those expected to require funding of at least $200 million in development or $1 billion in procurement.

To delegate responsibility, the top manager must delegate responsibilities to several lower levels.

Multilayered levels allow the top manager to delegate his responsibilities, provided that he trusts in his staff and can act on their recommendations. The top manager can control his workload by deciding when to accept staff recommendations and when to demand additional information. The program manager, on the other hand, must meet the information demands of the top manager and any requests from the intermediate levels of management. For these reasons, the program managers find themselves responding to the same number of management levels as before implementation of the Packard Commission recommendations.

This problem could be resolved if top managers relinquish much of the detailed control to lower levels. The workload of the program manager and the top manager can be reduced if the authority and responsibilities of the top manager are truly delegated to his staff. The staff must then function for the top manager, referring matters to the top manager only when they exceed the limits of the delegated authority.

Another way to relieve this problem is to delegate to a lower level rather than to a sublevel of the same staff. For example, instead of the DAE's delegating to the Director of Defense Research and Engineering (DDR&E), responsibilities should be delegated to the SAE.[8] Rather than the SAE's delegating to an assistant, he should delegate to a systems command. Relinquishing much of the detailed control can be equally applied to this situation.

A manager's failure to delegate is not evident in an organization chart, and this problem cannot be corrected by a reorganization. To rectify the situation, managers must be willing to rely on their subordinates, and subordinates must be worthy of the superior's trust.

C. STREAMLINING THE OFFICE OF THE SECRETARY OF DEFENSE

1. How The Office of the Secretary of Defense Has Been Streamlined

In April 1986, the President issued National Security Decision Directive (NSDD) 219, directing that DoD implement most of the recommendations of the Packard

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8 That is, from the USD(A) to the D(DR&E).

Commission.[9] The Deputy Secretary of Defense implemented NSDD 219, establishing the DAE as principal advisor to the Secretary of Defense for acquisition.[10]

The position of principal advisor was inconsistent with the Commission's recommendation that the DAE should "supervise the performance of the entire acquisition system."[11]

The Packard Commission recommended specific duties and authority of the DAE as the Under Secretary of Defense for Acquisition (USD(A)). The Congress incorporated most of these into the Defense Acquisition Improvement Act of 1986, but DoD did not fully incorporate them in directives.[12] The recommended new position of USD(A) was established, but other changes necessary to meet the intent of both the President and the Congress were not included.[13]

The Deputy Secretary of Defense later assigned more specific responsibilities, functions, relationships, and authorities to the USD(A), approaching those prescribed by law.[14] But continuation of the bland denotation "principal staff assistant and advisor" and cross referencing authority to an inadequate DoD Directive 5000.1 implied that the USD(A) was not really in charge of the entire acquisition system.

The authority of the USD(A) was clearly diminished when he was made equal to the Service Secretaries by the following statement:

> Where agreements on acquisition matters cannot be reached between the USD(A) and the Military Departments, the matter shall be presented *jointly* to the Secretary/Deputy Secretary of Defense for resolution.[15] [emphasis added]

This wording grants the Service Secretaries authority equal to that of the USD(A) on acquisition matters and, furthermore, it invites the Deputy Secretary of Defense to act as a part-time DAE.

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9 Senate Committee on Armed Services, *Oversight of Legislation Establishing the Under Secretary of Defense for Acquisition*, 22 September 1987, pp. 27-109.

10 DoDD 5000.1, "Acquisition of Major Defense Systems," 1 September 1987, p. 2

11 The President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. xxiv.

12 Title 10, Section 901, amended 10 U.S.C., Section 133 (as redesignated by Section 101(a) of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Public Law 99-433)).

13 DoDD 5000.1, pp. 7-8.

14 DoDD 5134.1, "Under Secretary of Defense (Acquisition)," 10 February 1987, pp. 1-4.

15 DoDD 5134.1, p. 4.

A review of the Packard Commission's concept shows that the new USD(A) position did not really affect the key issues and, therefore, did not satisfy the Commission's purpose to streamline the acquisition as had been intended.

> In the absence of a single, senior DoD official working full-time to supervise the overall acquisition system, policy responsibility has become fragmented. As a result, the services have tended to assume policy responsibilities and exercise them at times without necessary coordination or uniformity. Worse still, authority for executing acquisition programs . . . has become vastly dilute. For these reasons, it is fundamental that we establish unambiguous authority for overall acquisition policy. . . .[16]

Moreover, the Packard Commission intended that the USD(A) carry out the Commission's other recommendations within the DoD.[17] Interviews with OSD and congressional staff and other DoD personnel indicate that progress has been inconsequential or detrimental. The following shortcomings were noted:

- Acquisition policy was not integrated. The Services continue to make policy that conflicts with that of other Services.
- Multiple assignment of responsibility and assumption of authority by staff abounds.
- Program execution has not been effectively decentralized to the program managers because authority is retained in headquarters staff.
- The DAB provides a means for OSD staff to continue undisciplined direction of programmatic detail.
- While program managers and PEOs have realized tangible benefits from the streamlined acquisition chain to the SAEs and the DAE, they continue to experience great difficulty in driving documentation; briefings; Planning, Programming, and Budgeting System (PPBS) matters; and programmatic and functional issues through the organizational chain.[18]

Members of Congress believe that the USD(A) should exercise a more aggressive role in policy making, serving as the focus for centralization of policy.[19] Having USD(A) as the arbiter of policy would establish a unified approach, encouraging or forcing the Services to work with each other and come to agreement on policy issues yet still allow for

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16 The President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. 53.

17 The President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, pp. 52-53.

18 Center for Acquisition Management Policy, "Acquisition Leadership '88 Conference: Summary of Theme Group Conclusions and Recommendations," 19 July 1988, p. 7.

19 House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, 16 November 1987. See also Senate Committee on Armed Services, *Oversight of Legislation Establishing the Under Secretary of Defense for Acquisition*, 22 September 1987.

decentralized decision making. As noted by Colleen Preston, the centralized approach would provide a check on the individualism within the Services.[20]

The Packard Commission believed that it would be "possible to make major improvements in defense acquisition by emulating the model of most successful industrial companies." At the same time the Commission acknowledged "the unique problems DoD faces" and they recognized that "this [reform] will not be easy, because present procedures are deeply ingrained."[21]

The following year, the chairman of the Packard Commission testified that "our proposals are based on the management concept of a centralized policy control and decentralized acquisition. This includes the idea to create a strong full-time Under Secretary of Defense for Acquisition as a single centralized acquisition policy maker."[22]

The one structural change that has been made to streamline the OSD acquisition process is the establishment of 10 acquisition committees. These committees reportedly replace a much larger set of committees, although the larger set was apparently dormant. The committees work in conjunction with DAB program reviews, generally at milestone review points. The purpose of the committees is to develop the issues, resolve as many as possible through discussion among the interested parties, and develop recommended positions for the USD(A) and the other DAB principals on the remaining issues. Only a few of the committees are involved in each DAB review.

The ten acquisition committees are

- Science and Technology
- Nuclear and Chemical
- Strategic Systems
- Conventional Systems
- Command, Control, Communications, and Intelligence (C^3I) Systems
- Test and Evaluation
- Production and Logistics
- Installation, Support, and Military Construction (MILCON)
- International Programs

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20 Colleen Preston, Assistant General Counselor, House Committee on Armed Forces, interview with author, 24 August 1988.

21 President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. 52.

22 House Committee on Armed Services, *Report on the Authorization for National Defense 1987*, p. 253.

- Policy and Initiatives.

Representatives of most major programs appearing before the DAB for a milestone review will first present the program information to one of the first five committees listed, usually the Strategic Systems, the Conventional Systems, or the C^3I Committee. The last five committees listed meet as required, for related programs.

While both OSD and Service people complained about the committees, the committees provide an opportunity for the preparation for a DAB review to be conducted more efficiently and in a more disciplined way than previously.

The complaints suggest that the committees sometimes permit special interest positions and inadequate cases to be presented and argued, which may result in additional work for the program staff. The USD(A) should be able to correct this situation by clarifying the committee chairman's responsibilities and authorities.

Committee meetings and subsequent actions can extend for a few days or weeks. To minimize the burden on the program manager, Service headquarters staff members or PEOs sometimes present the program information and the program manager's positions.

2. Requirements for Additional Streamlining

Senior leadership must redefine responsibilities in the OSD organization to stress policy, procedure, oversight, and integration functions and to eliminate routine involvement in programmatic details.[23] After redefining responsibilities, senior leadership should "allocate personnel resources to force a dramatic change in the way headquarters elements operate."[24]

This can be accomplished by following the principles of the Packard Commission and the provisions of law. The following actions are drawn from these principles and provisions and from the purposes they were intended to satisfy:

Grant the USD(A) at least the full authority and responsibility contained in law.[25] In matters of acquisition, the USD(A) out ranks the Service Secretaries and his acquisition decisions should have full effect unless overturned by the Secretary of Defense.[26] The

23 House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, p. 40.

24 Center for Acquisition Management Policy, "Acquisition Leadership '88 Conference: Summary of Theme Group Conclusions and Recommendations," p. 8.

25 Title 10, Section 901, amended 10 U.S.C., Section 133 (as redesignated by Section 101(a) of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Public Law 99-433)).

26 Public Law 99-433, Section 133, par. (e)(1).

USD(A) should have authority to make milestone decisions when the decisions conform to approved program planning. When milestone decisions deviate from approved planning, the USD(A) should be required to obtain the approval of the Secretary of Defense, who can request a recommendation from the Defense Resources Board (DRB).

Establish unambiguous and direct channels of responsibility, authority, accountability, communication, and oversight in both OSD and the Services. Acquisition-related personnel in OSD, as in the Services, cannot be reduced until their responsibilities are reduced. After responsibilities are reduced, many of the personnel can be reassigned.[27]

Firmly establish the management concept of centralized policy control and decentralized execution at the program manager level. As the Chairman of the Packard Commission recently stated,

> I think, if you could get them [Secretary of Defense, USD(A), and SAEs] down to the place where they're determining policy and are able to enforce policy and they're not trying to do all the work themselves, it would be constructive. . . . These people [the managers of successful programs] were put in charge. They were given the responsibility and the authority to do the job. *And they were left alone.* And that's why those programs were successful. . . . Every time you look at this issue, you come back to the conclusion that, if you could just get a team of knowledgeable people assigned to these programs, assigned so that they would work with the programs long enough to really have a big impact, it would probably do as much as anything else to improve our acquisition program.[28] [emphasis added]

Establish procedures within OSD to discipline the oversight and to eliminate undelegated assumption of authority outside the DAE-SAE-PEO-program manager chain. Direct the Service Secretaries to establish procedures for the same purposes and provide guidance regarding what procedures are acceptable.

Reissue DoDD 5000.1 and 5134.1 to include, as a minimum, the provisions of the Defense Acquisition Improvement Act of 1986 with regard to the duties and authority of the Under Secretary of Defense for Acquisition.[29]

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27 President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, p. 55.

28 "Packard's Keys to Procurement: Autonomy and Expertise," *The Washington Post*, 1 August 1988, p. A11.

29 House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, p. 47.

3. Objectives and Priorities of the Under Secretary of Defense for Acquisition

The USD(A) should clarify his objectives and priorities and should organize to meet them. The USD(A) should accomplish the following:

Make uniform acquisition policy applying to all of DoD.[30] This policy should establish the required authority and accountability of program managers and, to be effective, must explicitly limit any program direction authority to individuals not part of the DAE-SAE-PEO-program manager chain. The policy should provide for budget and contract authority within approved planning and should establish a system for developing and applying overall plans for mission areas and major projects.

Provide DoD-wide plans for acquisition by mission area, major product area, and significant technology area. These plans can be used to guide acquisition investment strategies such as the Naval Aviation Plan. The plans should be distinguished from force level assessments and line item reviews.[31]

Issue guidance for acquisition investment strategies. Strategies should be harmonized throughout DoD, and the strategies should be endorsed after confirmation to ensure that they meet the guidelines. After the DRB endorses the resource levels and allocations implied by the strategies, they should be approved.[32]

Provide disciplined oversight of designated programs. Designated programs should be limited to major joint programs, major multinational programs, and special interest programs. The number of programs for which the USD(A) provides oversight should be reduced, and criteria for the major program classification redefined if necessary. OSD oversight of acquisition programs should be firmly established as the responsibility of the USD(A), and the fact that all other OSD staff serve strictly advisory roles should be emphasized. A USD(A) point of contact, to hear all demands made by the OSD staff and to ensure that no unreasonable demand is made of the program manager, should be established.[33]

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30 10 U.S.C., Section 901, par. (b)(2).

31 10 U.S.C., Section 901, par. (b)(a). See also House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, pp. 29-31.

32 10 U.S.C., Section 901, par. (b)(2). See also House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, pp. 29-31.

33 President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, pp. xii-xiii.

Publish standards and control the quality of all DoD acquisition personnel especially program managers, PEOs, and SAEs. As Mr. Packard recently reiterated:

> I think it's very desirable, perhaps even essential . . . to keep the involvement of military people in acquisition. But I think if they are involved, they must be officers who have opted for a career in procurement. And this commission makes this comment about the subject: "It has become quite clear that the DoD acquisition process has become too complex to be managed by military non-careerists who will be rotated to other unrelated assignments as often as every two years.[34]

4. An Exemplar Organization

a. The Organization

The USD(A) must be empowered to enforce compliance with Defense-wide policies, and he must be the principal decision maker at milestone reviews and other critical decision points of the DAB programs. A congressional committee expressed this need as follows:

> To the extent those decisions may differ with the wishes of a Service Secretary or Service acquisition executive, the bill makes clear that the decisions of the new Under Secretary will prevail in his areas of responsibility . . . . [The] USD(A) should chair . . . not "co-chair" such board [i.e. the Joint Requirements and Management Board (JRMB) or DAB] as suggested in the Packard Commission. The USD(A) is not a program advocate but the Secretary of Defense's principal acquisition decision-maker. The Deputy Under Secretary of Defense for Acquisition should serve in the absence or unavailability of the USD(A). The committee believes that this should occur even though other officials may out-rank him.[35]

To establish the proper authority and responsibility of the USD(A), DoDD 5134.1 should be revised. The following annotation to the language of the directive reflects the changes needed to bring the directive into compliance with law and accord with the intent of the Packard Commission.

> Subject to the authority, direction, and control of the Secretary of Defense, the Under Secretary of Defense for Acquisition shall perform such duties and exercise such powers relating to acquisition as the Secretary of Defense may prescribe,[36] including

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34 "Packard's Keys to Procurement: Autonomy and Expertise," *The Washington Post*, 1 August 1988, p. A11.

35 Senate Committee on Armed Services, *Report on the Authorization for National Defense 1987*, p. 255.

36 10 U.S.C., Section 901, par. (b).

- Supervising Department of Defense acquisition. In supervising the acquisition process, the Under Secretary of Defense for Acquisition, his Deputies, and staff should focus attention on implementation of the overall Department of Defense policy and not the specific day-to-day management of service programs.[37]
- Establishing policies for acquisition for all elements of the DoD. This includes procurement, research and development, logistics, developmental testing, and contract administration.[38]
- Establishing policies of the DoD for maintenance of the defense industrial base of the United States.[39]
- Establishing policies to ensure that audit and oversight of contractor activities are coordinated and carried out in a manner to prevent duplication by different elements of the Department. In carrying out this subsection, the Under Secretary shall consult with the Inspector General of the DoD and the Defense Contract Audit Agency.[40]

The Under Secretary of Defense for Acquisition

- is the senior procurement executive for the DoD for purposes of section 16(3) of the Office of Federal Procurement Policy Act (41 U.S.C. 414(3));[41]
- is the Defense Acquisition Executive for purposes of regulations and procedures of the Department providing for a Defense Acquisition Executive and A-109;[42]
- to the extent directed by the Secretary, exercises overall supervision of all personnel (civilian and military) in the DoD with regard to matters for which the Under Secretary has responsibility, unless otherwise provided by law.[43] The USD(A) will delegate specific program execution with funding authority in a short, unambiguous chain-of-command to the appropriate Component. For joint programs he will designate an executive Service or Component. The USD(A) will eliminate all multiple, parallel lines of responsibility and authority.[44]

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37 Senate Committee on Armed Services, *Report on the Authorization for National Defense, 1987*, p. 255.

38 10 U.S.C., Section 901, par. (b)(2).

39 10 U.S.C., Section 901, par. (b)(3).

40 10 U.S.C., Section 901, par. (d).

41 10 U.S.C., Section 901, par. (c)(1).

42 10 U.S.C., Section 901, par. (c)(2). See also DoDD 5134.1, p. 1.

43 10 U.S.C., Section 901, par. (c)(3).

44 House Committee on Armed Services, *Report on the Authorization for National Defense, 1987*, p. 253.

- has the authority to direct the Secretaries of the Military Departments and the heads of all other Components of the DOD with regard to matters for which the Under Secretary has responsibility.[45] No change will be made to funding of an approved DAB program without the approval of the USD(A).[46]
- is the Chairman of the Defense Acquisition Board. The USD(A) makes milestone decisions and other key decisions he specifies for major programs and other programs he specifies when such decisions are in accordance with planning previously approved by the Secretary of Defense and do not breach thresholds of approved planning.

  [The Vice Chairman of the Joint Chiefs of Staff serves as Vice Chairman of the DAB and provides advice and assistance concerning military requirements and priorities and the feasibility of common-use and/or joint solutions to Military Service requirements. He serves as spokesman for the Commanders-in-Chief of the Unified and Specified Commands on acquisition and requirements matters.[47]]
- is the senior DoD official specifically charged with providing oversight of DAB programs. He is responsible for providing an unambiguous point of contact for the Components for each DAB program. In discharging this duty, he will coordinate the oversight activities of both his own staff and other OSD elements.

D. STREAMLINING A SERVICE

1. How The Services Have Been Streamlined

The intent of the acquisition reforms was to concentrate the policy process and to decentralize the execution of acquisition in accordance with this policy. However, the Services have continued independently to make policy that is mutually inconsistent. This practice is contrary to the philosophy of Congress and the intent of the Packard Commission.[48]

The philosophy of the Congress was to make the program manager a decision maker rather than simply the initial proposal maker. On the basis of advice from the

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45 House Committee on Armed Services, *Report on the Authorization for National Defense, 1987*, p. 253, par. (b)(4).

46 House Committee on Armed Services, *Report on the Duties and Authority of the Under Secretary of Defense*, pp. 29-30.

47 DoDD 5000.1, p. 8. See also Senate Committee on Armed Services, *Report on the Authorization for National Defense 1987*, p. 255.

