Audit Report

DOD ACQUISITION WORKFORCE
REDUCTION TRENDS AND IMPACTS

Report No. D-2000-088 February 29, 2000

Office of the Inspector General
Department of Defense

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Acronyms

AFMC	Air Force Materiel Command
AMC	Army Materiel Command
AMCOM	Aviation and Missile Command
BMDO	Ballistic Missile Defense Organization
CAIV	Cost as an Independent Variable
DAWIA	Defense Acquisition Workforce Improvement Act
DCMC	Defense Contract Management Command
DCMCP	Defense Contract Management Command Philadelphia
DLA	Defense Logistics Agency
DSCP	Defense Supply Center Philadelphia
IMMC	Integrated Materiel Management Center
MCSC	Marine Corps Systems Command
MDAP	Major Defense Acquisition Program
MAIS	Major Automated Information System
NAVSEA	Naval Sea Systems Command
NAVSUP	Naval Supply Systems Command
ONR	Office of Naval Research
OSD	Office of the Secretary of Defense
RDEC	Research, Development, and Engineering Center
SPAWAR	Space and Naval Warfare Systems Command
SMDC	Army Space and Missile Defense Command

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
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February 29, 2000

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS

SUBJECT: Audit Report on the DoD Acquisition Workforce Reduction Trends and Impacts (Report No. D-2000-088)

We are providing this audit report for your information and use. We considered your office's comments on a draft of this report in preparing this final report. No further management comments are necessary.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. John E. Meling at (703) 604-9091 (DSN 664-9091) (jmeling@dodig.osd.mil) or Mr. Jack D. Snider at (703) 604-9087 (DSN 664-9087) (jsnider@dodig.osd.mil). See Appendix M for the report distribution. The audit team members are listed inside the back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. D-2000-088 **February 29, 2000**
(Project No. 9AE-5021)

DoD Acquisition Workforce Reduction Trends and Impacts

Executive Summary

Introduction. In a general sense, DoD acquisition workforce reductions are part of the overall downsizing of the Federal and Defense workforce. However, Congress has singled out the DoD acquisition population for separate downsizing emphasis, even while allowing the Secretary of Defense considerable latitude in implementing reductions. Congress has defined the term "Defense acquisition and support workforce" to include most military and civilian personnel employed by DoD acquisition organizations, as specified in DoD Instruction 5000.58, "Defense Acquisition Workforce," January 14, 1992, and any other organizations that the Secretary of Defense may determine to have a predominantly acquisition mission. The Instruction identifies 21 DoD acquisition organizations, which contain the majority of the acquisition workforce.

Objectives. The overall audit objective was to review the trends of DoD acquisition workforce and workload reductions and to evaluate the potential impact of further acquisition and support workforce reductions on the DoD ability to support acquisition workload requirements. To accomplish the objective, we interviewed and collected information from senior personnel at 14 acquisition organizations.

Results. Using the congressional definition of the DoD acquisition workforce, DoD reduced its acquisition workforce from 460,516 to 230,556 personnel, about 50 percent, from the end of FY 1990 to the end of FY 1999; however, the workload has not been reduced proportionately. From FY 1990 through FY 1999, the value of DoD procurement actions decreased from about $144.7 billion to about $139.8 billion, about 3 percent, while the number of procurement actions increased from about 13.2 million to about 14.8 million, about 12 percent. The greatest amount of work for acquisition personnel occurs on contracting actions over $100,000, and the annual number of those actions increased from 97,948 to 125,692, about 28 percent, from FY 1990 to FY 1999. The following impacts from acquisition workforce reductions were identified:

- increased backlog in closing out completed contracts (3 organizations),
- increased program costs resulting from contracting for technical support versus using in-house technical support (7 organizations),
- insufficient personnel to fill-in for employees on deployment (1 organization),
- insufficient staff to manage requirements (9 organizations),
- reduced scrutiny and timeliness in reviewing acquisition actions (4 organizations),
- personnel retention difficulty (6 organizations),
- increase in procurement action lead time (1 organization),
- some skill imbalances (9 organizations), and
- lost opportunities to develop cost savings initiatives (2 organizations).