48 DoDD 5000.1, p. 8. See also Senate Committee on Armed Services, *Report on the Authorization for National Defense 1987*, p. 255.

advocates, the program manager would be able to make decisions that could be overturned by the PEO, SAE, or DAE only. The intended result was to eliminate indiscriminate reviews that could delay a program and to remove the systems commands from managing programs. In Preston's view, this has not yet happened--while most judgments are made by the program manager, there is too little support and too much interference from the acquisition leadership.[49]

The following paragraphs describe the changes made by the Services and inconsistencies among the Service organizations.

a. Navy

In early April 1985, before formation of the Packard Commission, the Secretary of Navy drastically reorganized the Department of Navy acquisition organization. He reduced the layers of organization between the Secretary of the Navy and the Naval Systems Commanders by eliminating the Naval Materiel Command headquarters organization.

While the position of Chief of Naval Materiel was abolished, the staff providing most direction to the program managers was retained and granted additional authority. For example, the Competition Advocate; the Director for Reliability, Maintainability, and Quality Assurance; and the Director for Contract and Business Management are now in the Office of the Assistant Secretary of the Navy (Shipbuilding and Logistics).

From a program manager's viewpoint, the same staff members are still present and still require conformance with their special interests before granting approval. For example, Secretary of the Navy Instruction (SECNAVINSTR) 4210.6A requires that the

> Competition Advocate General shall *certify* that the program's acquisition strategy provides for maximum effective, sustainable competition considering the unique nature of each acquisition [and that the] Specification Control Advocate General shall *certify* that the development specifications have been reviewed and tailored to the operational requirements. [emphasis added]

These required certifications remove the trade-off options of the program manager and effectively require him to conform to the positions of single-interest advocates.

Nonetheless, Secretary of Navy Lehman took control of Navy acquisition with the following Terms of Reference:

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49 Colleen Preston, Assistant General Counselor, House Committee on Armed Forces, interview with author 24 August 1988.

> The Secretary of Navy (SECNAV) develops program strategy. . . . [The Secretary writes] concurrent fitness reports on System Command (SYSCOM) Commanders. Fitness reports on SYSCOM Commanders will be signed only by SECNAV. This responsibility will not be delegated to ASNs [Assistant Secretary of the Navy] . . . . ASNs do not have directional authority over SYSCOM Commanders except in the name of the Secretary--in writing . . . . SYSCOMs will perform procurement and contracting functions on behalf of SECNAV and will coordinate these functions with Chief of Naval Operations (CNO) . . . . SYSCOM Comptrollers will report additionally to Deputy Comptroller of the Navy.
>
> The CNO develops operational requirements and executes programs including modernization . . . . [The CNO will] write regular fitness reports on SYSCOM Commanders. Fitness reports on SYSCOM Commanders will be signed only by the CNO. This responsibility will not be delegated to the DCNOs . . . . Deputy Chief of Naval Operations (DCNOs) do not have directional authority over SYSCOM Commanders except in the name of the CNO--in writing.

Secretary of Navy Webb directed that the Under Secretary of the Navy be the Department of the Navy Acquisition Executive (NAE), responsible for all issues relating to major programs for the Navy and the Marine Corps.[50]

This assignment applies to major programs only. Program managers of less-than-major programs continue to work within other applicable instructions.[51] This means that the decision authority for many Department of the Navy programs, the acquisition categories (ACATs) IIC and III, is the CNO or a program sponsor (usually a Vice Admiral) on the CNO's staff.[52] Moreover, Navy headquarters staff (OPNAV) is the center of Navy planning, programming, budgeting, sponsorship, coordination, and control. Thus the OPNAV is in the acquisition chain of command for less-than-major programs and, by controlling planning and resources, effectively in the chain for major programs.

For the major programs covered, the Under Secretary is assisted by the Assistant Secretary of the Navy, Shipbuilding and Logistics (ASN(S&L)), for one group of programs and by the Assistant Secretary of the Navy, Research, Engineering, and Systems (ASN(RE&S)), for another group of programs. The ASN(RE&S) is responsible for programs through full-scale engineering development (FSED). The ASN(S&L) is responsible for programs in production.

All major acquisition programs are assigned to a PEO. The Commanders, Naval Air Systems Command (COMNAVAIRSYSCOM), Naval Sea Systems Command

50 SECNAVINST 4210.8A, 12 August 1988.

51 SECNAVINST 4210.8A, 12 August 1988.

52 SECNAVINST 5000.1B, 8 April 1983.

(COMNAVSEASYSCOM), the Strategic Systems Program Office (SSPO), and the Marine Corps Deputy Chiefs of Staff for Installations and Logistics (DC/S(I&L)) and for Research, Development, and Studies (DC/S(RD&S)) have been appointed the PEOs for the major acquisition programs.

A recent instruction from the Secretary of the Navy establishes the authority and responsibility of acquisition executives.[53]

> Program Managers (PM) of major acquisition programs have full authority and responsibility for their programs. These program managers are responsible directly to their respective PEOs, and report only to them on program matters.
>
> Program Managers will accept direction only in writing. Program managers shall assure full communication with Program Sponsors in the Navy and Marine Corps, but this must stop short of accepting authoritative direction from them.
>
> Communications with OSD, with the other Services, and within the Navy will be maximized to eliminate redundancy and duplication, and to increase commonality and quantity buys to achieve greater competition and lower costs.
>
> Program managers are responsible to their Systems Commanders and will be held accountable for the successful implementation of their assigned programs.
>
> [Prior to the Milestone 2 decision (authorizing FSED) the] Chief of Naval operations or Commandant of the Marine Corps shall certify that the results of cost-capability trade-offs have been examined and that performance requirements that yield only marginal worth have been eliminated.
>
> The Commander of the responsible Systems Command must certify that the proposed hardware/software developments reflect maximum practical commonality.
>
> [However,] Program managers are encouraged to be creative and to consider alternative acquisition strategies.

In 1986, another organizational layer was placed between the program manager and the PEO by the appointment of five program directors (PDs) who report to COMNAVAIR. These program directors are effectively assistant PEOs.

Navy project offices are usually small (15 to 30 people), and the majority of the staff is provided by functional organizations. The functional organizations are budgeted by the program manager.

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[53] SECNAVINST 4210.6A, 13 April 1988.

Although the NAVAIR Program Office staff is small, the program director will budget and task large numbers of people in other organizations such as Contracts, Systems and Engineering, Fleet Support, and the Naval Weapons Center at China Lake.

In NAVSEA, the chief engineer and the deputy commander for Nuclear Propulsion report directly to COMNAVSEA. One Program Director (SSN21 Project) reports to COMNAVSEA. All other programs report to the appropriate deputy commander. Program managers budget and task the appropriate participating managers (PARMs) through Ship Project Directives. Changes to existing weapon systems or ships involve a very formal and lengthy process.

b. Air Force

The Air Force superimposed the new acquisition organization on the existing command structure but attached the former Air Force Research and Development staff to the SAE. Authority flows through the original command lines, but day-to-day business is conducted through staffs that communicate along the new SAE-PEO-program director (a major program management) chain.[54]

Program management direction comes from the Secretary of Air Force (SAF) or his staff or from the Air Force Chief of Staff or his staff.[55] Staff directives to lower levels are issued in the name of the Secretary or Chief of Staff.

The Assistant Secretary of the Air Force for Acquisition (ASAF/A) is the Air Force Acquisition Executive (AFAE). He designates executive programs and (PEOs). The AFAE chairs the Air Force Systems Acquisition Review Council, approves the baselining of executive programs, and represents the Air Force on the DAB.[56]

The AFAE is a civilian possessing all of the qualifications suggested by the Packard Commission, but he is not an Under Secretary. The AFAE is the only SAE without another assignment. His principal deputy (SAF/AQ) is a lieutenant general, who is responsible for all Air Force research and development and acquisition.

The AFAE staff is a predominantly military organization composed of the staff of the former Deputy Chief of Staff for Research, Development, and Acquisition (AF/RD) and the staff of the former Assistant Secretary of the Air Force for Research, Development, and

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54 US Air Force Acquisition Policy Memorandum 88M-001, "AF Acquisition Policy - ACTION MEMORANDUM," 7 March 1988, p. 1.

55 10 U.S.C. 8013.

Logistics (SAF/AL). This new organization is responsible for the acquisition process from cradle to grave, with the exception of operational requirements. The Deputy Chief of Staff, Plans and Operations (AF/XO) is responsible for operational requirements and the Statement of Need (SON). SAF/AQ must obtain coordination from AF/XO on programmatic and budget matters. The Comptroller of the Air Force (SAF/AC), a lieutenant general, controls the budget process.[57]

The Air Force acquisition management system is called the Air Force Acquisition Executive System (AFAES). The underlying principle of the system is that program management authority and accountability should be placed at the lowest appropriate level while providing adequate visibility for the AFAE to oversee and guide Air Force programs. The Air Force policy states

> Key to the effectiveness of this system is a timely and unrestricted information flow between the Air Force Acquisition Executive - Program Executive Officer - Program Director (AFAE-PEO-PD) and appropriate accountability at all levels of the system.
>
> Only the Major Commands (e.g., AFSC), Product Division (e.g., ASD) or Air Logistics Center Commanders will be PEOs with the exception of the Science & Technology Program. However, a PEO may recommend further delegation for AFAE consideration.
>
> The PEOs review acquisition strategies and program baselines. They approve/disapprove specified management plans, financial documents, and reports. A PEO intercedes with the resource allocations process on the program's behalf.
>
> The Program Directors are the major program managers (e.g., F-16) or [they] manage a number of related programs (e.g., the engines SPO). They are responsible and accountable for program execution within the baseline and [they] conduct day-to-day management of their program(s), and interface with the user and supporting commands on a regular basis. A PD develops the acquisition strategy, and establishes the baseline for his program.
>
> The Commanders of the Acquisition Commands still have great power by allocating resources for programs and support activities; by appointing the Program Directors and any Program Managers, after consulting with the AFAE regarding these selections for executive programs. They interface with and support the using commands throughout the requirements process and assure and be accountable that program direction is executable.

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56 US Secretary of the Air Force Order No. 100.1, "Functions of the Secretary, Under Secretary and the Assistant Secretaries of the Air Force," 21 April 1988, pp. 5-6.

57 Ibid.

> The three fundamental management tools of the AFAES are the Program Management Directive (PMD), the Baseline, and a management information system--the Acquisition Information System (AIS).
>
> The PMD continues to be the document for directing what will be done and when. It is the official Air Force document used to direct acquisition or modification responsibilities to the appropriate Air Force Major Commands (MAJCOMs) for a specific system/subsystem development, acquisition, or modifications.[58]

On the AFAE's staff, the focal point for every development program element is the PEM (Program Element Monitor). PEMs were formerly on the Air Staff (AF/RD) but are now on the staff of the three-star principal deputy to the AFAE. The PEM is considered by some to be the most important individual in the Air Force acquisition process. During the Program Objective Memorandum (POM) process, he might be called on to restructure his entire program in a matter of hours. He writes the Program Decision Memorandum (PDM) and formulates the Secretariat's position on POM inputs for his programs.

Money flows through comptroller channels by Budget Authority (BA). Contract policy flows down, but contracts and acquisition strategy are prepared and finalized in the field.

An Air Staff board structure exists to provide a corporate forum for POM formulation. A multilevel screening process is run through Mission Panels to Program Review Committees to Air Staff Board to Air Council. Special-access programs, including black programs, bypass the Mission Area Panels and the Program Review Committee and, instead, are screened by a group controlled by the ASAF(A).

c. Army

The Army, unlike the other Services, created a new full-time position of PEO. The Navy and Air Force counterparts head large commands and, therefore, are only part-time PEOs. Army PEOs report to an assistant Army Acquisition Executive (AAE) only and Army program managers report to their PEOs only.[59] The PEOs and program managers, then, are in a line of command completely separate from Army Material Command (AMC), the military commodity development and acquisition command. However, the PEOs and

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58 US Air Force, Acquisition Policy Memorandum 88M-001, "AF Acquisition Policy - ACTION MEMORANDUM," p. 1.

59 AAE Policy Memorandum No. 87-1, "Procedures by which AAE policy will be promulgated," 3 August 1987.

program managers are dependent on the AMC headquarters and subordinate organizations for support.[60]

The PEO and his subordinate program management organizations are collocated with supporting functional commands. (A program manager in the Army can be a program, project, or product manager.) These PEO/program manager organizations have only small organic staffs. A staff of 225 people work in 16 PEO/program manager offices. Mission accomplishment depends on functional services provided by the collocated AMC subordinate command. Under no circumstances are PEO/program manager organizations autonomously staffed.[61] The materiel developer, AMC, provides the functional support to PEOs and program managers.[62]

An appointment document for an Army PEO states the following:

> An Army PEO is the responsible management official who provides overall direction and guidance for the development, acquisition, testing, product improvements and fielding of assigned programs. He coordinates, integrates, leads and directly controls the PMs within the assigned mission area. His primary management emphasis is on cost estimating, planning, programming, budgeting, program integration, interoperability and oversight. He has been delegated full line authority for centralized management of assigned programs.

A PEO is responsible for ensuring that all Army agencies involved in the acquisition of materiel are responsive to the needs of the program manager in achieving programmatic goals. A PEO is responsible for integrating assigned programs and for coordinating with functional staffs, with the Army headquarters staff and the Secretariat. He tracks and enforces program baselines.[63] The most comparable position in another Service seems to be the Naval Air Systems Command Projects Director.

There is little Army documentation on program managers; the appointment document for a program manager matches that of a PEO. The program managers are to "manage [their] programs in a manner consistent with, and supportive of the policies and practices contained in this [Army] regulation," a regulation more than a centimeter thick.[64]

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60 AAE Policy Memorandum No. 87-3, "Implementation of the Program Executive Officer (PEO) Concept," 21 August 1987.

61 AAE Memorandum, "Implementation of the Program Executive Officer (PEO) Concept," 29 April 1987.

62 AAE Policy Memorandum No. 87-7, 10 November 1987.

63 Army Memorandum, 29 April 1987.

64 Army regulation AR-70-1.

The Army, like the Navy, designated the Service's Under Secretary as AAE and Senior Procurement Executive.[65] A program manager may be subordinate to either the AAE, a PEO, or a Materiel Developer.[66]

The AAE is supported by the ASA(RDA) on matters of research and development, acquisition management policy and procedures, procurement policy and procedures, and competition advocacy. The ASA(RDA) will also be responsible for planning and programming, program/contractor reporting and evaluation, technology base strategy, and technology assessment of requirements.[67] The PEO and his staff will interface on a day-to-day basis with the AAE through the ASA(RDA).[68] AAE Policy Memoranda will be released by the Assistant Secretary of the Army (RDA).[69]

The ASA(RDA) is the actual supervisor of Army acquisition. In practice, the PEOs report to the military deputy to the ASA(RDA), a lieutenant general. The military deputy is also the senior rater for the PEOs.

d. Reflections on the Service Changes

As previously noted, the Services attempted to adapt recommendations to streamline with minimum disruption to existing organizations. The Navy and the Air Force superimposed new PEO positions on top of their existing systems--they simply gave systems commanders an additional title and authorized them to communicate directly with the SAE. Day-to-day operations are essentially unchanged. However, the Army created new PEO positions not organizationally part of the systems commands, and they separated the program managers from the systems commands and made them subordinate to the PEOs. In all three Services, the PEOs are very much dependent on the existing infrastructure for support, but program decision making ostensibly resides in the SAE-PEO-program manager chain. No Department has eliminated the layers as viewed by the program managers, although they have authorized some additional communication. Based on interviews with program managers conducted for this study, the organizations clearly have not been appreciably streamlined.

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65 AAE Memorandum, 31 May 1988.

66 AAE Memorandum No. 88-6, 15 July 1988.

67 AAE Memorandum, 31 May 1988.

68 AAE Memorandum, 27 May 1987.

69 AAE Policy Memorandum No. 87-1, 3 August 1987.

OSD is partially responsible for continuation of the constraints on the program managers. DoD Directive 5000.43, "Acquisition Streamlining," orders that "the government program manager shall . . . have authority and be accountable for determining what requirements should be incorporated in the contract, *subject to appropriate review by the established DoD and cognizant DoD Component (Service) review procedures*" (emphasis added). The statement ensures that a program manager can be controlled and overruled by OSD or Service staff--appropriate review allows for demands by any single-interest advocate, functional manager, or commander. Because of this vague wording, someone in OSD should determine who constitutes appropriate review for each program; currently no such control is in place. Each of the Services needs such direction.

The streamlining that has occurred has not been consistent among the Services. The differences in implementation among the Services do not reflect adaptations to fundamentally different management systems but are simply independent interpretations of a new directive.

To realize the benefits of streamlining, further changes are required in OSD and in the Services. The efforts to date have not produced the desired effect and this failure is due, in part, to the absence of true streamlining. The following section details the changes that are needed.

2. An Exemplar Service Acquisition Organization

The Packard Commission recommendations regarding streamlining apply to the Services as well as to OSD. The Commissions recommendations can be summarized as follows:

- Implement a management concept having centralized policy control and decentralized execution with the preponderance of normal decisions and trade-offs being made by the program managers. Stress strategy, policy, processes, oversight, and integration at the OSD and Service Secretariat levels. Eliminate headquarters involvement in programmatic details.
- Establish unambiguous and direct channels of responsibility, authority, accountability, communication, and oversight. Ensure that functional managers understand the limitations on their responsibility and authority. Establish control of single-interest advocates at every level and place the burden of proof for imposed positions on the advocate.
- Delegate authority to the lowest level that still permits essential control. Grant the program manager control of the resources needed to accomplish program goals, including financial control within limits usually prescribed by a baseline.

Delegate contract authority to the PEO level. With the exception of a few established review points, allow the program manager to make the program decisions and trade-offs and to implement his decisions.

The Packard Commission reports reiterate the basics of streamlining:

[Excellence in defense management depends on] common-sense principles: giving a few capable people the authority and responsibility to do their job, maintaining short lines of communication, holding people accountable for results.

Interest groups wishing to influence program actions must persuade the program manager, who may accept or reject their proposals.

Excellence requires [that]. . . responsibility and authority [be] placed firmly in the hands of those at the working level [the program manager and his team], who have knowledge and enthusiasm for the tasks at hand.

The Packard Commission has argued eloquently and repeatedly for placing accountability and authority for program execution in the hands of the program manager.

The following suggested annotations to OSD and Service directives and instructions would provide one approach to streamlining the acquisition process.

The Secretary of each Service will

- Appoint an SAE with clear lines of authority, responsibility, and accountability for acquisition program management and execution.
- Ensure that high quality, experienced personnel are assigned to acquisition management positions within the Component in support of the program manager and that the tenure of key personnel, such as the PEO and program manager, is of sufficient length to provide continuity and management stability.
- Establish management training and career incentive programs to attract, retain, motivate, and reward personnel occupying acquisition management positions.
- Ensure that the performance appraisal system within the Component for PEOs and program managers is consistent with the streamlined acquisition management structure.

The SAE will delegate specific program execution with funding authority in a short, unambiguous chain-of-command to the appropriate PEO. The SAE will eliminate all multiple, parallel lines of responsibility and authority. The SAE will

- Establish an acquisition management structure and policies that are consistent with the principles of the Packard Commission as endorsed by the President and Congress.