The 14 DoD acquisition organizations anticipated additional adverse effects on performance if further downsizing occurs.

To improve the acquisition process, DoD implemented over 40 reform initiatives over the last 5 years. The DoD acquisition organizations improved efficiency in contracting through acquisition reform initiatives, such as using credit cards for processing acquisitions of $2,500 or less, using simplified acquisition threshold procedures for acquisitions of $100,000 or less, and using reengineered acquisition procedures for acquisitions in general. These improvements helped offset the impact of acquisition workforce reductions and may have increasing beneficial effect as time passes and they are fine tuned. Nevertheless, concern is warranted because staffing reductions have clearly outpaced productivity increases and the acquisition workforce's capacity to handle its still formidable workload.

Likewise, there is cause for serious concern in the likelihood of the DoD acquisition workforce losing about 55,000 experienced personnel through attrition by FY 2005 and in the overall disconnects between workload forecasts, performance measures, productivity indicators, and plans for workforce sizing and training. The Department has recently completed a study of some of these issues and additional action is likely because of the emphasis on human capital in the President's Budget and Priority Management Objectives for FY 2001.

Management Comments. The Deputy Under Secretary of Defense (Acquisition Reform), Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, generally concurred with the overall draft report and emphasized that DoD strategic planning now provides for the formulation of appropriate indicators of the effects of change. A discussion of the management comments is in the Audit Results section of the report, and the complete text is in the Management Comments section.

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Background

Although DoD acquisition workforce reductions over the past decade are part of the overall downsizing of the Federal and Defense workforce, Congress has singled out this segment of the workforce for special emphasis. Congress has enacted legislation that defines the DoD acquisition workforce and requires major reductions. Partly as result of complying with the legislation, DoD has reduced the acquisition workforce from 460,516 in FY 1990 to 230,556 in FY 1999. The legislation allowed the Secretary of Defense wide latitude in implementing the reductions.

Various DoD Acquisition Workforce Definitions. Over the years, DoD has used various definitions to identify the DoD acquisition workforce without achieving a consensus. DoD Instruction 5000.58, "Defense Acquisition Workforce," Change 3, January 13, 1996, defines the acquisition workforce as permanent civilian employees and military members who occupy acquisition positions, who are members of an acquisition corps, or who are in acquisition development programs. In the Instruction, DoD identifies 21 DoD acquisition organizations whose missions include planning, managing, and executing acquisition programs in accordance with DoD Directive 5000.1, "Defense Acquisition," March 15, 1996, and DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs," Change 4, May 11, 1999. Appendix C lists the DoD acquisition organizations and Appendix D provides definitions of technical terms used in this report.

Section 912(a) of the National Defense Authorization Act for FY 1998 (the Act) defined the term "Defense acquisition personnel" as the military and civilian personnel, excluding civilian personnel employed at a maintenance depot, who are assigned to or employed in DoD acquisition organizations as specified in DoD Instruction 5000.58. Section 912(b) of the Act required DoD to report reductions in the DoD acquisition workforce, to define the term Defense acquisition workforce, and to apply the term uniformly throughout DoD. On December 18, 1997, the Secretary of Defense informed Congress that beginning October 1, 1998, DoD would uniformly identify members of the acquisition workforce using a methodology that is an update to the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission) approach. The methodology uses occupational and organizational data to identify the workforce. DoD is still refining the Section 912(b) methodology as it proceeds towards full implementation. DoD has ongoing efforts to restructure the acquisition workforce manpower planning, programming, and budgeting to correspond with the Section 912(b) methodology. Appendix E shows the relationship in November 1998 between the Section 912(a) and 912(b) definitions[1] of the DoD acquisition workforce.

[1]Section 912(b) definition is shown as the "Future DAWIA [Defense Acquisition Workforce Improvement Act]/Key A&T [Acquisition and Technology] Workforce" in Appendix E. The appendix also shows the relationship of the workforce in acquisition organizations, including depots, to operational testing; logistics operations; maintenance depots, including "USMC [U.S. Marine Corps]; and S&T [Science and Technology]."

Section 931(d) of the National Defense Authorization Act for FY 2000 (Public Law 106-65) defines the term "Defense acquisition and support personnel" to mean military and civilian personnel, excluding civilian personnel employed at a maintenance depot, who are assigned to or employed in DoD acquisition organizations as specified in DoD Instruction 5000.58 and any other organizations that the Secretary of Defense may determine to have a predominantly acquisition mission.

DoD Acquisition Workforce Reductions. Section 906(a) of the National Defense Authorization Act for Fiscal Year 1996 (Public Law 104-106) required a plan that, if implemented, would reduce the DoD acquisition workforce by 25 percent over the 5-year period beginning October 1, 1995, not counting blue-collar depot level workers. Section 906(d) required a reduction of 15,000 persons in FY 1996. Section 902 of the National Defense Authorization Act for FY 1997 (Public Law 104-201) amended Section 906(d) to require a total reduction of 30,000 personnel in FYs 1996 and 1997 combined.

Sections 912 and 931 of the National Defense Authorization Acts for FY 1998 (Public Law 105-85) and for FY 1999 (Public Law 105-261), respectively, required a reduction of 25,000 Defense acquisition personnel positions in FY 1998 and again in FY 1999 from the Defense acquisition workforce. The Acts gave the Secretary of Defense the authority to reduce that number to as few as 10,000 under Section 912 and as few as 12,500 under Section 931 if he determined and certified to Congress that further reductions would be inconsistent with the cost-effective management of Defense acquisition programs and would adversely affect military readiness. On June 1, 1998, the Secretary of Defense notified Congress that the reductions in FY 1998 would be 20,096. Section 922 of the National Defense Authorization Act for FY 2000 requires the Secretary of Defense to reduce the Defense acquisition and support workforce in FY 2000 by not less than the number that is programmed in the President's FY 2000 Budget.[2] However, the Section gives the Secretary of Defense the authority to reduce that number to no less than 90 percent of the number in the President's FY 2000 Budget.

Acquisition Reform Initiatives. In the past 5 years, DoD has introduced over 40 acquisition reform initiatives to improve the way DoD does business and to enable the reduced acquisition workforce to accomplish its mission. The initiatives included direction to implement the Federal Acquisition Streamlining Act of 1994, concerning commercial content and practices, the Truth In Negotiations Act, past performance, micro-purchases ($2,500 or less), and simplified acquisition threshold procedures; the Federal Acquisition Reform Act of 1995, concerning competitive streamlining, protest reform, and procurement integrity reform; and Subdivision E of the Clinger-Cohen Act of 1996, formally the Information Technology Management Reform Act of 1996, concerning information technology resources. Acquisition reform initiatives encompass all statutory, regulatory, and procedural changes undertaken by DoD to meet its

[2]The President's FY 2000 Budget has a planned reduction of approximately 15,800 full-time equivalents in the Defense acquisition workforce based on the definition in the National Defense Authorization Act for FY 1999 (Public Law 105-261).

acquisition reform goals, which are to provide required systems responsively, efficiently, and smartly. To accomplish those goals, the acquisition reform initiatives attempt to overcome specific, systemic acquisition process problems that have historically inhibited commercial practices and contributed to extended cycle times, higher costs, and excessive oversight. Appendix K discusses acquisition reform initiatives resulting from the above Acts and DoD actions.

Objectives

The overall audit objective was to review the trends of DoD acquisition workforce and workload reductions and to evaluate the potential impact of further acquisition and support workforce reductions on the DoD ability to support acquisition workload requirements. To accomplish the objective, we interviewed and collected information from senior personnel at 14 acquisition organizations. Appendix A discusses the scope and methodology used to accomplish the objective and Appendix B contains a summary of prior coverage related to the audit objective.