- Manage their Service acquisition structure and process in a manner consistent with policies of the USD(A) and the provisions of DoD directives and instructions.
- Ensure that only the program manager has the authority to manage his program and that the SAE and PEO will permit the program manager the necessary latitude to manage the program.
- Appoint PEOs, each responsible to support and oversee a reasonable and defined number of acquisition programs.
- Delegate the less-than-major programs and non-executive programs to the appropriate commands, not to assistant secretaries or other staff. For these programs, institute a streamlined reporting procedure designed only to provide warning of impending problems and routine reporting at extended periods.
- Ensure that imminent and actual breaches of established program baselines are reported expeditiously to the USD(A) for DAB programs and other designated programs.

A PEO has authority to contract within limits established by USD(A) or SAE without further approval, consistent with approved planning. After Milestone II, the baseline is the approved planning. Each PEO will

- Assure that subordinate program managers are given full authority to manage their programs and no one else is given similar responsibilities.
- Assign sufficiently trained and experienced people to program offices. Key members of the program manager's staff (supervisors and key advisors) will be assigned directly to the program manager and will be responsible only to him. The program manager will write regular performance evaluations on personnel assigned directly to his staff. With few exceptions, matrix people will be assigned full time to and located in a program office for specific periods such as two years. The program manager will have the right of refusal and removal.
- Discharge their assigned management responsibilities in a manner consistent with USD(A) and SAE policies. No direction in program matters including financial or requirements changes will be accepted from other than the SAE or USD(A).
- Delegate specific program execution with funding authority in a short, unambiguous chain of command to the appropriate program manager. The PEO will eliminate all multiple, parallel lines of responsibility and authority. Functional personnel, interest groups, staff, and advocates wishing to influence program actions, must persuade the responsible program manager.

- Remain informed on the status of programs within his assigned responsibility and ensure that imminent and actual breaches of Secretary of Defense, USD(A), or SAE decisions and established program baselines are promptly reported to the SAE along with recommended alternatives regarding future direction and actions.

A program manager is the executive responsible for the successful management of an acquisition program (sometimes called a project or product). (The Air Force calls the manager of a major program a program director.) The program manager is the leader and integrator of the government and contractor work to achieve specified objectives. For a designated acquisition effort there is only one program manager, and he reports to and receives direction (including requirements, financial, development, test, procurement, and logistics) from his PEO or SAE only. He is given the authority and resources to do his job and is held accountable for the results. The program manager has broad directive authority over the planning, direction, and control of resources for approved program efforts, including the program efforts of government and contractor organizations. He has the authority to act on his own initiative in matters affecting his program.

A program manager is responsible for incorporating the best combination of features and attributes into his program and into the system he is acquiring. He has the authority to balance or trade off opposing features and attributes within bounds set by the approved program document, usually the baseline. Single-interest advocates, wishing to influence program actions, must persuade the program manager, who may accept or reject their proposals. Whether the program manager accepts or rejects the advice of an advocate or a functional manager, he is still fully accountable for the result.

When conflicts arise between program staff (SPO staff) and functional staff policies, procedures, or objectives that cannot be resolved, the matter will be referred to the program manager for decision. When a disagreement remains unresolved, the issue will be presented to the PEO, and if necessary, to the SAE or the DAE as appropriate for adjudication. Actions directed by the program manager, however, shall proceed during the pending resolution.

Functional managers are responsible for providing staff to meet the functional needs of the program managers. These people will work as an integral part of their respective SPO and will take direction from the program manager or his designated subordinate.

Functional personnel will be assigned full time for an extended period (such as two years) unless the program does not need such level of support. In any event, the functional manager and the program manager will strive to minimize fragmented assignments that

deny the program the benefits of continuity. Functional people (matrix people) will be physically located with the SPO, unless facility limitations or minimal need makes this impractical. Program managers will write concurrent performance evaluations on functional staff who are assigned to the program for 10 or more hours per week.

Functional managers are responsible for providing talented, trained, and competent staff; for the professional development of their personnel; and for the quality of work within their functional areas. Functional managers are not responsible for program decisions, even decisions in their functional areas. Functional managers can advise the program manager and if not satisfied can appeal to the respective PEO. The burden of proof is with the functional manager because the program manager has the responsibility for the program.

OBSTACLES TO IMPROVING THE DEFENSE ACQUISITION PROCESS

J. Ronald Fox

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OBSTACLES TO IMPROVING THE DEFENSE ACQUISITION PROCESS

A. OVERVIEW

Every few years, government commissions are appointed to study problems in defense procurement. They highlight cost overruns, highly priced spare parts, incorrect billings, schedule delays, and technical performance shortfalls. Each time, the commission recommends many of the same cures (more competition, more prototypes, multiyear procurement, economic order quantities, better cost estimates, and less gold plating). The recommendations are adopted, but within a year or two, key defense managers change, implementation efforts fall short, recommendations fade away, and a new set of problems becomes the focus of public scrutiny.

In recent years, publicity has centered on defense acquisition problems in many forms--consultants leaking proprietary government information, contractors making false charges to government contracts, technical failures in defense programs, unanticipated cost growth, or costly spare parts.

While the focus of publicity may shift among those issues, many are long-standing problems. The practice of leaking proprietary government information has occurred for years. Thomas Muldoon, a key figure in the defense procurement probe that began in 1988, said in a published report (United Press International, August 28, 1988) that the practices being investigated by the FBI had been going on for 20 years:

> This is like that great quote from the Humphrey Bogart movie 'Casablanca' when they close down the joint and the guy says, 'I'm shocked there's gambling going on here.'

In spite of these continuing problems, 1989 provides a rare opportunity to make significant improvements in the defense acquisition process: a new Congress and a new administration are searching for ways to deal with a large federal deficit; senior Department of Defense (DoD) officials estimate that management improvements could result in annual savings of 30 to $40 billion; and the President has made a commitment to major reform in

the defense acquisition process. The need to produce far-reaching acquisition improvements has never been greater, and DoD has never had a better opportunity to achieve these improvements.

To begin to deal with these problems, the Secretary of Defense must confront four major obstacles to long-term reform:

- Too few government managers, at all levels of the acquisition process, have the necessary understanding, skills, and experience in business management and industrial cost control to manage the acquisition process effectively.
- Because government managers often enter the acquisition field too late and leave too early in their careers, DoD has not been able to develop a corps of acquisition experts. Necessary career-enhancing assignments in acquisition are rare.
- Incentives offered to defense contractors tend to reinforce present methods of operating; they often penalize those who reduce costs and reward those who increase costs.
- Too few acquisition managers have achieved effective control of cost and have been are singled out, rewarded, promoted, and retained in the acquisition field; few role models exist for acquisition personnel.

The first part of this paper discusses the role of acquisition managers, their skills, and their experience; the second deals with incentives for government and industry managers.

B. BACKGROUND

In his first annual message to Congress, President Andrew Jackson wrote, "The duties of all public officers are, or at least admit of being made, so plain and simple that men of intelligence may readily qualify themselves for their performance."[1] Although the plain-and-simple approach may have been effective in the 1830s, it is far from satisfactory for today's defense acquisition managers. The complexities of managing the development and production of billion-dollar weapons systems require highly developed skills in planning and evaluating the technical and financial progress of a program, understanding complex contract terms, and overseeing and controlling the industrial firms performing the work.

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1 "Most Federal Workers Need Only Be Competent," *The Wall Street Journal*, 21 May 1986.

The military services are designed for combat, and for that reason, the current military promotion and retirement system encourages most officers to leave the military while in their forties, to maintain youthful forces for combat. In the past three decades, however, U.S. military operations have shifted increasingly toward the use of high-technology weapons and equipment. As a result of this change, the military services have been given an added mission of great complexity--one requiring training, career development, duration of assignments, and length of career radically different from combat requirements. This added mission--managing the defense acquisition process--requires skills in planning, overseeing, and controlling the largest, most complex industrial programs in the world, the development and production of weapon systems that include aircraft, ships, satellites, missiles, and electronic systems, each requiring the expenditure of hundreds of millions of dollars each year.

C. THE DEFENSE ACQUISITION MANAGEMENT TASK

The functions of DoD managers of large acquisition programs are not those classically associated with the role of a manager because the Defense Department does not develop or produce its weapons systems in house.[2] The actual development and production work is contracted out, through prime contractors. Hence the principal functions of the program manager and staff are planning, contracting, monitoring, controlling, and evaluating the technical performance of contractors and the government agencies that provide service and support. This range of activities includes design, development, procurement, production, training, testing, and field support. (The term "technical performance" is used here in the broadest sense to include not only the engineering aspects of a weapon system but also the contractor's management of resources (costs) as well as subcontractors.)

Managing technical performance, in this sense, poses some of the most demanding industrial management challenges that exist today. Government managers are required to oversee several industries involving hundreds of the largest firms in the country--firms managed by experienced staff, familiar with the defense acquisition process, and with methods of estimating costs, measuring progress, allocating overhead, calculating profits, and measuring return on investment for high-technology programs. Most of the recurring

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2 See Appendix B for the full statement by General Henry A. Miley, USA (Ret.), of the functions of the government program manager.

problems of cost growth, schedule delays, and failure to achieve technical performance in this environment cannot be resolved through improved engineering, better forms of contracting, multiyear procurement, or more prototypes. Solutions to these problems require frequent negotiations with industry (monthly, weekly, and sometimes daily) in situations that require government managers to be knowledgeable of the industries in which they are working, experienced in the acquisition process, and highly skilled in applying the tools of industrial management.

D. THE RELATIONSHIP BETWEEN GOVERNMENT AND INDUSTRY

The relationship between a government program office and its major contractor on a large program is necessarily close. Within the DoD contracting arena, all contracts have limitations. For example, during the past 25 years, the Defense Department has found repeatedly that fixed-price contracts are inappropriate for large development or production program. Such contracts cannot substitute for--indeed they inhibit--the week-to-week evaluations of progress, correlations of cost and progress, and negotiations of the thousands of changes proposed by both government and contractor personnel.

Although some commercial business management techniques are appropriate for the defense acquisition environment, many are inappropriate. While commercial industrial firms manage by removing uncertainties in the work to be performed, this is often impossible in the defense acquisition environment. Uncertainties are an essential part of the work in large development programs.

1. Adversarial Relationships

The relationship between government and industry in this uncertain environment is complex. Some government managers threat contractors as adversaries and fail to achieve the informal cooperation that is necessary between buyer and seller in any large development program. An example of this is when government managers have attempted to use fixed-price contracts (often dictated by senior Pentagon officials) for engineering development work, when cost-reimbursement contracts would be far more appropriate, or they treat cost-reimbursement contracts as fixed-price contracts, trying to enforce rigid task statements, when the work requires flexibility.

2. Partnership Relationships

Other government managers operate as partners with industry, accepting industry estimates without question, apparently unaware of or ignoring the mixed motives inherent in the buyer-seller relationship. These managers share industry's goal of producing technically excellent programs, but they lose sight of the need for arm's-length buyer-seller negotiations on programs that have weekly and sometimes daily changes. These government managers often express the erroneous view that the contractor's costs are closely aligned with the optimal program costs. Unlike their peers in the commercial sector, these managers usually incur no penalty for programs exceeding their original budgets.

Managing the defense acquisition process effectively and efficiently requires a critical balance between the adversarial and the purely partnership roles--a balance that produces the "wise buyer." Achieving that balance requires skill in coping with the complexities of the process, frequent negotiations, and marketing tactics within government, within industry, and between the two. An adversarial relationship of animosity, suspicion, and mistrust is not needed, instead a business relationship characterized by rigorous bargaining and tenacious regard for the best interests of one's own side is required.[3]

E. DIFFERING PERCEPTIONS OF DEFENSE ACQUISITION

Government and industry managers involved in defense acquisition have diverse perceptions of the current condition of the acquisition process. Some describe it as poorly managed and plagued by serious problems; others see few problems. These differing perceptions do not reflect the conventional dichotomies of military versus civilian or government versus industry. Rather, they reflect differing views of the government's role in managing the acquisition process.

1. The Liaison Manager

Some members of both government and industry limit the role of the government program manager to liaison management--promoting a program, preparing progress reports

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3 Richard J. Bednar and John T. Jones, Jr., "The Role of the DOD Contracting Officer," Report of the American Bar Association (ABA) Section of Public Contract Law, Ad Hoc Committee, John E. Cavanagh, Chairman, 11 January 1987, p. 120.

and briefings, negotiating with officials at the Pentagon and various military commands, and resolving technical conflicts between these organizations and contractors. They believe the responsibility for cost control belongs solely to the contractor. This view is based on the belief that the defense business is part of the free enterprise system and is therefore regulated by competition in the marketplace.

2. The Active Manager

Others view the program manager's role as more active--planning and making key decisions associated with rigorous oversight of, negotiation with, and control of industrial firms doing the development and production work. They believe the responsibility for cost control belongs to the program manager and the plant representative as well as the contractor. They also believe that significant cost reductions are often possible, depending on government managers' abilities to establish challenging cost incentives for contractors. This view is based on the belief that in the defense procurement environment, the competitive forces of the marketplace alone do not produce the desired cost, schedule, and technical performance; these forces are usually frustrated by contract changes occurring throughout the life of a program.

Those who see the government program manager as a liaison manager often talk about cost control in managing programs but fail to understand that large industrial programs cannot be planned and controlled through proclamation or good intentions. Successful programs result from careful analyses and trade-offs associated with program and engineering changes and difficult day-to-day negotiations. The skills needed for these tasks require intensive practical training and experience. To be successful, government program managers need years of training and experience in business management and methods of industrial cost control. If the program manager is limited to liaison management--promoting the program, preparing progress reports, and performing technical liaison--military experience as a pilot, tank commander, ship captain, or engineer and possibly 14 to 20 weeks at the Defense Systems Management College (DSMC) may be sufficient preparation. However, for government program managers who take an active role, this experience and training is insufficient for the job.

F. ACQUISITION CAREERS

Most government acquisition managers and their staffs are intelligent, hard working, and dedicated. Their goals include acquiring weapon systems and other products

that meet performance standards at reasonable costs. However, in recent years, those assigned to key acquisition positions--at most levels of DoD, from program managers to presidential appointees in the Pentagon--are often unprepared for their jobs. These individuals often lack the skills, training, and expertise required to manage the acquisition process effectively.

The Defense Department often places military officers and civil servants in positions that require them to control complex industrial programs, yet fails to provide these individuals with a working knowledge of the acquisition process, skills in analysis and technical negotiations, or the stable assignments necessary to deal with contractors on an equal footing. Too few government managers are knowledgeable of contractor financial incentives, negotiating changes, or controlling costs and technical performance in large industrial firms. Consequently, these managers rarely make the difficult acquisition decisions required to create lean industrial organizations and reward personnel for exceptional performance. (Appendix A discusses the qualifications of acquisition managers, and Appendix B describes the responsibilities associated with managing large defense programs.)

During the past 25 years, many Pentagon officials have assumed that the acquisition process could be managed effectively at any level by generalists, technology specialists, and military officers whose primary training and experience has been in military field operations. Many of these individuals have had little practical training or experience in industrial management and only a few acquisition assignments. In recent years, it has become evident that additional expertise is required for successful program management. Just as a wing commander needs years of programmed flight training and experience, a program manager needs extensive experience and carefully programmed assignments in the acquisition process, business management, and industrial cost control to effectively manage a complex industrial program.

In a 1986 study of defense acquisition, the General Accounting Office (GAO) found that many government program managers were simply not equipped to tackle the intricate problems of weapons procurement.[4] That finding was supported by extensive congressional testimony about the limited qualifications of program managers. During September 1984 Senate Armed Services Committee hearings, Senator Jeff Bingaman asked

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4 US General Accounting Office, GAO/NSIAD-86-45, May 1986 and *The Washington Post*, 12 June 1986.

Norman Augustine, chairman and chief executive officer of Martin Marietta Corporation and former Under Secretary of the Army, "In your view, do the people we put in positions of managing these programs have the necessary training and qualifications to do these jobs?" Mr. Augustine responded:

> I would say that in many cases they truthfully don't. We do much better than we did 10 years ago, but it is not uncommon for someone who has been commanding a ship at sea or a division or squadron to suddenly be placed in a position where they have the job of overseeing the work of an industrial giant.
>
> It is pretty tough to be equipped to do that when one comes out of a military operating force. It would be much the same as taking somebody like myself and putting them in charge of an air wing; it would be a terrible mistake.
>
> I think we would need much more training for these people before we put them on the firing line. [5]

The appraisals of the GAO and Mr. Augustine were supported by views the committee heard from other respected industry spokesmen. Carl Harr, then president of the Aerospace Industries Association, observed:

> You cannot underestimate the importance of the quality of the people in the process, obviously. We would agree anything that can be done (to improve the quality) will be helpful.
>
> Sure, one of the ways to improve performance is to upgrade quality, but much more practical I suppose, in the immediate area is to make sure they get trained. Training is a function of time, organization. [6]

Another industry spokesman, Roy Anderson, chief executive officer of Lockheed Corporation, commented:

> In addition, more can be done, in my opinion, to train and attract more qualified military personnel into the procurement process. The services must realize the vast amount of dollars that must be expended and prudently managed to carry out their missions. I believe some sort of business education should be offered in the military academies, and a career in

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5 US Senate, hearings before the Task Force on Selected Defense Procurement Matters of the Committee on Armed Services, "Defense Procurement Process," 20 September 1984, Part 2, pp. 163-164.

6 US Senate, hearings before the Subcommittee on Defense Acquisition Policy of the Committee on Armed Services, *Implementation of the 1984 Defense Procurement Legislation*, 17 and 29 October, 7 and 13 November, 1985, p. 353.

> procurement elevated as a factor for promotion, equivalent to strictly military paths including potential for flag positions. [7]

In considering the training and qualifications of acquisition managers, most military officers have extensive academic education and general service training. In addition to a bachelor's degree, officers are often assigned at midcareer to one-year posts at the Command and Staff College or an equivalent institution. At the grade of lieutenant colonel or commander, officers are sent to the War College for approximately one year, and many officers obtain master's degrees through evening university programs.

Academic degrees, however, rarely provide the industrial knowledge and skills necessary for coping with the aggressive business tactics of the acquisition process. Academic degrees do not substitute for practical training and experience in evaluating contractor schedules, costs, and technical performance; identifying and negotiating solutions to daily problems; or motivating government and industry personnel involved in the day-to-day management of large, complex programs. Unfortunately, much of the acquisition training available to government acquisition managers is confined to introductory descriptions of types of contracts, regulations, reporting systems, and related topics. Little time is spent practicing implementation, using management tools, or testing the reasonableness and validity of data.

A recent discussion with a group of industry managers new to the defense business and unaccustomed to DoD methods reflected their dissatisfaction with detailed government specifications, burdensome audits, monthly reports, and changes in funding--all longstanding problems of the defense procurement process. These managers were also stunned by DoD's attempt to manage complex industrial programs with military officers who have little or no industrial management experience. Indeed, at two major defense acquisition commands with thousands of personnel, approximately half of the military officers are lieutenants on their first tour of duty. Some typical comments from the industry managers include

> If we did this in the commercial world, we would be out of business in six months.