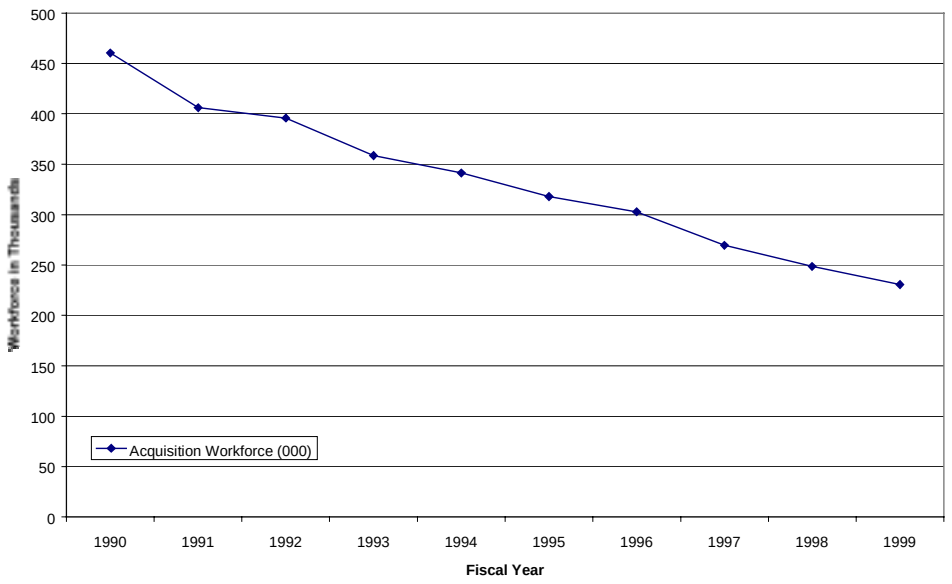
DoD Acquisition Workforce Reduction Trends and Impacts

Using the congressional definition of the DoD acquisition workforce, DoD reduced its acquisition workforce by about 50 percent from the end of FY 1990 to the end of FY 1999; however, the workload has not decreased proportionately. There is cause for serious concerns related to mismatches between the capacity of the reduced workforce and its workload; adverse performance trends; implications of skills imbalance and projected high attrition; and disconnects in workforce planning.

DoD Acquisition Workforce Size Since FY 1990

Section 912(a) Definition. Using the Section 912(a) definition, DoD has reduced its acquisition workforce from 460,516 to 230,556 personnel, about 50 percent, from the end of FY 1990 to the end of FY 1999, as shown in Figure 1.

Figure 1. Acquisition Workforce



If civilians in the maintenance depots are included in the Section 912(a) definition, DoD has reduced its acquisition workforce from 592,634 to 303,849 personnel, or a reduction of about 49 percent, from FY 1990 through FY 1999. For the Army, the Navy, the Air Force, and other DoD organizations, the acquisition workforce reductions including maintenance depot civilian personnel were about 60, 54, 36, and 31 percent, respectively.

Table 1 shows the DoD acquisition workforce under the Section 912(a) definition by DoD acquisition organizations as of the end of FY 1990 and FY 1999 and the percentage change.

Table 1. Section 912(a) DoD Acquisition Workforce by DoD Acquisition Organization

DoD Acquisition Organization	Personnel FY 1990	Personnel FY 1999	Percentage Change
Office of the Secretary of Defense			
Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics	0	510	--
Defense Logistics Agency	57,187	38,635	(32)
Ballistic Missile Defense Organization	122	328	169
Special Operations Command Acquisition Center	5	78	1460
Subtotal	57,314	39,551	(31)
Department of the Army			
Army Materiel Command	88,076	45,713	(48)
Army Information Systems Command[3]	38,194	8	(100)
Army Space and Missile Defense Command	1,221	866	(29)
Army Acquisition Executive	0	2,462	--
Subtotal	127,491	49,049	(62)
Department of the Navy			
Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)	120	131	9
Naval Sea Systems Command	41,760	29,215	(30)
Naval Air Systems Command	23,747	17,125	(28)
Naval Supply Systems Command	26,237	9,016	(66)
Naval Facilities Engineering Command	20,224	15,791	(22)
Office of Naval Research	5,216	3,597	(31)
Space and Naval Warfare Systems Command	30,658	6,404	(79)
Navy Strategic Systems Program Office	0	0	0
Navy Program Executive Officer/ Direct Reporting Program Manager Organization	2,674	2,749	3
Marine Corps Systems Command	715	763	7
Subtotal	151,351	84,791	(44)

[3]Disestablished and merged with the Communications-Electronics Command, a subordinate command of the Army Materiel Command.