> These government managers have little idea how our organizations work and what incentives apply to our managers.

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[7] US Senate, hearings before the Subcommittee on Defense Acquisition Policy of the Committee on Armed Services, *Defense Procurement Process*, 30 January 1985, Part 3, p. 36.

> The government invites contractors to play games by assigning inexperienced government managers to key positions, and then changing them every two or three years.

Given little authority and few tools to manage their programs, program managers are often relegated to functioning as briefing specialists and marketing managers, spending much of their time seeking additional funds and continued support for their programs. This is an unreasonable assignment for military officers, and it does not produce high-quality management, regardless of the level of dedication of the personnel.

Defense industry managers stress the need for defined career paths for acquisition personnel. The following statements from four industry managers are typical of the views expressed.

> Acquisition should be conducted by professionals who have only one career motivation--to be the best acquisition professional in the system--and who see only that profession as the means of promotion. Setting aside a number of high-level military ranks for procurement assignments does not alone ensure the professional needs of acquisition.

> There is a need for much more care in translating policies down through each organizational level within the Department of Defense. The military services need to do much more in training their procurement personnel and in creating a clear procurement field. There needs to be a separate career ladder for procurement, and the career assignments need to be under the control of the people in charge of procurement.

> There should be career progression ladders for procurement officers and program managers, separate from the career progression ladders for operational personnel. We see no advantage to the country in taking a good boat commander and making him a program manager.

> You will find very few military officers who have had more than one assignment as a program manager. The promotion system usually doesn't give credit for having the same ticket punched twice.

A retired lieutenant general, formerly in charge of a buying command, reflected on his experience:

> There is a widely held belief in the services that the weapons acquisition process is a "secondary specialty" that anyone can learn. In reality, we need to create a program management career and a professional program management organization, not half a career in acquisition and half a career in operational commands. I have really turned around on this point. I used to think that the fifty-fifty arrangement was the best one.

In November 1983, David Packard appeared before the Senate Armed Services Committee and stated:

> I believe that each service should be restructured to have two clearly defined and separate career paths for the development of officers. One should be to train men and women as commanders of military forces. The other would be to train men and women as managers in procurement.
>
> At the present time, officers often rotate back and forth from military assignments to procurement and almost without exception, project managers are not allowed to stay with that program long enough to actually see it to completion.[8]

Acquisition managers should follow a career path comparable to those of Army brigade and division commanders, Air Force wing commanders, and Navy wing and ship commanders. These well-defined paths are centrally managed to ensure that all supervisors are fully aware of the career requirements and that individuals receive training and practical experience, with successive assignments in the same field, to achieve positions of progressively greater responsibility.

The Air Force has developed a promising acquisition manager career program for non-rated officers that can serve as an example for DoD. The Navy uses a centralized approach through their Weapons Systems Acquisition Management (WSAM) and Materiel Professional (MP) programs, but they fall far short of their stated goals for unrestricted line officers. The new (1983) Army Materiel Acquisition Management (MAM) program lacks central control and authority and provides inadequate training and practical experience too late in Army careers. (Appendix C describes combat arms career paths and acquisition career programs in the Army, Navy, and Air Force.)

If the Army and Navy continue their current practice of managing the acquisition process with combat arms officers who serve 15 years before entering the program and are then given an array of assignments in supply, maintenance, procurement, contracting, and deployment, it is unlikely the officers will master the specific tasks required to be well-qualified program managers.

Although the 20-week DSMC course is an important first step in training acquisition managers and their staffs, much more must be done to achieve an acceptable level of performance. The current policy of limiting this training to 138 days (because of regulations concerning moving-expense reimbursement) must be changed. When one compares moving expenses with the potential billions of dollars in annual savings that

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8 US Senate, hearing before the Task Force on Selected Defense Procurement Matters of the Committee on Armed Services, *Career Paths and Professional Development for Acquisition Managers in the Department of Defense*, 13 December 1984, pp. 27-28.

could be achieved through improved management in the acquisition process, the moving expenses are trivial.

Another way to improve government program management is to require future acquisition managers to complete a program of at least one full year of practical training in industrial management, designed to develop a familiarity with the acquisition process, problems that occur, and practical alternatives for dealing with these problems. The training should include hundreds of examples of the daily dilemmas acquisition managers encounter and explore the strengths and weaknesses of various solutions. Instructors should be skilled in conducting interactive sessions and have current practical knowledge of the defense acquisition process.

The program should develop the wise buyer skills needed to resolve the complex problems in major research and development and production programs. It should stress analyses and decision making, using simulation exercises, role playing, and case studies. An internship in a program management office should precede and follow the one-year practical training program; carefully selected program managers could serve as supervisors. Favorable results from such a program need not be years away. If DoD were to implement such training now, major improvements could be realized in two years. (Appendix D includes sample topics for an acquisition training program.)

Acquisition executives and senior officers at the Army, Navy, and Air Force acquisition commands should have many years of experience on large acquisition programs. Once selected for these positions, they should have sole responsibility for materiel acquisition and personnel recruitment, selection, and assignments. Assigning these responsibilities to separate individuals will only perpetuate the problems of the past three decades.

If program managers and their superiors are assigned to acquisition career fields, combat officers can bring the operational knowledge and perspective to the program offices, as they have in the past. One or more combat officers must be assigned to each major program office to contribute operational expertise, but they should not serve as program managers responsible for overseeing, controlling, and negotiating with contractors. To successfully manage development and production of a new manned satellite system, an individual does not need several years experience as an astronaut, but should understand the astronaut's needs and have ready access to experienced astronauts familiar with operational requirements.

G. INCENTIVES FOR INDUSTRY AND GOVERNMENT

The Defense Department customarily manages acquisition programs by rewarding contractors for higher than planned program costs, through contributions to overhead, increased sales, and profits. Government managers are often rewarded for placing a higher priority on gaining congressional approval to begin a new weapon program (or to obtain additional funding for an on-going program) than on controlling costs for existing programs. These incentives and penalties discourage efficient program management.

The acquisition cost problems of the 1970s and 1980s are not aberrations; they are the result of many government and industry participants reacting in perfect accord with the inherent rewards and penalties of the acquisition process. More fixed-price contracts, better planning and reporting systems, improved cost estimating systems, change-control systems, or multiyear contracts have little likelihood of success unless government managers and contractors are rewarded for quality performance at lower cost.

Reluctance to establish more appropriate contractor incentives has been a serious deficiency in most DoD improvement programs during the past three decades. If the acquisition process is to operate efficiently, it should be structured so that contractors have a reasonable opportunity to earn returns comparable to commercial returns, without undermining government program objectives. When contractors perform well, government managers should be able to reward that performance with improved opportunities for future defense business. At the same time, when contractors fail to meet contract terms, government managers must be sufficiently trained, experienced, motivated, and supported to identify and report inadequate performance and to take corrective actions, including penalties and contract termination, when appropriate. Defense Department officials at all levels must be prepared to support this type of responsible management, and DoD must be prepared to demonstrate to members of Congress that poor performance will not be tolerated. As defense analyst Richard Stubbing has observed:

> Contractors should be rewarded with higher profits for complying with schedules, satisfying promised performance standards, and delivering goods and services at or below contracted cost. Conversely, penalties, in the form of reduced profits, should be imposed for late delivery, substandard work, and cost overruns. The source selection process should

make prospects for obtaining future contracts closely linked to performance on existing contracts. [9]

Equally fundamental changes should be made in incentives for government program managers. They should be rewarded for effective use of analysis and control techniques; for early identification of problems; and success in controlling program schedules, costs, and technical performance. Managers who handle crises effectively are now given high performance ratings, but timely preventive action could often correct problems before a crisis occurs. Because preventive action requires daily attention to management detail, inexperienced supervisors are not likely to appreciate or reward the work of a good manager. As a result, managers often have insufficient incentives to identify potential problems and to exercise rigorous, systematic control of these issues.

Within the Services, few incentives exist to encourage talented officers to serve more than 20 to 25 years. In fact, military personnel tend to gain experience in the acquisition process late in their careers and are then effectively forced out of the Services when they have heavy financial commitments, such as mortgages and college tuition. Understandably, they seek positions in the private defense industry, where their knowledge and skills are useful, and the incentives of rewarding salaries and career status are compelling.

Knowing that one must eventually obtain a job in the private sector can subtly affect an individual's performance in government service. While government and industry goals regarding costs are rarely identical, members of private industry extend offers to those who have demonstrated an appreciation of their particular problems and commitments. To resolve potential conflicts of interest, government acquisition careers must be made attractive enough to encourage officers to extend their service 5 to 10 years more than the average length of service.

One way to do this is to offer incentive pay to attract and retain acquisition managers. If an extra $15,000 to $20,000 per year were paid to selected military officers (at the rank of O-6 and above), and if career regulations permitted these officers to remain in the acquisition field, incentives to retire from active duty and join the defense industry would be minimized. The extra cost would be negligible compared with the benefits of retaining experienced managers. If an incentive pay plan were adopted, a group of senior acquisition officials would need to determine the eligibility of those choosing an acquisition

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9 Richard A. Stubbing, *The Defense Game* (New York: Harper & Row, 1986) pp. 410-412.

career. Otherwise, program management could become a haven for officers not qualified to enter the competitive world of private industry.

Such a proposal is not without precedent. US medical and dental officers and military personnel on flight status and submarine duty now receive incentive pay. In Sweden, the government's acquisition agency attracts and retains senior personnel (both military and civilian) by a special law that allows higher salaries for crucial acquisition positions. A Swedish colonel serving as a program manager can receive a salary significantly higher than the salaries of other colonels and even the director general of his agency. This advantage draws highly qualified, experienced people to prestigious senior acquisition positions.

One alternative to the present system is the establishment of a separate service for acquisition managers, an approach that has produced considerable success in France. The service would be composed of elite managers dedicated to achieving the goals of the acquisition process. Applicants would face a highly selective screening program to eliminate those not meeting the high standards of the service. Advancement would be based strictly on management ability and performance, and senior acquisition officers would control assignments and promotions, without interference from combat arms officers. The service would include a number of senior positions, consistent with the significant responsibilities of billion dollar acquisition programs that are critical to the national defense.

The service would consist of individuals who, by virtue of their education, skill, and assignments, could become experts in managing large development and production programs. They could expand their expertise in several aspects of defense acquisition, through assignments in buying organizations and laboratories, program management offices, the service headquarters staff, or advanced training courses and tours with industry.

If a government career in acquisition management were made more attractive, either within the existing services or as a new service, problems associated with widespread military retirements to accept industry positions could be minimized while the rights of individuals to full-length careers are preserved. The basic goal of any change in the career system must be to increase the competence, integrity, and prestige of individuals serving the government in the defense acquisition process and provide appropriate incentives and prestige for personnel who choose such a career. Many competent military officers and

civil servants now avoid acquisition assignments and assignments to the DSMC faculty because these positions do not confer prestige or enhance the likelihood of promotion.

To create and foster the dedication, prestige, and high level of competence needed in defense acquisition, senior civilian managers and military officers must emphasize the importance of defense acquisition careers--through promotion decisions and positive publicity. Until the Secretary of Defense and the military chiefs of staff make clear, through their words and actions, that being selected to manage the acquisition process is prestigious, difficulties in attracting and retaining qualified competent people will continue.

One assumption of this analysis is that the defense acquisition process will continue to be managed predominantly by military officers. Most senior defense officials, both military and civilian, past and present, recommend that this pattern continue. They have found that the uniformed military service brings a much needed esprit de corps to the acquisition process, along with a willingness to work long hours and to travel wherever necessary on short notice. These officers also derive a sense of satisfaction from serving their country, which compensates for the below-industry pay levels of government service.

H. CONCLUSIONS

Many members of both government and industry want to improve the acquisition process, but it is unrealistic to expect any lasting improvement unless management skills are vastly improved and unless more appropriate incentives and disincentives are established and enforced. For example:

- Unless changes are made in the current practice of waiving training requirements and offering only short training courses limited to introductory subjects, the capabilities of acquisition managers cannot be expected to improve.
- Military career paths that now provide few opportunities beyond the age of 45 to 50 must change, or military officers will continue to seek second careers in the defense industry. (In addressing this problem, DoD must hear the views of colonels and lieutenant colonels and Navy captains and commanders on the advantages and disadvantages of the acquisition career field.)
- Unless changes are made in the current military personnel system that makes short-term assignments necessary for military officers to acquire the number and variety of assignments needed for promotion, improved continuity in defense program offices is unlikely.

- Without genuine promotion opportunities for individuals who make the difficult decisions associated with successful negotiating and wise buying, the government cannot expect to retain sufficient numbers of experienced program managers capable of much more than the routine tasks of promoting programs, preparing progress reports, and conducting briefings.
- Unless changes are made in the current profit system that demands higher costs as a prerequisite for higher profits, expecting lower program costs is futile.
- Unless changes are made in the current process of contractor source selection, which makes optimistically low cost estimates a significant advantage in competing for a contract, discussing realistic contractor proposals is useless. Criteria for evaluating source selection must give far more weight to cost realism and the contractor's performance record.

There will be no lasting improvements in the defense acquisition process until military commanders, beginning with the chiefs of the Services, become sufficiently dissatisfied with the high cost of weapons and equipment and make the changes necessary to produce the management expertise needed to capture cost savings. Until steps are taken to create and retain these skills, other attempted acquisition reforms will have little effect. (Appendix E contains near-term steps to address acquisition problems.)

The mandate to change must come from the top; only then can improvements take place. Military and civilian leaders in the Defense Department must declare definite steps for improving management of the acquisition process. They must also be persistent in ensuring that the changes take place. DoD personnel at all levels must be committed to achieving higher quality products at lower cost. Minor adjustments or corrections to the present system will not accomplish this vital job.

Gilbert Fitzhugh, chairman of the President's 1970 Blue Ribbon Defense Panel, noted that when studies are completed and committee members depart, those who remain to assess and implement recommendations are those whose "toes have been stepped on" in the findings. Not unexpectedly, there is a noticeable lack of enthusiastic support for the recommended changes. If significant improvements are to occur, those responsible for implementation need strong advocates who remain on the scene to lend support to the findings, with understanding and conviction.

APPENDIX A

QUALIFICATIONS OF DEFENSE ACQUISITION MANAGERS

Department of Defense (DoD) Directive 5000.23 states that Army and Air Force colonels and Navy captains or civilians assigned as program managers should have previous program management or defense system acquisition experience, including one or more assignments to a program office. General or flag-rank officers and their civilian counterparts in the acquisition field should have substantial experience in program management or system acquisition, including experience at the lieutenant colonel or colonel (or equivalent) level.[1] In 1987, 13 years after 5000.23 was originally issued, many program managers and flag-rank officers assigned to the DoD acquisition process failed to meet these standards.

The DoD directive was an effort to implement recommendations made repeatedly by different groups. In 1969, a Defense Science Board task force concluded that a "major increase in the recognition, the status, and the opportunities in program management may be necessary to attract and retain a larger share of the most capable career officers" for system acquisition management.[2]

In 1970, the President's Blue Ribbon Defense Panel identified the status of program management as a weakness in defense acquisition.[3] In the same year, Deputy Defense Secretary David Packard, in a policy guidance memorandum, observed that "program management in the services will be improved only to the extent that capable people with the right kind of experience and training" are chosen as managers and that "program managers must be given more recognition."[4]

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1 US General Accounting Office, "DOD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, May 1986, p. 68.

2 Defense Science Board Task Force on Research and Development Management, *Final Report on Systems Acquisition*, Washington, DC, 11 September 1969.

3 Blue Ribbon Defense Panel, *Report to the President and the Secretary of Defense on the Department of Defense*, 1 July 1970.

4 David Packard, "Policy Guidance on Major Weapon System Acquisition," memorandum, Department of Defense, May 1970; Edmund Dews, Giles K. Smith, Allen Barbour, Elwyn Harris, Michael Hesse, *Acquisition Policy Effectiveness: Department of Defense Experience in the 1970s*, RAND Report R-2516-DR&E, October 1979, p. 11.

Nonetheless, a May 1986 General Accounting Office (GAO) study found that few defense program managers had the desired mix of experience (4 years in a program office and 8 years of acquisition experience) and training (the 20-week Defense Systems Management College (DSMC) course). Table A-1 contains statistics from the report

Table A-1. Experience of DoD Program Managers

(Army n = 13, Navy n = 10, Air Force n = 11)	
Percentage with 4 years of program office experience:	
Army	= 31
Navy	= 30
Air Force	= 55
Median years of program office experience:	
Army	= 4
Navy	= 1
Air Force	= 4
Percentage with 8 years of total acquisition experience:	
Army	= 46
Navy	= 40
Air Force	= 64
Median years of total acquisition experience:	
Army	= 7
Navy	= 7
Air Force	= 13
Percentage completing the DSMC program management course:	
Army	= 67
Navy	= 30
Air Force	= 18
Percentage with combined experience and training: 4 years of program office experience, 8 years of total acquisition experience, and completion of the 20-week DSMC program management course:	
Army	= 15
Navy	= 0
Air Force	= 36

Note: n=number of managers surveyed in each Service.
Source: US General Accounting Office, "DOD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 78.

The GAO study points to practices that differ widely throughout the Services. For example, program manager acquisition experience in the Air Force significantly exceeds the experience of Army and Navy personnel. However, by 1987, the definition of the term acquisition experience as used throughout the Defense Department and Congress incorporated almost any kind of logistics experience: maintenance, supply, purchasing, contracting, deployment, research and development management, training, and any other experience related to one of the Army, Navy, and Air Force materiel commands (including assignments in personnel, travel, and administration at acquisition commands). As a

result, many of the officers with acquisition experience assigned to program management offices arrive with few skills in planning, oversight, and control of development and production programs performed under contract by large industrial corporations. Consequently, the term misrepresents the qualifications needed to produce a competent manager of complex, changing development and production programs with industry.

In examining the background of program managers, it became evident that although some possessed significant acquisition experience, few possessed the desired mix of training and experience.[5] (For purposes of this analysis acquisition experience was defined as any involvement in the development of the system, from requirements determination through production and deployment, including supply and maintenance.) The proportion of those with a combination of substantial program office experience (four years), eight years of acquisition experience, and completion of the DSMC program management course was low--none from the Navy, 15.4 percent from the Army, and 36.4 percent from the Air Force met these criteria.[6]

- The Air Force had the highest proportion of program managers with substantial program office experience--slightly more than one-half; the Army and Navy had less than one-third.
- The Air Force had the highest proportion with acquisition experience--nearly two-thirds; the Army and Navy had less than one-half.
- The Army had the highest proportion who had completed the DSMC program management course--two-thirds, the Navy had less than one-third, and the Air Force less than one-fifth.[7]

Although completion of the DSMC 20-week course and 8 years of acquisition experience (even broadly defined) are useful preparation for a program manager, military officers face powerful pressures for assignment rotation to acquire training as generalists. Assignment rotation occurs more frequently in the Army and Navy than the Air Force. Continuing support for assigning generalists to key acquisition positions is attributable, in

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5 US General Accounting Office, GAO/NSIAD-86-45, pp. 75-77. Acquisition experience was defined as any involvement in the development of the system, from requirements determination through production and deployment, including supply and maintenance.

6 A 1987 study by Air Force officers found a different figure for the Air Force personnel: 45 percent. William D. Brown, Paul K. Kern, L. Kirk Lewis, and John G. Zeirdt, "Acquisition Management--The Role and the Reality," *National Security Program Report*, John F. Kennedy School of Government, Harvard University, June 1987, pp. 112-117.

7 Brown, et al., "Acquisition Management," pp. 112-117.

part, to a commonly held view that assigning a combat arms officer to an acquisition assignment (often as program manager) is the best way for a military service to develop a system that meets user needs. Unfortunately, this may also be the best way of ensuring that acquisition managers do not have the skills required for managing large development and production programs.

APPENDIX B

RESPONSIBILITIES OF DEFENSE PROGRAM MANAGERS

During the various phases of the acquisition process--designated as concept exploration, demonstration and validation, full-scale development, and production--the program manager is expected to plan, monitor, and control the schedule, cost, and technical performance of government and contractor personnel involved in the design, production, testing, deployment, and support of new systems.[1] The management techniques used have evolved over recent decades. On July 13, 1971, the Office of the Secretary of Defense (OSD) issued DoD Directive (DoDD) 5000.1 (subsequently revised every few years), outlining management responsibilities, principles, and objectives for the acquisition of major defense systems. Three years later, it was supplemented by the more explicit DoDD 5000.23 (November 26, 1974, revised December 1986), which states that successful management of major systems depends on experienced and competent personnel. It specifies that career opportunities be established to attract, develop, retain, and reward the outstanding military officers and civilian employees needed to manage defense acquisition programs.

Program managers and their staffs are responsible for all of the technical and business aspects of development and production programs.[2] Their responsibilities assume that they have the assigned resources (money and people) to execute program decisions.

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1 Alan W. Beck, CPCM, "The Program Manager and the Contracting Officer: Shared Responsibility in Systems Acquisition," *Contract Management*, March 1985.

2 10 U.S.C. Section 1621 and OMB Circular A-109, *Major Systems Acquisitions*, para 5.6 (5 April 1976), defines a major system as that combination of elements that will function together to produce the capabilities required to fulfill a mission need. The elements may include, for example, hardware, equipment, software, construction, or other improvements or real property. Major systems acquisition programs are those programs that are directed at and critical to fulfilling an agency mission, entail the allocation of relatively large resources, and warrant special management attention. Additional criteria and relative dollar thresholds for the determination of agency programs to be considered major systems under the purview of this circular may be established at the discretion of the agency head. See also DoDD No. 5000.1, *Major Systems Acquisition*, 12 March 1986.

To fulfill these objectives, program managers are expected to

- Establish firm and realistic system and equipment specifications.
- Define organizational relationships and responsibilities.
- Identify high-risk areas.
- Select the best technical approaches.
- Explore schedule, cost, and technical performance trade-off decisions, appraising the effect these decisions will have on the schedule, cost, and technical performance of contractor operations.
- Establish firm and realistic schedules and cost estimates.
- Formulate realistic logistics support and operational concepts.
- Lay the groundwork for adopting an appropriate contract type that will elicit the desired contractor performance, given the mix of the contractor's business, the structure of the contractor's overhead rates, and the contractor's investment in the business.

General Henry A. Miley, USA (Ret.), former Commander of the Army Materiel Command and one of the most knowledgeable experts on the acquisition process, describes the government program manager's role in the Army context, but his comments apply to the Navy and Air Force as well.

> The functions of the DOD project manager are *not* those classically associated with the term "manager." This stems from the fact that the Defense Department does not develop or produce its weapons systems in-house. The management of these functions is contracted for, with, or through prime contractors. Hence, the principal functions of the project manager and his staff are contracting for, monitoring, controlling, and evaluating the technical performance of the contractor(s). The word *technical is used here in its broadest sense to include not only the engineering aspects of his weapon system but also the contractor's management of resources [costs] and sub-contractors.* It should be crystal clear to all involved, and in the related documentation, that *the Project Manager's function is that of the wise buyer rather than the advocate.* [emphasis added]
>
> According to the charter of the project manager, he is vested with total responsibility and authority for his project. In reality, he does not enjoy that authority and control. He cannot, unilaterally, make any substantive changes in schedule, cost, or performance characteristics of his system. Such decisions are made at levels above the project manager--AMC [Army Materiel Command], ASARC [Army Systems Acquisition Review Council], DSARC [Defense Systems Acquisition Review Council, now Defense Acquisition Board], and even by the Congress. Technical design decisions are made by the contractor(s). Hence the Army should recognize this real-world situation and reorient its perception (and charter) of the

> project manager to recognize his actual role. His fundamental responsibility is to continuously observe and evaluate the technical performance of the contractor(s) and the Army agencies which provide service and support. This spectrum comprehends design, development, procurement, production, training, testing, and field support.[3]

General Miley's statement describes a problem that has resisted correction for more than 35 years; it was also described in *Arming America* :

> For the past two decades many in the Defense acquisition process have not recognized that business management skills are distinct from engineering and scientific skills. A general in one of the larger buying commands commented: "One of the causes of our current problems arises from the fact that we failed to recognize that a program manager must be a business manager and need not be an expert scientist or an expert engineer." In private industry the scientists and engineers who work on defense programs can usually count on the assistance of skilled financial and business analysts from within their own company. This support capability is rarely present in Defense Department program offices.[4]

In 1987, an industry senior vice president emphasized the importance of a program manager's skill in understanding and dealing with business management.

> Many government program managers do not understand contractors. Unless a program manager understands how a contractor operates and what incentives apply to contractor personnel, it is virtually impossible for him to do an effective job.

In a 1985 Senate Armed Services Committee hearing on the acquisition process, Professor Ralph Nash of George Washington University, an expert on the government procurement process, observed:

> One of the interesting things you see when you look at what program managers do is that they spend more time answering questions from all the people around the department than they do running the program. That is backwards. They ought to be running the program."[5]

The Federal Acquisition Regulation (FAR), Part 34, Major Systems Acquisition, requires that program managers prepare an acquisition strategy- an overall plan for satisfying the mission need. The plan covers a range of important issues during a

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3 General Henry A. Miley, letter to the Assistant Secretary of the Army, 11 July 1984; and US Senate, testimony before the Task Force on Selected Defense Procurement Matters of the Committee on Armed Services, "Career Paths and Professional Development for Acquisition Managers in the Department of Defense," 13 December 1984, pp. 17-22.

4 J. Ronald Fox, *Arming America* (Cambridge: Harvard University Press, 1974), p. 199.

5 US Senate, hearing before Subcommittee on Defense Acquisition Policy of the Committee on Armed Services, "Defense Procurement Process," Part 4, 20 February 1985, p. 19.

program's life, such as objectives, resources, milestones for completion, alternative technical approaches, types of contracts, testing and evaluation, and operations and maintenance.[6]

Program managers usually take the lead in planning and executing the contracting strategy (that is selecting the contract types, terms, and incentives). Although DoD policy on the contracting officers' role in planning the contracting strategy is not clear, it does give them a key role in its execution.[7] The following phrases describe a sample of the industrial management decisions program managers are expected to make on a regular basis:

- Evaluate the reasonableness of estimated and actual cost information obtained from contractors
- Evaluate the effect on program costs of a proposed change in technical performance
- Evaluate the effect on program costs of a proposed change in schedule
- Evaluate the effect on technical performance of a proposed change in schedule or cost
- Evaluate contractor performance and determine whether the Defense Department is getting the product or service that funds were allocated for
- Evaluate whether the contractor is operating at a reasonable level of cost performance
- Respond effectively to the myriad buyer-seller games played between government and industry.

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6 US General Accounting Office, "DOD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, May 1986, p. 20.

7 US General Accounting Office, GAO/NSIAD 86-45, p. 19.

APPENDIX C

CAREER PATHS FOR COMBAT ARMS OFFICERS AND ACQUISITION MANAGERS IN THE ARMY, NAVY, AND AIR FORCE

A. INTRODUCTION

In 1986, the General Accounting Office (GAO) announced that a tri-Service panel of acquisition experts had emphasized the necessity of substantial acquisition skills--technical, management, and leadership--to produce a highly qualified program manager.[1] The GAO panel and other experts believed that the typical career pattern used to prepare officers for command in operational fields provided a useful model for developing program manager career programs. It includes a minimum of 8 to 11 years of experience, specialized training, and professional military education in intermediate and senior service colleges, all of which enable progression to command at the colonel/captain rank. For example, the career path to command of an infantry brigade includes a minimum of 8, but more likely 11, years of experience with the troops plus 11 months of specialized training. The GAO experts believed that, given the complexity of the acquisition business, the military services should be willing to devote at least as much time to developing program managers.[2] The career development paths in fields of combat operations are similar in the three Services (see Tables C-1 to C-3).

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1 US General Accounting Office, GAO/NSIAD-86-45, May 1986, pp. 70-71.

2 US General Accounting Office, GAO/NSIAD-86-45, p. 72.

Table C-1. Career Development in Combat Operational Fields Army: Progression to Command of Infantry Brigade

Grade	Target position	Years with troops (at each grade)	Specialized training	Professional military education
LT	Platoon leader	2 to 3	Basic (5 mos.)	
CAP	Company commander	2 to 3	Advanced (6 mos.)	Combined arms and services school(2 mos.)
MAJ	Battalion executive officer	2 to 3		Command and General Staff College (11 mos.)
LTC	Battalion commander	2		Senior service college (11 mos.)

Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, May 1986, p. 73.

Table C-2. Navy: Progression to Major Sea Command for Surface Warfare Officer

Grade	Target position	Years with troops (at each grade)	Specialized training	Professional military education
ENS/LTJG	Division officer	2 1/2 to 4	Basic (6 mos.)	
LT	Department head	3	Department head course (6 mos.)	
LCDR	Executive or commanding officer	3		Junior service college (11 mos.)
CDR	Ship commanding officer	2 to 3		Senior service college (11 mos.)

Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIA-86-45, p.73.

Table C-3. Air Force: Progression to Wing Commander

Grade	Target position	Years with troops (at each grade)	Specialized training	Professional military education
LT	Copilot/pilot	3	Undergraduate flying training (12 mos.)	
CAPT	Aircraft commander/ instructor pilot/flight examiner	6 1/2	Initial crew training (6 mos.)	Squadron Officers School (2 mos.)
MAJ	Flight commander operations officer	4		Intermediate service college (10 mos.)
LT	Squadron commander wing staff	4		Senior service college (10 mos.)

Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIA-86-45, p. 73.

Although program management offices often attract outstanding individuals, operations command experience is a far more certain, and therefore more popular career path to general/flag officer positions. The senior combat arms officers who control the military personnel system, in practice, have given lower priority to most defense buying organizations for assignment of qualified personnel. As of the end of 1987, it seemed unlikely that the Services would assign sufficient numbers of officers in the O-2 through O-5 ranks (lieutenant, captain, major, lieutenant commander, commander, lieutenant colonel) to the increasingly responsible positions in buying commands. [3]

B. ACQUISITION CAREER PATHS

By 1987, each of the Services had established an acquisition career program for its officers. These included the Army's Materiel Acquisition Management (MAM) program, the Navy's Weapon Systems Acquisition Management (WSAM) and Materiel Professional

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3 William D. Brown, Paul K. Kern, L. Kirk Lewis, and John G. Zeirdt, "Acquisition Management--The Role and the Reality," National Security Program Report, John F. Kennedy School of Government, Harvard University, June 1987, pp. 66-67.

(MP) programs, and detailed career planning regulations for Air Force technical personnel and program managers.[4]

1. The Army Acquisition Career Field

The Army's program for developing acquisition managers, including program managers, is the MAM program. Initiated in 1983, MAM was intended to ensure that officers with the appropriate background and interest be assigned to acquisition positions and that they obtain specialized training. In 1986, the GAO described the three-phase program as follows:

> MAM operates within the framework of the Army's Officer Personnel Management System, a system based on the concept of dual specialty development. Under the current system, officers entering the Army are assigned to a combat arms branch (e.g., infantry, aviation), combat support branch (e.g., Signal Corps), or combat services support branch (e.g., Ordnance, Transportation Corps). Officers also select an initial specialty generally associated with their branch, such as infantry or missile materiel management. By completion of their 8th year, the officers must also designate an additional specialty or functional area. Additional specialties include most of the 26 initial specialties and 12 other specialties not available to officers on initial entry into the Army. The latter includes such acquisition-related specialties as research and development and procurement. Starting about the sixth to eighth year, and for the remainder of their careers, officers generally alternate between assignments in their initial (branch) specialty and those in their additional specialty.
>
> MAM consists of three phases. The first, called the user/support development phase, is the officers' first six to eight years of service, spent in the initial branch . . . . This phase provides experience with the type of systems and equipment that officers may eventually develop and acquire.
>
> The second phase, known as the MAM development phase, begins after formal entry into MAM and runs from about the officers' sixth to eighth year of service to the sixteenth year. During this phase, MAM officers attend the nine-week MAM training course at the Army Logistics Management Center and complete their first acquisition assignment. Following an assignment in their branch, officers also attend the DSMC [Defense Systems Management College]. Program Management Course and complete a second MAM assignment.
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> The third phase, known as the certified manager phase, commences at approximately the 16th year of service. After selection for promotion to lieutenant colonel, officers are evaluated for certification as Materiel

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[4] President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence*, June 1986, p. 106.

> Acquisition Managers by a central board. Certification requirements for the mature MAM program include completing two acquisition assignments and the MAM and DSMC training courses. As certified acquisition managers, the officers could be considered for appointment as program managers of major programs, as well as other acquisition positions of significant responsibility.
>
> MAM certification is not a prerequisite for appointment as a program manager. Selection criteria depend on the specific position but generally include command, program office and headquarters experience, DSMC training, and senior service college. Selections are made by a central board.[5]

Army officers usually enter the materiel acquisition management program between their sixth to eighth year of service (see Figure C-1). By their 16th year, they should complete the materiel acquisition management course, the DSMC program management course and two (three-year) acquisition assignments. The certified manager phase begins at approximately the sixteenth year and lasts throughout the remainder of an officer's career. (Officers are eligible for retirement after 20 years.)

Army Major General David W. Stallings, of the Army Materiel Command (AMC), explained the MAM dual career program to the Senate Armed Services Committee. "The program manager must be able to participate in meaningful, constructive dialogue with military officers in the qualitative requirements [user] area."[6]

General Henry A. Miley (Ret.), former commander of AMC, in responding to General Stallings, expressed a differing view:

> I don't think you have to fight inside a tank to experience what a tanker feels. . . . My vintage has always disagreed with the idea you had to serve half your time in the fighting forces to be a good procurement officer. I still disagree with that. . . . If you are going to produce good procurement officers, you have to let them work at procurement fulltime and see a light at the top.
>
> They have to see that the generals that are in the procurement business came out of the corps they are serving in and not Joe, the combat arms guy, moving in at the two- and three-star level and cutting off their chances of promotion.[7]

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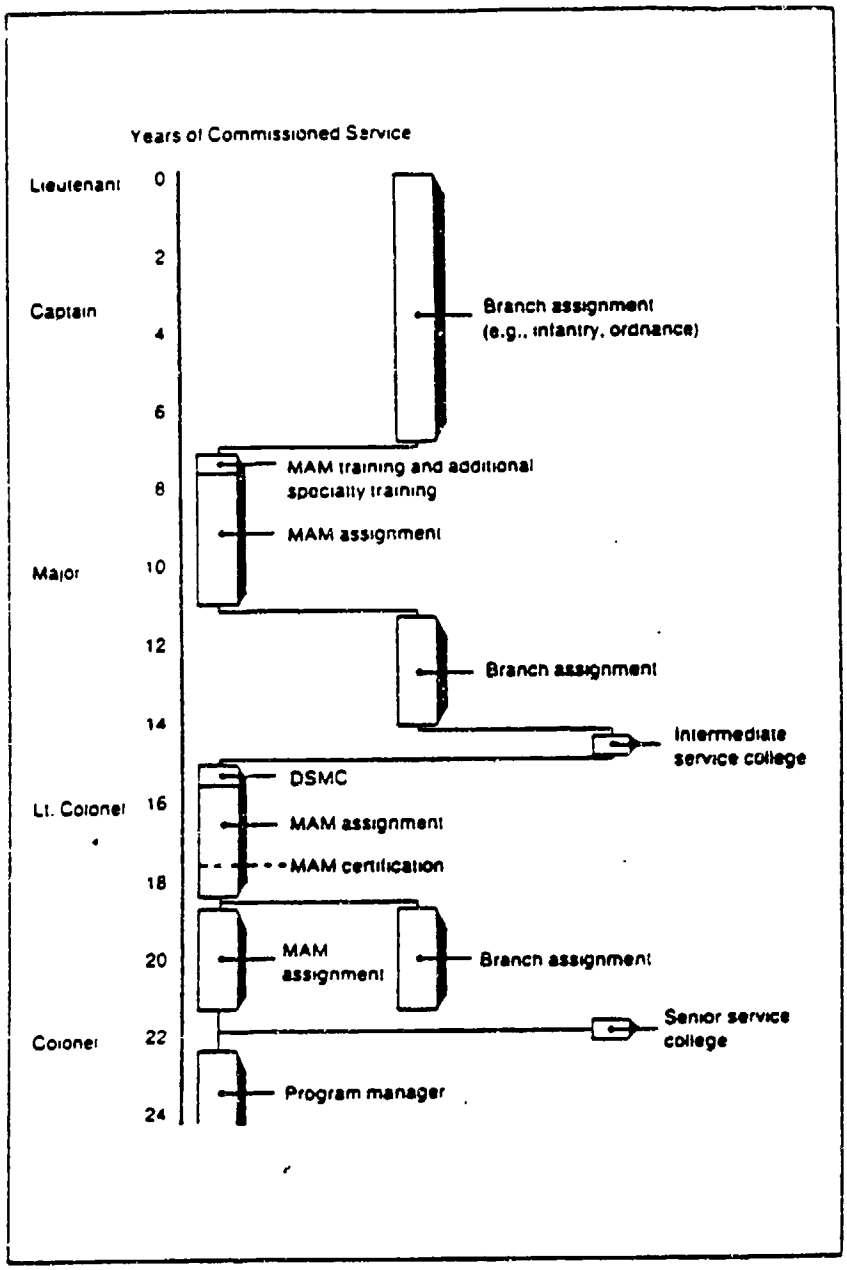
5 US General Accounting Office, GAO/NSIAD-86-45, pp. 88-91.