Table 1. Section 912(a) DoD Acquisition Workforce by DoD Acquisition Organization (Continued)

DoD Acquisition Organization	Personnel FY 1990	Personnel FY 1999	Percentage Change
Department of the Air Force			
Office of the Assistant Secretary of the Air Force (Acquisition)	393	395	1
Air Force Materiel Command	123,947	56,726	(54)
Air Force Program Executive Organization	20	44	120
Subtotal	124,360	57,165	(54)
Total	**460,516**	**230,556**	**(50)**

A comparison of the DoD acquisition workforce under the Section 912(a) definition by civilian occupational and military group as of the end of FY 1990 and FY 1999 and the percentage change is shown in Table 2.

Table 2. Section 912(a) DoD Acquisition Workforce by Civilian Occupational and Military Group

Civilian Occupational Group	Personnel FY 1990	Personnel FY 1999	Percentage Change
Social Science, Psychology, and Welfare	1,450	1,084	(25)
Personnel Management and Industrial Relations	6,184	1,883	(70)
Administration, Clerical, and Office Services	85,470	44,967	(47)
Biological Sciences	359	349	(3)
Accounting and Budget	17,504	6,432	(63)
Medical and Public Health	795	441	(45)
Veterinary Medical Services	3	5	67
Engineering and Architecture	69,535	46,042	(34)
Legal and Kindred	1,192	1,140	(4)
Information and Arts	3,686	1,597	(57)
Business and Industry	35,494	21,334	(40)
Copyright, Patent, and Trademark	94	81	(14)
Physical Sciences	6,264	4,227	(33)
Library and Archives	790	334	(58)
Mathematics and Statistics	6,103	4,278	(30)
Equipment, Facilities, and Service	8,498	3,799	(55)
Education	1,027	867	(16)
Investigation	240	425	77
Quality Assurance, Inspection, and Grading	12,117	5,191	(57)
Supply	25,103	11,450	(54)
Transportation	4,036	1,954	(52)
Miscellaneous and Other	9,677	6,078	(37)
White Collar Subtotal	295,621	163,958	(45)
Blue Collar Subtotal[4]	87,286	26,970	(69)
Civilian Subtotal	382,907	190,928	(50)
Military Group[4]			
Officer	21,675	12,606	(42)
Enlisted	55,934	27,022	(52)
Military Subtotal	77,609	39,628	(49)
Total	**460,516**	**230,556**	**(50)**

Defense Contract Audit Agency Staffing. While not listed as one of the Section 912(a) DoD acquisition organizations, the Defense Contract Audit Agency staffing decreased from 7,030 work years in FY 1990 to 3,958 in FY 1999, a reduction of about 44 percent. The Defense Contract Audit Agency is included in the Section 912(b) list of DoD acquisition organizations.

[4]DoD did not breakout the Group by occupation.

Section 912(b) Methodology. Using the Section 912(b) methodology or the Refined Packard Commission approach, the DoD acquisition workforce had 146,071 military and civilian personnel as of September 30, 1998. Appendix F discusses the process for identifying the DoD acquisition workforce using the Section 912(b) methodology. Table 3 provides a breakout of the Section 912(b) acquisition workforce by DoD Component.

Table 3. Section 912(b) DoD Acquisition Workforce by DoD Component

DoD Component	Personnel
Department of the Army	41,241
Department of the Navy	49,294
Department of the Air Force	31,794
Fourth Estate[5]	23,742
Total DoD acquisition workforce	**146,071**

Table 4 shows the DoD acquisition workforce under the Section 912(b) definition by civilian occupational and military group.