6 US Senate Committee on Armed Services, hearing, 13 December 1984, pp. 10-11.

7 US Senate Committee on Armed Services, hearing, 13 December 1984, p. 29.



Source: US General Accounting Office, "DoD Acquisition Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 90.

Figure C-1. Typical Army Career Path for MAM Officer

Also commenting on General Stallings's view, one retired Army major general formerly assigned to AMC said "The Army has the view that you've got to be able to charge up and down hills and go to war. So they get rid of program managers at fifty years

old (or earlier). It's no surprise that there is little on-the-job experience in managing the acquisition process."

A deputy commander of AMC recently expressed his rationale for opposing alternate operational assignments.

> The normal path to general officer is company commander, brigade commander, battalion staff officer, battalion commander. I do not believe there is sufficient time for a man to have a full career as a program manager and as an operational combat commander.

Despite the moderate change promised by the new MAM program, it was not unanimously well received by the Army officer hierarchy. The GAO study found that the officers were concerned that MAM would increasingly remove officers from troop leadership, affecting their qualifications for battalion command, which is closely related to promotion. (In 1985, 94.4 percent of the lieutenant colonel candidates with battalion command experience were promoted to colonel [first time considered], compared with an Army-wide promotion rate to colonel of 53.4 percent.[8] The officers' unease over the MAM program threatened chances for achieving even its modest goals.

In 1986, the Army selected 17 officers for assignment as program managers. Although three-quarters of these officers had commanded a battalion and 100 percent had acquired master's degrees, only slightly more than half (55 percent) had previously been assigned to a program office. Only one-half had taken the DSMC 20-week program manager course. Nonetheless, the qualifications and training of these program manager designees represented improvement from the 1970s.

2. The Navy Acquisition Career Field

In March 1985, *The Washington Post* quoted Admiral James Watkins, Chief of Naval Operations (CNO), in an unusually candid criticism of the Navy's management of the acquisition process.

> Navy officials say that two-thirds of the 100 admirals in top procurement jobs and most of their subordinates, have little expertise. Since those posts have been seen as dead ends in a service that rewards sea duty, they return to the fleet as soon as possible. As a result, the Navy's ability to deal with contractors has been "tragically flawed," said Admiral James D. Watkins, Chief of Naval Operations, who participated in the briefing.

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8 US General Accounting Office, GAO/NSIAD-86-45, p. 94.

> "It was almost impossible for naval officers in uniform to come up to an acceptable level of business management in the modern industrial world," he said. "We simply were naive, not well prepared, and we didn't stick to it long enough."[9]

Admiral Watkins was not the only officer concerned about management and acquisition career programs. In fact, officer awareness of this issue led the Navy to introduce two acquisition career programs in recent years, the WSAM program begun in 1975, and the MP program instituted in 1985.[10]

WSAM, covering officer development from grades of ensign to captain (O-1 to O-6), was created "to identify, monitor, and improve the use of personnel with acquisition-related experience and education. Like the Army's MAM program, WSAM has no one specialty; it is a system comprising officers from several specialties."[11] WSAM is less structured than MAM and requires less experience for designation as a fully qualified manager.

To be designated a program manager, naval officers at the lieutenant commander (O-4) grade or above must have a technical or business education background and one two-year tour in an acquisition position. They generally enter the WSAM program at the grade of lieutenant commander or commander (see Figures C-2 and C-3). Officers do not enter the MP program until they reach the grade of commander or captain and above.[12]

In 1984, Assistant Secretary of the Navy Everett Pyatt expressed to the Senate Armed Services Committee his commitment to the goal that the Navy "acquisition program . . . must have experienced and highly skilled people performing program management and contracting functions. Without competent managers, other cost reduction initiatives cannot be implemented."[13] Five months later, when the MP program was announced, Secretary Pyatt stated

> This Material Professional program will provide select officers with the education, experience, and the career incentives required to make our acquisition managers capable, skilled business professionals with the

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9 "Navy Pushes Business Skills," *The Washington Post*, 15 March 1985, p. A1.

10 US General Accounting Office, GAO/NSIAD-86-45, pp. 94-102.

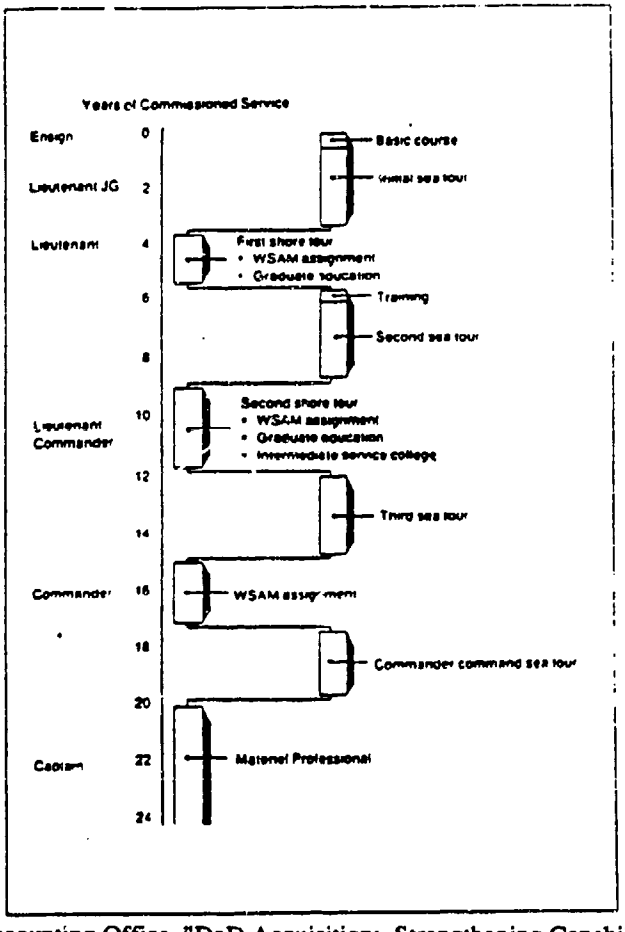
11 US General Accounting Office, GAO/NSIAD-86-45, pp. 94-95.

12 US General Accounting Office, GAO/NSIAD-86-45, p. 101.

13 US Senate, testimony of Everett Pyatt, Assistant Secretary of the Navy (Shipbuilding and Logistics), hearing before the Task Force on Selected Defense Procurement Matters of the Committee on Armed Services, "Reducing the Cost of Weapon Systems Acquisition," 18 December 1984, p. 7.

warfare background necessary to properly manage weapon systems acquisition."[14]

MP officers are drawn from the unrestricted line (those eligible for command at sea), the restricted line (those in engineering duty and aeronautical engineering duty specialties), and the Supply Corps. Once selected for the program, they are assigned to MP-designated positions for the remainder of their careers. Assignment of an MP officer to a non-program position or a non-program officer to an MP position requires a waiver recommended by the CNO and approved by the Secretary of the Navy.



Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 96.

Figure C-6. Typical Navy Career Path for Unrestricted Line (Surface Warfare) Officer

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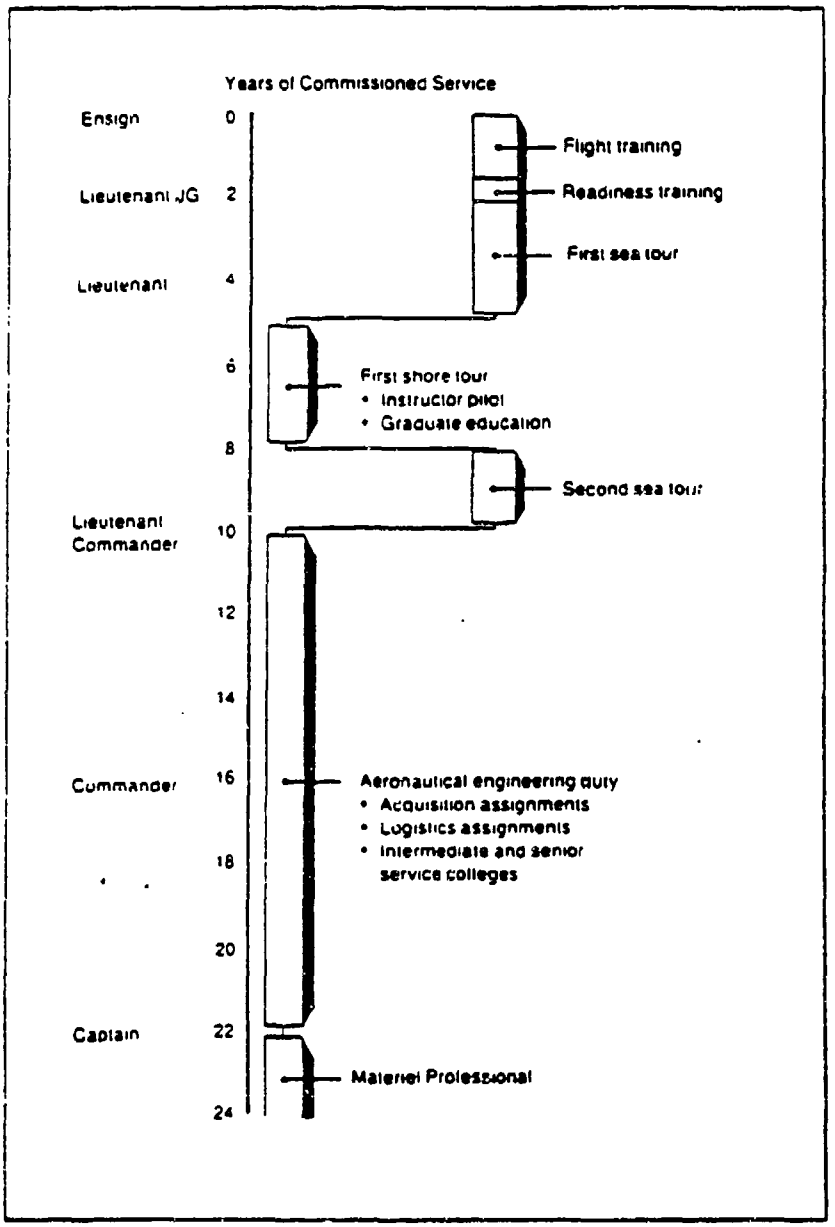
14 Everett Pyatt, Assistant Secretary of the Navy (Shipbuilding and Logistics), in a memorandum for the Under Secretary of Defense (Research and Engineering), 30 May 1985.



Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 97.

Figure C-3. Typical Navy Career Path for Restricted Line (Aeronautical Engineering Duty) Officer

In 1986, the GAO study of acquisition personnel found the following:

> Navy unrestricted line officers spend a considerable portion of their first 20 years at sea or in specialized training, usually about twelve to

fourteen years. This leaves limited time available for development of a WSAM [acquisition] subspecialty. . . unrestricted line officers typically serve in their first acquisition assignment at the grade of lieutenant or lieutenant commander. As commanders, they are likely to have a second acquisition assignment, and possibly a third assignment as a senior commander. Thus, by the time unrestricted line officers reach the grade of captain, they are likely to have approximately four to seven years of acquisition experience.

The Navy career pattern for restricted line officers more closely resembles the desired career pattern. Officers spend the first part of their career in the unrestricted line. Officers typically transfer into the engineering duty community after completing their first or second sea tour. Aviation officers typically transfer into the aeronautical engineering duty community at the rank of lieutenant commander, usually after nine to twelve years of service. These officers spend the remainder of their careers in engineering positions and thus have the opportunity to gain a substantial number of years of acquisition experience.

Navy Supply Corps officers alternate between sea and shore assignments, typically spending about six to eight years at sea during their first 20 years of service. They are primarily concerned with the financial management and contracting aspects of acquisition and have little opportunity to gain experience in technical positions. Supply Corps officers are thus only considered for program manager positions for programs in the production phase.[15]

The GAO reported that unrestricted line officers qualified in the WSAM program (as of November 1984) had an average of 4.3 years of acquisition experience. In contrast, restricted line officers qualified in the WSAM program had an average of 7.2 years and Supply Corps officers, 7.4 years.[16]

The Navy created the MP program to attract and develop excellent senior officers to manage systems acquisition, logistics, and support. The program seeks to achieve this objective by providing a path to flag rank for officers in materiel management. The program, however, does not significantly alter the career pattern of officers in the acquisition field and provides little increase in the time available for unrestricted line officers to obtain acquisition experience.[17]

In 1987, it was uncertain whether the new Navy program would produce a significant improvement. As before, restricted line and Supply Corps officers would have

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15 US General Accounting Office, GAO/NSIAD-86-45, p. 98.

16 These figures are subject to error but are the best available; they are indicative of trends rather than as precise measures of acquisition experience.

17 US General Accounting Office, GAO/NSIAD-86-45, pp. 98-99.

repeated assignments in their specialty, except that they were likely to be designated material professionals upon promotion to captain. Unrestricted line officers would, as before, spend most of their first 20 years in operational assignments and be evaluated for the MP program upon promotion to commander.[18] Selected commanders would be expected to complete their command assignments, thus becoming available for their first materiel professional assignment at about their 20th to 21st year of service.[19]

As of September 1985, 44 percent of the program managers for the major Navy programs were restricted line officers and 41 percent unrestricted; none were from the Supply Corps. (The remaining major program managers were civilians, Marine Corps officers, and Medical Corps officers.)[20]

Despite the intentions of Navy management, the chance for successful Navy acquisition career programs seems limited. Military officers are not selected for the MP program until their 16th year or later, leaving four years or less until qualifying for retirement, at 50 percent pay. Their first assignment in the MP program may not occur until after eligibility for retirement.

In addition, in 1985, Admiral Steven A. White, then Chief of Naval Materiel, requested that Congress not prescribe specific education, experience, and grade levels for the acquisition force.

> Finally, I would recommend that any legislation on the subject emphasize the intent and general desires of the Congress. It would be a mistake to deprive the Service Secretaries of the flexibility they need to tailor their programs in terms of education, experience, and grade levels.[21]

Unfortunately, the Navy's program for officer acquisition careers sounds much like business as usual. In 1984, Admiral Joseph Sansone, the Navy's senior expert on contracts and acquisition business management, stated that during an officer's first tour, he is initially assigned to sea for two or three years.

> Then we bring the officer ashore and we start the selective process into the acquisition contracting officer program. This occurs at the Lieutenant JG level. They will stay in that until they complete their training. Then they will go to another tour, usually afloat. Then they will come back

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18 US General Accounting Office, GAO/NSIAD-86-45, pp. 98-99.

19 US General Accounting Office, GAO/NSIAD-86-45, p. 101.

20 US General Accounting Office, GAO/NSIAD-86-45, p. 101.

21 US Senate Committee on Armed Services, hearing, 11 March 1985, p. 30.

to a shore tour in acquisition and will continue to serve in acquisition tours with about a 50-50 split to start with, and then it will take on a little more imbalance in terms of acquisition vis-a-vis operational.

We have opted with the concept in the Navy that the operational training and experience that our officers receive afloat is very important to their ability to adequately manage a very highly complex and technical program.

So, the operational experience is a real supplement to his ability to manage a program to deliver a new weapon system to the fleet on time, under cost, and to really serve the need of the user.[22]

While operational assignments do enrich the program manager's experience, more than four to six years of operational assignments will limit the officer's opportunity to gain an understanding of the acquisition process and contractor incentives and practices. For this reason, many Navy materiel professionals will be introduced relatively late in their careers to the complex tasks of managing programs with contractors and formulating actions to deal with their industry counterparts, who have far more industrial program management experience.

Any significant improvement in the problems described by CNO Watkins will require a major change in Navy practice. In 1987, it was unclear whether the new program would lead to that change or to a continuation of the status quo.

A GAO discussion with senior Navy officials revealed another reason for the Navy's commitment to using acquisition assignments as alternate shore duty. In exploring the possibility of an all-civilian defense acquisition agency, the GAO was told that removing the military from the buying commands would adversely affect officers in key leadership positions because the number of available shore duty billets would be significantly reduced. Loss of these billets would increase the likelihood that Navy officers and enlisted personnel would spend more time at sea, which could negatively affect morale.[23]

The importance of the shore duty assignments was also reflected in CNO's limiting the number of women in the Navy in early 1987. The increasing number of women was seen by some as encroaching on shore duty billets that had traditionally been used as

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22 US Senate Committee on Armed Services, hearing, 13 December 1984, pp. 26-32.

23 US General Accounting Office, "A Perspective on the Potential Impact of a Centralized Civilian Acquisition Agency (CCAA)," B-224853, p. 30.

rotational assignments for men in operational billets at sea; the limit was subsequently rescinded by Defense Secretary Caspar Weinberger.[24]

3. The Air Force Acquisition Career Field

The Air Force is generally recognized as having the best record of the three Services for acquisition training and career development, although the record for non-rated officers is better than that for rated officers. Rated officers (pilots and navigators) constitute about one-quarter or less of those in acquisition management, although they account for about one-half of the major program manager positions.[25]

According to the GAO, for the Air Force to receive an appropriate return on training and for officers to qualify for aviation incentive pay, rated officers must spend at least 9 to 11 years on flying duty. Typically, rated officers who are eventually assigned to acquisition spend their first nine years on flying duty. They then rotate into the Air Force Systems Command (AFSC) for a three-year acquisition assignment, often followed by attendance at an intermediate service college, then return to flying duty for an additional three years. After their 15th to 16th year, they are likely to return to AFSC and spend the remainder of their careers in acquisition management. By their 21st to 22nd year of service, these rated officers can be considered for program manager positions on major programs. By that time, they are likely to have approximately seven years of acquisition experience.

Those selected are then transferred to the program management career field. Requirements for this field, as stated in Air Force regulations, (and which are often waived) include an undergraduate degree in engineering, a physical science, or math; completion of the DSMC 20-week introductory program management course; and full qualification in a research and development career field, which usually means 18 months to 4 years of experience in acquisition program management, engineering development, or a scientific career field. Air Force regulations also identify an advanced degree in management and completion of a training assignment with industry (education with industry program) as desirable.[26]

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24 "Weinberger Orders Navy to Reverse Course on Women," *The Washington Post*, 4 February 1987.

25 US General Accounting Office, GAO/NSIAD-86-45, p. 86.

26 US General Accounting Office, GAO/NSIAD-86-45, pp. 84-86.

Air Force rated officers often receive only one three-year acquisition assignment, broadly defined, before their 15th year of service and receive repeated acquisition assignments starting at about their 15th to 16th year (see Figure C-4). Non-rated officers can enter the acquisition field initially or transfer into it after completing a first assignment in an operational command. They receive repeated assignments in acquisition management, often including positions in a program office and staff assignments at headquarters (see Figure C-5).

The career patterns of 11 recently appointed Air Force program managers cited in the GAO sample deviated significantly from the desired pattern. Four lacked operational experience, three lacked program office experience, and four lacked headquarters experience. One officer's experience was almost exclusively in headquarters; another's was exclusively in testing. One entered the acquisition field as a colonel, and less than half had attended the DSMC program management course. Rated officers had less acquisition experience than non-rated officers; only one of the five in the GAO sample had eight years of experience.[27]

In 1986, one Air Force officer explained the practice of assigning rated officers with limited acquisition training to program management positions.

> In times of peace, we still must be prepared for war. Today it takes many years to train and provide flight experience to a new officer in order to gain a fully mission-ready pilot. Thus, the "rated supplement" was formed. This system takes pilots and navigators out of airplanes (especially if there are far too many rated officers for the available aircraft) and tries to utilize them in other jobs in the service. On the one hand, the system may save money and morale (as opposed to having these people do nothing, or simply firing them.) On the other hand, given the need to manage effectively multimillion-dollar acquisition programs, it may be less expensive to hire or train experts in acquisition and let the rated officers remain in overmanned assignments.

A 1970 review of the career paths of Air Force officers in the acquisition field revealed that a typical pilot spent the first five or six years after his commission on flying status and another three years working toward a master's degree. Eight or more years out of a possible twenty were spent in non-procurement activity. During the remaining twelve

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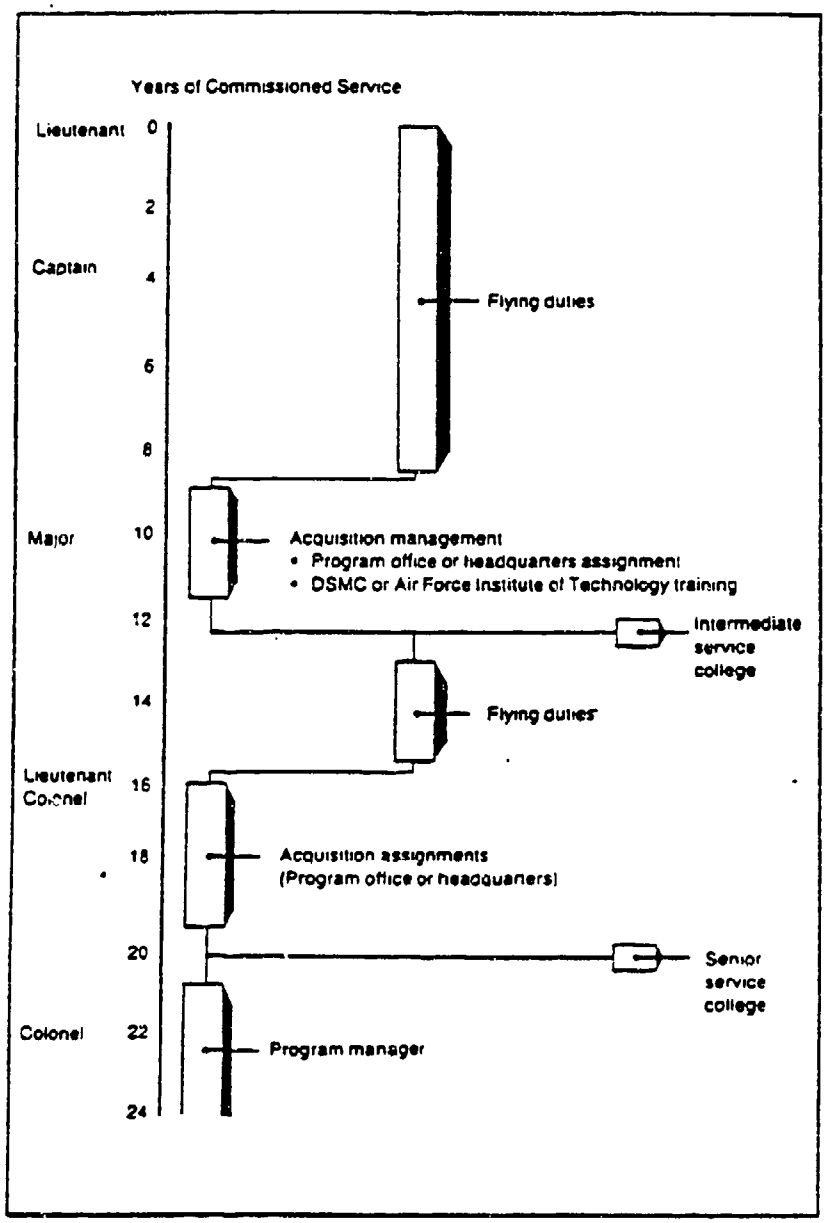
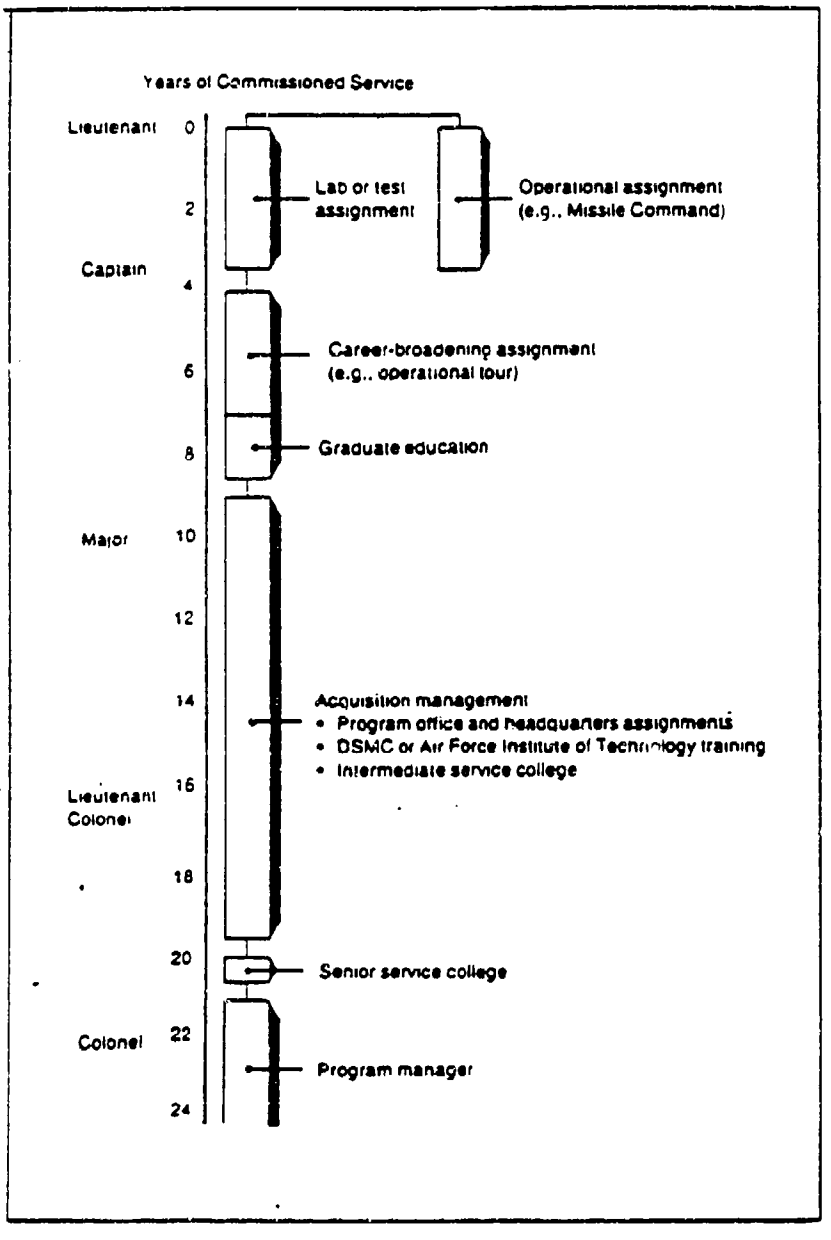
27 US General Accounting Office, GAO/NSIAD-86-45, p. 87.



Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 35.

Figure C-4. Typical Air Force Career Path for Non-rated Officers



Source: US General Accounting Office, "DoD Acquisition: Strengthening Capabilities of Key Personnel in Systems Acquisition," GAO/NSIAD-86-45, p. 84

Figure C-5. Typical Air Force Career Path for Rated Officers

years, alternate three year tours were usually spent on operational assignments. The typical pilot had five years remaining for on-the-job training in program management. The situation has not changed markedly [illegible] fifteen years.[28]

In 1985, Air Force General Lawrence Skantze presented his views on the desired program manager career preparation to the Senate Armed Services Committee:

> As an example of the way in which this [the Air Force acquisition career] system works, I would like to discuss the career of General Selectee Ronald W. Yates, currently the System Program Director for the F-16 fighter. I do this because I believe General Yates *reflects the success of our approach.* [emphasis added]
>
> After graduating from high school in Nashville, TN, in 1956, he earned a bachelor of science degree in military science from the U.S. Air Force Academy.
>
> As a second lieutenant, Ron received pilot training and was then assigned, in 1964, as an F-102 pilot at Clark Air Base in the Philippines. While there, Ron flew 100 combat missions in Southeast Asia.
>
> Upon his return to the United States in 1966, he was assigned as a student at the Aerospace Research Test Pilot School at Edwards Air Force Base, CA. He remained there as a test pilot and chief of the Aerospace Research Pilot Branch until December 1970. During this time, he earned a master of science degree in systems management from the University of Southern California.
>
> From 1971 to 1973, he was assigned to Headquarters, Air Force Systems Command, as the assistant director of senior officer assignments [military personnel].
>
> From there he was selected [at age 36] to attend the Defense Systems Management College. Upon graduation [from the 20-week program], he was assigned as director of development flight test for the A-10 weapon systems program office at Wright Patterson Air Force Base, OH.
>
> Upon graduation from the Industrial College of the Armed Forces [a one-year assignment] in June 1977, he was assigned to Headquarters, U.S. Air Force, as the F-16 program element monitor, Office of the Deputy Chief of Staff for Research and Development.
>
> In March 1979, Ron returned to Wright Patterson Air Force Base, where he served successively as deputy F-15 system program director, the F-15 program director, the commander of the 4950th Test Wing, and the

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28 J. Ronald Fox, *Arming America*, (Cambridge: Harvard University Press, 1974).

aeronautical systems division deputy for tactical systems [all in less than four years].

General Yates assumed his present duties in August 1983.[29]

Judging by the record, General Yates is indeed an outstanding officer with remarkable credentials, but his preparation for the tasks of overseeing, negotiating, and controlling the activities of large industrial development and production firms is seriously deficient. Instead of reflecting the success of the Air Force approach, this example demonstrates the substantial risks DoD incurs from its program management methods. From General Skantze's description, it appears that General Yates had little or no experience in dealing with contracts or contractors before he was assigned responsibility for one of the Air Force's largest programs with industry. He apparently had little training or experience with financial reports and cost-estimating, the problems and opportunities associated with contractor profit policy and contractor other incentives, independent research and development costs, cost and schedule planning and control systems, or make-or-buy decisions.

Indeed, Senator Bingaman was dissatisfied with the General Yates example. He responded to General Skantze by observing:

> As I see your example here, General, about Major General Yates, he obviously has had a great deal of experience, and a good deal of it in acquisition. But it strikes me that he jumped all over the place. You had him as program manager for a couple of years, then off to do something else, then back, then off. I was asking the earlier witness about accountability in the system.
>
> If a person is not allowed to stay as program manager, or required to stay as program manager of a particular program for some period of time, how can you hold anybody accountable for anything in this program manager situation?[30]

The Air Force view of the importance of acquisition, as a career field for outstanding officers relative to combat operations, remains clouded. In early 1987, a major general holding a senior management position in Air Force acquisition management explained the Air Force policy:

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29 US Senate Committee on Armed Services, hearing, 11 March 1985, pp. 32-34.

30 US Senate Committee on Armed Services, hearing, 11 March 1985, p. 39.

> We [the Air Force] put our best people in our product line, and our product line is our operational forces, not the acquisition field. Our job is to fly and fight and win, and that is in the operational commands.

Despite the drawbacks cited in the preceding paragraphs, the fact remains that in the past 15 years, the Air Force progressed considerably toward improving the training and experience of officers it assigns to acquisition positions. If the Air Force continues to improve its training and career programs by attracting and retaining outstanding acquisition officers, it will have taken one of the important and basic steps toward achieving better control of its acquisition programs.

APPENDIX D

SUGGESTED TOPICS FOR THE PROFESSIONAL TRAINING OF GOVERNMENT ACQUISITION MANAGERS

A. INTRODUCTION

When discussing the acquisition process, combat arms officers often ask what aspects of acquisition management require individuals to spend most of their career developing management skills or what elements of acquisition management require a year of schooling.

A government training program for acquisition managers should develop skilled practitioners, not merely individuals conversant in acquisition management topics. It should focus on the practical problems, available alternatives, and methods of implementation that apply to the day-to-day activities of acquisition managers, rather than concentrate on theory. The curriculum should be designed to include examples of the problems that arise with the definition of requirements, contract awards, day-to-day contractor performance, and payment and discharge. The training should also cover alternatives available for dealing with these problems, and the risks and advantages associated with each alternative, the skills needed to identify and analyze these problems. The program should also include training in the skills needed to implement corrective actions within government and contractor organizations.

B. SAMPLE INDUSTRIAL MANAGEMENT TOPICS FOR THE CURRICULUM

The remainder of this appendix contains a partial list of topics and issues that should receive additional attention in the professional training of acquisition managers.

Relationships With Industry

- Industry and government goals--when they coverage and when they diverge
- Determining when the DoD program manager is a partner with industry and when is he an arms-length negotiator

- The risks in each form of relationship and how they can be minimized
- How government and industry organizations limit the program manager's options
- How these situations can be avoided
- Alternatives available when they cannot be avoided

Planning a Development/Production Program

- How to plan a high-technology development/production program
- How to evaluate the effectiveness of a test program
- Options available to the program manager when the test program is flawed
- The common traps to avoid in evaluating a test program
- When it is appropriate to resist the requests or demands of the user
- How a program manager can determine when those conditions are present
- How a manager can balance meeting user needs and accomplishing overall program goals without adversely affecting his career path

Contracts

- Strengths and weaknesses of different contract types
- The bases of these strengths and weaknesses in contract law
- Contractor responsibilities under each contract type

Contractor Work Statements

- How work statements are prepared
- Problems encountered in the preparation of work statements
- Risks encountered in preparing work statements
- Alternatives for dealing with these problems and risks

Source Selection

- Strengths and weaknesses of various alternatives for contractors selection
- How to determine which alternative should be used
- How the award criteria should account for trade-offs in schedule, cost, and technical performance
- Methods that can be used during source selection to account for a prospective contractor's past performance
- The risks involved in doing so

- Methods to offset these risks
- Other problems that can occur during the source selection process and how they can be minimized
- Problems that may occur during debriefings
- Alternatives available for debriefing losing contractors
- Bases for bid protests
- Alternatives available to the government in response to a bid protest
- Problems that should be avoided during a bid protest
- How they can be avoided

Unsolicited Proposals

- How unsolicited proposals should be treated
- Problems that can occur in the handling of unsolicited proposals
- How these problems can be minimized

Evaluating Contractor Performance

- Reasons for schedule slippage, cost growth, and technical performance shortfalls in acquisition programs
- How these problems can be recognized early enough to take meaningful corrective action
- Alternative corrective actions available to the government
- How these alternatives can be implemented
- Various purposes of evaluating contractor's schedule, cost, and technical performance
- The information that should be collected
- How one can appraise the reasonableness of this information
- Potential weaknesses of this information
- How the weaknesses can be identified
- Potential problems that may occur in doing so
- What can be done to offset the weaknesses
- How this information can be used in evaluating schedule, cost, and technical performance trade-offs
- How contractor performance information can be misused

Contract Changes

- How contractor and government organizations introduce changes that increase schedules and costs in development and production programs
- What can be done to limit the occurrence and effect of these changes
- How a manager can override the influence of individuals in these organizations
- How this may affect a program manager's career

Cost Allowability and Allocation

- Examples of types of allowed and disallowed costs in cost reimbursement contracting
- Examples of types of costs allowed and disallowed in cost reimbursement contracting
- Problems that may occur in the allocation of contractor costs
- The pattern of Defense Contract Audit Agency (DCAA) disallowances with respect to contractor costs

Progress Payments and Partial Payments

- Differences between progress payments and partial payments
- The acceptable practices for each
- Problems that occur in the implementation of these methods of payment
- How a progress payment rate affects a contractor's profitability
- How one percentage of progress payments can be translated into an equivalent percentage of profit

Fixed, Incentive, and Award Fees

- Strengths and weaknesses of each form of profit determination
- Available ranges for negotiating fees
- How fees are negotiated

Overhead and General and Administrative Costs

- How contractor overhead and G&A costs are generated
- How they are allocated
- How one can tell whether these costs are reasonable or unreasonable
- Games played in the allocation and misallocation of overhead and G&A costs
- How the games can be identified and handled

Strategies and Tactics in Negotiations

- Ways to develop a position of strength during negotiations
- Alternatives available when negotiating from a position of weakness
- Various strategies used by government and industry participants in negotiations
- Situations to be avoided and how to avoid them

Methods of Procurement

- Strengths and weaknesses of formal advertising and negotiation
- Where they are applicable and inapplicable

Methods of Cost Estimating

- Techniques for estimating various parts of acquisition programs
- How one can determine whether estimates are reasonable or unreasonable

Return on Assets, Investment, and Equity

- Defining these terms
- How they are calculated
- How they differ from one another
- Why they are important to a contractor

Factors Motivating Industry Managers

- Defining comtribution to overhead, sales backlog, and contribution to profit and their importance to contractors
- Various ways defense contractors can measure the performance of engineering and manufacturing managers
- How and when managerial performance is assessed on the basis of technical excellence, contribution to sales, contribution to overhead, return on sales, return on assets, and return on investment
- When return on sales can be low and return on investment high
- Why a government manager should understand and be concerned with these matters
- Incentives applicable to industry engineering, manufacturing, and financial managers

Competition

- Strengths and weaknesses of using competitive procurement versus sole-source procurement
- Various means of achieving price competition and the risks in doing so
- How one can minimize the risks

Negotiating with Contractors

- Various tactics and strategies used in negotiations between government and industry at initial contract award and on a day-to-day basis throughou' the life of the contract
- How the program manager can achieve and maintain a position of strength in these negotiations
- Alternatives available when the manager loses the position of strength
- How one can prepare for situations in which a contractor resorts to applying pressure from the Congress or from higher levels within the Department of Defense to settle a negotiated issue

Dealing with the Press

- Risks involved in dealing with the press
- Steps one can take to minimize those risks

The business management training of government acquisition managers must be greatly expanded. For each of the topics listed, acquisition managers will need simulations, exercises, and case studies, to begin to develop skills in performing the required tasks. Table D-1 includes proposed minimum amounts of training time (compared to present number of hours) to be devoted to a partial list of topics now taught at the Defense Systems Management College.