Table 4. Section 912(b) DoD Acquisition Workforce by Civilian Occupational and Military Group

Civilian Occupational Group	Personnel
Engineers	41,861
Contracting	18,777
Management	15,541
Business and Industry	12,265
Communications and Computers	9,240
Administration and Programs	5,051
Scientists	4,480
Financial Management	3,849
Auditing	3,584
Mathematics and Statistics	2,618
Purchasing	1,988
Supply Management	1,697
Miscellaneous	8,667
Civilian Total	129,618
Military Group[6]	
Military	16,453
Total	**146,071**

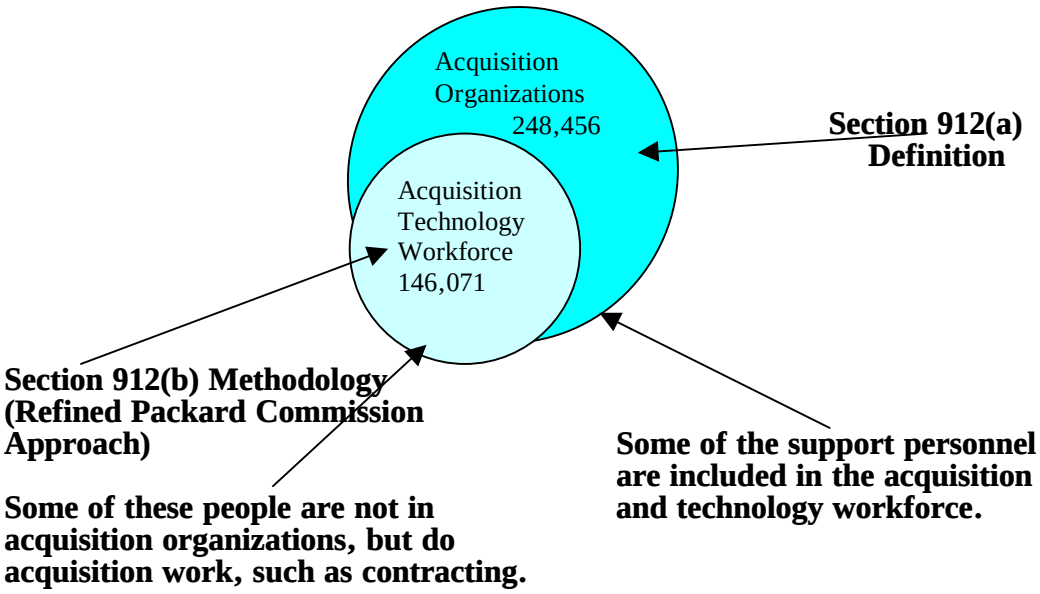
[5]The Fourth Estate consists primarily of acquisition and technology personnel from the Defense Logistics Agency; the Defense Contract Audit Agency; the Defense Information Systems Agency; the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics; and the Ballistic Missile Defense Organization.

[6]DoD did not breakout the Group by occupation.

DoD Contracting Officers. As DoD implemented its acquisition workforce reductions and acquisition reform initiatives, the number of DoD contracting officers decreased. Contracting officers include procurement and various types of administrative contracting officers. The procurement contracting officer primarily enters into contracts and the administrative contracting officer primarily administers contracts. From FY 1994 to FY 1999, the total number of DoD contracting officers decreased from 7,465 to 6,505 or 12.9 percent, and in that total the number of DoD procurement contracting officers decreased from 6,087 to 5,309 or 12.8 percent.

Relationship Between the Sections 912(a) and 912(b) Definitions. DoD will continue to compute the size of the DoD acquisition workforce using the Sections 912(a) and 912(b) definitions of the DoD acquisition workforce until transition to the Section 912(b) methodology or Refined Packard Commission approach is complete in FY 2000. Figure 2 shows the relationship between the two definitions of the DoD acquisition workforce using FY 1998 data.

Figure 2. Relationship Between Section 912(a) and Section 912(b) Definitions of the DoD Acquisition Workforce Using FY 1998 Data



DoD Acquisition Workload Since FY 1990

As the DoD acquisition workforce was reduced about 50 percent from the end of FY 1990 through the end of FY 1999, the number of procurement actions increased from about 13.2 million to about 14.8 million and the dollar value of procurement actions decreased from about $144.7 billion to about $139.8 billion. Figures 3a and 3b show the number of Monthly Contracting Summary of Actions $25,000 or Less (DD Form 1057) and micro-purchases or credit card purchases, and the Individual Contracting Action Reports (DD Form 350), respectively. Figure 4 shows the value of DD Form 1057s, micro-purchases or credit card purchases, and DD Form 350s. The greatest

amount of work for acquisition personnel occurs on contracting actions over $100,000 (above the Simplified Acquisition Threshold), and the annual number of those actions increased from 97,948 to 125,692, about 28 percent, from FY 1990 to FY 1999.