Table D-1. Sample Industrial Management Topics

Hours Present	Hours Proposed	Selected Topics
4	10	*Parametric Cost Analysis:*
2	12	six exercises/cases: parametric cost estimating
1	2	*Methods of Government Procurement:*
0	6	three exercises/cases
3	3	*Cost Proposal Estimation:*
0	12	six exercises/cases
1	1	*Preparation of the RFP:*
0	6	three exercises
1	1	*Types of Contracts:*
0	4	two exercises/cases: Cost Plus Fixed Fee (CPFF)
0	4	two exercises/cases: Cost Plus Incentive Fee (CPIF)
0	4	two exercises/cases: Cost Plus Awarded Fee (CPAF)
0	4	two exercises/cases: Fixed Price/Incentive (FPI)
0	4	two exercises/cases: Firm Fixed Price (FFP)
1	3	*Cost Incentives:*
0	6	three exercises/cases
1	3	*Source Selection:*
0	6	three exercises/cases
1	4	*Negotiation Preparation:*
0	6	three exercises/cases
1	3	*Government Profit Policy:*
0	6	three exercises/cases
1	2	*Contract Modifications:*
0	6	three exercises/cases
1	2	*Constructive Changes:*
0	6	three exercises/cases
0	6	*Progress Payments/Partial Payments:* three exercises/cases
3	3	*Understanding Financial Reporting by DOD Contractors:*
0	6	three exercises/cases
3	4	*Financial Analysis of Contractors:*
0	12	six exercises/cases
2	3	*Cost Principles in Contracting:*
0	6	three exercises/cases
1	2	*Introduction to Overhead and General and Administrative Rates:*
0	6	three exercises/cases
1	2	*Principles of Cost Control Systems:*
0	12	six exercises/cases
2	2	*Cost Control Terminology:*
0	6	three exercises/cases

(Continued)

Table D-1. Sample Industrial Management Topics (Concluded)

Hours		
Present	**Proposed**	**Selected Topics**
1	2	*Development of Cost Performance Baseline:*
0	6	three exercises/cases
2	4	*Review of Cost/Schedule Control, Systems Criteria (C/SCSC) and Earned Value Techniques:*
0	6	three exercises/cases
1	2	*C/SCSC Implementation and Surveillance:*
0	6	three exercises/cases
2	3	*Financial Reporting to the Government:*
0	6	three exercises/cases

APPENDIX E

NEAR-TERM STEPS TO BE TAKEN TO ADDRESS ACQUISITION PROBLEMS

A. NEAR-TERM STEPS TO BE TAKEN TO ADDRESS ACQUISITION PROBLEMS

Several improvements in the acquisition process can be implemented in the near term. First, the Secretary of Defense should define and promulgate a clear statement of the government role in the acquisition process -- a role that extends beyond liaison management to active management, as described in this paper. This step is essential for improvement because of the divergent opinions within the Pentagon on this topic.

Second, the Secretary of Defense (and the President) should promulgate criteria that will result in the appointment of individuals with extensive experience in the defense acquisition process and in business management to key acquisition positions. Candidates for these positions should be knowledgeable and skilled in the acquisition process and believe that government acquisition managers should be both wise buyers and active managers. Management candidates should have a credible plan for improving the effectiveness and efficiency of the acquisition process.

The President must play a key role in accomplishing this step. His involvement and support is necessary to attract and retain qualified, competent personnel--especially in light of the sizeable salary cut industry managers will experience by taking these jobs. In most cases, the loss in pay and benefits will be 300,000-$500,000 or more over four years. Individuals in these positions also are often the focus of intense public scrutiny and criticism.

The key acquisition positions include

- Deputy Secretary of Defense
- Under Secretary of Defense for Acquisition (USD(A))
- His principle deputies (military and civilian),
- Director of Defense Advanced Research Projects Agency (DARPA)
- Comptroller of the Defense Department

- Vice Chief of the Joint Chiefs of Staff
- Service Acquisition Executives and their principle deputies/assistants
- Commanders of the acquisition commands and their principal deputies/assistants (military and civilian).

Potential opponents of this step include members of Congress and the White House staff, who are pressured to reward major political contributors with key DoD positions.

The President and the Secretary of Defense should publicize acquisition reform as a major item in their agendas. Consistent with this step, they should make every effort to appoint all key acquisition officials as soon as possible, to enable them to begin to build a team at the earliest opportunity.

Third, the President and the Secretary of Defense should ask all acquisition appointees and commanders of the service acquisition commands, prior to being appointed, to express their willingness to serve for up to four years.

Fourth, the Secretary of Defense should ask the USD(A) to report, at least quarterly, on the progress being made in achieving specific improvements in the management of the acquisition process.

Fifth, while retaining reasonable controls against genuine conflicts of interest, the Secretary of Defense should propose revisions to existing conflict of interest legislation to the Senate and House Armed Services Committees to encourage business executives to enter government service and government civil servants to accept more responsible positions.

Some members of Congress, congressional staff, the press, and the public may oppose this step. To deal with this opposition, the President and the Secretary of Defense must highlight the undesirable effects of the ambiguous conflict of interest laws, which prevent qualified personnel from accepting key positions in defense acquisition.

Sixth, the USD(A), the Service Acquisition Executives, and the Joint Logistics Commanders (with the Office of Personnel Management when necessary) should revise existing military and civilian personnel systems to attract and retain more competent, qualified government personnel to the acquisition field and to reward high performers. The revised personnel systems should include

- Career development programs to place acquisition professionals in career enhancing assignments of progressively increasing responsibility and authority

- A minimum of one year of practical training involving simulations, hands-on exercises, and case studies dealing with actual problems encountered by acquisition managers
- Merit/incentive pay for outstanding performers
- Promotion opportunities comparable to private industry career fields
- Incentives including bonuses and formal recognition programs.

These actions may be opposed by the Office of Personnel Management, the military chiefs of staff, those who believe that such training and compensation are not necessary for defense acquisition positions, and those who believe alternating assignments in and out of acquisition are best for career development. The Secretary of Defense must highlight the requirements of acquisition management positions and the skills needed to perform effectively in these positions. The Secretary must also emphasize the excessive costs incurred by having inexperienced personnel in acquisition positions and solicit the support of the service military chiefs to support efforts to improve the calibre of acquisition personnel. Pressure for change may need to come from the prospect of more onerous congressional legislation. While opponents may point to outstanding individuals who have performed well in acquisition without dedicated careers, there are very few examples. As long as the discussion of qualifications remains at the abstract level, unqualified people will always be proposed for acquisition management positions.

To improve the qualifications of acquisition personnel, the Secretary of Defense must develop a plan, with the support of the military chiefs of staff, to create a one-to-two year acquisition training program, with the possible conferring of a masters degree upon successful completion. The selection process for this program should be as rigorous and competitive as the admission requirements of the most senior military schools. The program should enforce high performance standards and should not award degrees to those who fail to meet these standards. Acquisition managers should be required to complete this program successfully.

Specific career paths should be developed for military officers and civilians beginning at the rank of O-2 or O-3 for the military, and at the grade of GS-11 or below for civilians, as outlined in the body of this paper.

Seventh, the USD(A) and Service Acquisition Executives should revise the existing acquisition management process to reduce the number of committees and management layers that the program manager must answer to.

MILITARY REQUIREMENTS PROCESS

Admiral Robert Hilton, USN (Ret.)

MILITARY REQUIREMENTS PROCESS

Interrelated with the PPBS and acquisition processes is the military requirements process. The Goldwater-Nichols bill enhanced the role of the Chairman of the Joint Chiefs of Staff (JCS) in the planning, programming, and budgeting processes and inserted him into the acquisition process by requiring him to assess military requirements for defense acquisition programs. Although many people feel that the Chairman and Vice Chairman are not sufficiently involved in acquisition, the intent of Congress was that neither the Chairman nor the Vice Chairman should become too deeply involved in these issues (Figure 1).

Section 153. Chairman: functions

(a) Planning; Advice; Policy Formulation
(4) Advice on Requirements, Programs and Budget
(F) Assessing military requirements for defense acquisition programs

Conference Report on Goldwater-Nichols: Congressional Record, September 12, 1986, H6861

....The conferees strongly believe that the Chairman should not be required to spend too much time and energy on the acquisition of defense systems.

....The conferees strongly believe that the Vice Chairman, like the Chairman, should not be required to participate too deeply in the defense acquisition process.

Figure 1. Goldwater-Nichols Department of Defense Reorganization Act of 1986

The Vice Chairman was established as the alter ego of the Chairman. Congressman Skelton, a key member of the House Armed Services Committee in the Goldwater-Nichols legislation, made it clear in a recent conversation that the role of alter ego to the Chairman was the overriding reason for creating the position of Vice Chairman. Figure 2 identifies the duties and functions of the VCJCS as designated in the law.

Section 154. Vice Chairman

(c) Duties. - performs such duties as may be prescribed by the Chairman

(d) Function as Acting Chairman. - acts as Chairman in absence or disability of Chairman.

(f) Participation in JCS meetings. - participates but votes only when Acting Chairman.

(g) Grade and Rank. - holds grade of general/admiral and outranks everyone but Chairman.

Figure 2. Goldwater-Nichols: VCJCS

Three Packard Commission reports referred to the VCJCS and his role in the requirements/acquisition process, as outlined in Figure 3. Packard referred to the Joint Requirements Management Board (JRMB), which would be co-chaired by the Under Secretary of Defense for Acquisition (USD(A)) and the VCJCS, as the primary vehicle for addressing requirements/acquisition concerns. The JRMB as conceived by Packard became two separate bodies, the Defense Acquisition Board (DAB), referred to earlier, and the Joint Requirements Oversight Council (JROC), outlined in Figure 6.

Packard 2/28/86: Vice Chairman, JCS (VCJCS)

- **Special responsibility for representing interests of CINCs**
- **Reviewing weapons requirements**
- **Co-chairing Joint Requirements Management Board (JRMB)**
- **Other duties as Chairman may prescribe**

Packard 4/86: JRMB

- **JRMB Co-chaired by USD(A) and VCJCS**
- **JRMB play active and important role in all joint programs and in all major Service programs**
- **JRMB define weapon requirements for development and provide early trade-off between cost and performance**

Packard 6/86: VCJCS

- **VCJCS to assist Chairman in performing new duties**

Figure 3. VCJCS/JRMB

DoD Directive 5000.1 sets out the duties of the Vice Chairman pertaining to acquisition. The VCJCS will serve as the vice chairman of the DAB, with particular functions as described in Figure 4.

VCJCS as designee of CJCS shall:

a. Serve as Vice Chairman of DAB

b. Provide advice and assistance concerning

- **Military requirements and priorities**
- **Feasibility of common-use and/or**
- **Joint solutions to Military Service requirements**

c. Serve as spokesman for CINCs on acquisition and requirements matters

Figure 4. DoD Directive 5000.1: VCJCS

JCS Pub 4 also outlines the duties and functions of the Vice Chairman. Among the 16 functions listed for the VCJCS, those listed in Figure 5 are related to the planning, programming, budgeting and acquisition functions. The Vice Chairman attends all Defense Resources Board (DRB) meetings, either as the CJCS representative or with the Chairman, and is Vice Chairman of the DAB. Additionally, the VCJCS sits as the chairman of the JROC and acts as the spokesman for the CINCs in the requirements/acquisition processes.

ACT FOR CJCS IN ALL ASPECTS OF PPBS

VICE CHAIRMAN OF DAB

CHAIRMAN OF JROC

ATTEND MEETINGS OF DRB

ASSIST CJCS AS SPOKESMAN FOR CINCS

ASSIST CJCS IN WAR PLAN REVIEW AND COUPLING NATIONAL MILITARY STRATEGY AND RESOURCES

Figure 5. PPBS/Acquisition Duties of VCJCS

Figure 6 lists the members of the JROC. The Operational Plans and Interoperability Directorate (J-7) was organized after Goldwater-Nichols, in a February 1987 reorganization of the Joint Staff. J-7 provides the secretariat for the JROC. Associate members of the JROC are designated by the Vice Chairman on a case-by-case basis, but are non-voting members. The JROC was created as an organization of the JCS and is the main instrument of the VCJCS for inserting joint military requirements into the system.

Chairman:	**General Herres, VCJCS**
Members:	**Service Vice Chiefs**
Secretary:	**MG Boice, Director J-7**
Secretariat:	**Interoperability, Integration and Initiatives Branch, J-7;**
Associate Members:	**Service Representatives As designated by VCJCS (Non-Voting)**
Charter:	**Approved 15 September 1987**
Meetings:	**Every two weeks**

Figure 6. Joint Requirements Oversight Council

The primary functions of the JROC, drawn from the JROC Charter are listed in Figure 7. The JROC currently provides military review for major joint programs, including documentation for the Mission Needs Statement at Milestone 0 and the System Concept Paper at Milestone 1. Within the Joint Staff, acquisition programs are followed by J-7 through Milestone 0. Before Milestone 1, the Force Structure, Resource and Assessment Directorate (J-8) takes the lead and will follow a system until it becomes operational. Other directorates provide guidance and technical expertise for systems within their competence, e.g. J-6 for Command, Control, and Communication Systems (C^3S) and J-4 for logistics.

1. Provides early program oversight/monitoring at front end of acquisition process; emphasis on requirements of CINCs and Services.

2. Reviews all major system new starts.

3. Reviews military requirements for potential joint application.

4. Seeks opportunities for joint development and acquisition by:

   a. Reviewing recommendations for joint programs from OSD, Services, CINCs, Defense Agencies, and Joint Staff;

   b. Chartering study groups to identify operational concepts.

5. Evaluates potential joint acquisition programs.

6. Selects potential candidates for joint development and acquisition; serves as Military Service review for major joint programs.

7. Provides documentation for MNS and Systems Concept Paper.

8. Oversees requirements aspects of joint management and interoperability issues.

Figure 7. JROC

Some of the topics addressed by the JROC thus far are identified in Figure 8. To develop this agenda, the JROC: (1) reviewed systems that were beyond milestone 0 but did not have a Mission Needs Statement; (2) prepared Mission Needs Statements prior to the DAB for systems approaching milestone 0; and, (3) reviewed all new starts in the FY90-94 Service programs. The Follow-on-to-Lance (FOTL) was the first Mission Needs Statement written by the JROC. The JROC also prepared two major position papers on lethal and non-lethal Unmanned Aerial Vehicles (UAVs). While those in the Joint Staff feel that the JROC has and will continue to have a wide ranging impact on the defense acquisition process, others -- particularly in the Office of the Secretary of Defense (OSD) -- are not so sure. Some concern has been expressed by officials in USD/A that the JROC is still too strongly influenced by the Services and that the JROC is not questioning single Services programs. These critics point to the fact that the review of new starts presented by the JROC to the DAB was handled by the Service Vice Chiefs for systems of their respective Services.

- FOLLOW-ON-TO-LANCE
- AEPDS (AUTOMATED EMERGENCY ACTION MESSAGE PROCESSING AND DISTRIBUTION SYSTEM)
- TACTICAL AIR-TO-SURFACE MISSILE
- WIS/JOPES
- FOFA (JSTARS)
- ASAT
- EPW
- MK 15 IFF
- UAV

*Criteria for initial addressed:
1. Systems beyond Milestone 0 without MNS
2. Systems approaching Milestone 0
3. New starts in POM 90-94

Figure 8. Programs Addressed by JROC

There are several issues to be raised concerning the requirements process (Figure 9). First, assessing military requirements for defense acquisition programs is a new function for the Chairman and the Vice Chairman is *the* principal player in this process. The J-7 provides primary staff support to the JROC, supplemented by other parts of the Joint Staff as expertise requires. There is a general feeling that the role of the JROC will increase as the expertise and capability of the staff increases. The JROC intends to continue review of joint programs as they go through each milestone. In addition, the JROC intends to get into issues beyond military requirements that are acquisition-oriented. For example, the current J-7, Major General Boice feels that the JROC should expand into military requirements revealed by analysis of Commanders-in-Chief (CINC) war plans that may not result in new weapons acquisition programs, i.e. deficiencies in sustainability, interoperability or doctrine. In this respect, J-7 is developing the CINCs Warfighting Requirements System to get the CINCs more involved in "fixing" deficiencies that are identified by plans analysis. General Boice believes that these two areas are more the domain of the VCJCS than the strictly single Service acquisition programs.

- Assessing military requirements for defense acquisition programs is new function for CJCS
  - Principal player is VCJCS (DRB, DAB, JROC)
  - Operating through JROC
  - Staff support by J-7 (and other directorates as required)
  - No staff augmentation; no special expertise or infrastructure
  - Role will increase as staff gains experience
- JROC is "instrument of JCS"
  - Increasing "joint flavor"
  - Still strong Service influence
    - SecDef on 6/3/86 said that renamed JRMB (JROC) was to continue "as directed by JCS"
    - Joint Staff must depend on Services for information

Figure 9. Issues in Requirements Process

There are five ways in which a topic can be brought to the JROC: from the CINCs, Joint Staff, OSD, Service, or a Defense Agency. According to General Herres, the staff is not yet fully attuned to the issues being raised before the JROC due to a lack of infrastructure and expertise. However, this should change as the Joint Staff begins asking for the right people to fill open positions. In addition, it should be noted that the Vice Chiefs do not intend to debate costs and get into the questions of affordability as related to a particular budget. The question of affordability is addressed in relation to the overall capability of a Service to provide fiscal resources as the system moves through successive Milestones.

A second issue is the relative influence of the joint system in the JROC process, i.e. the CJCS/VCJCS, Joint Staff and CINCs, in comparison with the role of the Military Services. The JROC has already addressed single Services issues, such as Follow-on-to-Lance (FOTL) and Tactical Air-to-Surface Missile (TASM), and plans to expand its focus in this area. The JROC Charter states that the JROC is an "instrument of the JCS" and Secretary Weinberger directed that the JROC, as successor to the JRMB, should continue to function "as directed by the JCS". It is clear that Service influence within the JROC was planned and will continue.

A third issue is the pace of change, primarily the changes being introduced to enhance the joint role in the acquisition process (Figure 10). The Chairman, Admiral Crowe, has said that it will take 3 to 5 years to implement the very significant changes in the overall organization that are inherent in Goldwater-Nichols and NSDD 219. Several

- Making good progress in short period of time
  - Joint involvement coming along about as fast as possible
    - -- Service influence still very strong
  - Joint Staff being used aggressively by VCJCS in JROC process
  - Joint Staff needs more experience and greater expertise in order to exert greater joint influence
- Expansion of JROC into major new Service programs
  - Has not yet occurred
  - Will be major test of joint influence
- VCJCS wants JROC to mature; develop sound process; establish credibility with high quality work
- VCJCS wants JROC to be forum for senior military leaders to discuss materiel requirements

Figure 11. Conclusions

The JROC has yet to become involved in major single service programs. To place this in context, there are three types of programs: individual service programs, joint programs, and those in between that may be single Service programs but have joint applications. The charter of the JROC says it will look at all programs. The JROC is currently concentrating on joint programs, but will branch out to other programs on a selective basis as time moves on. The Joint Staff feels that the JROC has made good progress considering the short time it has been functioning, and will expand its horizon in the future.