Figure 3a. Number of DD 1057 and Credit Card Procurement Actions

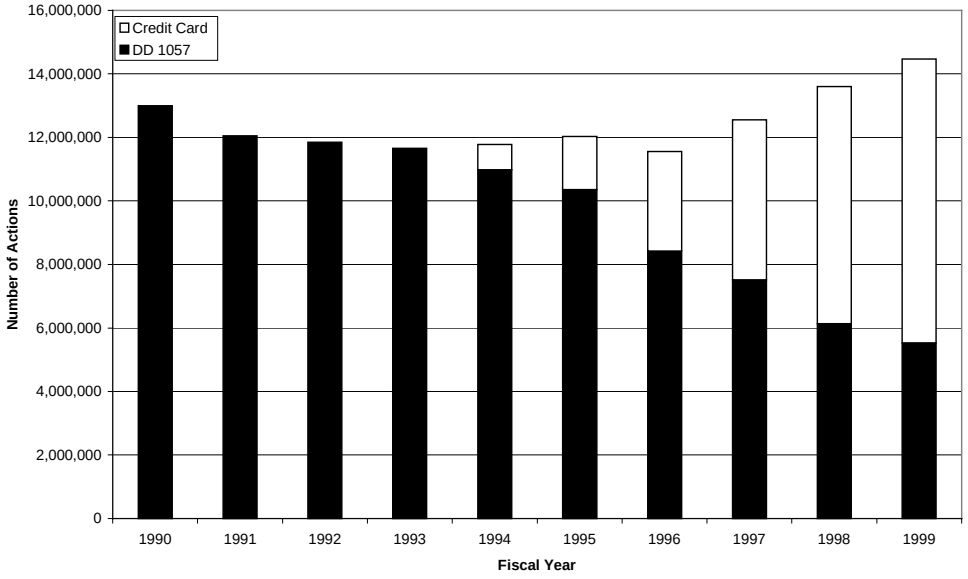
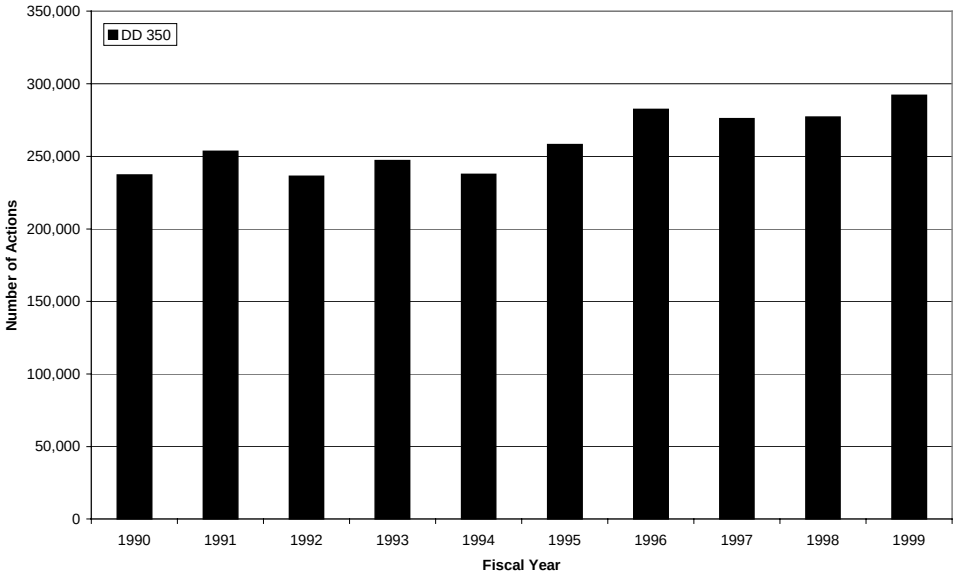
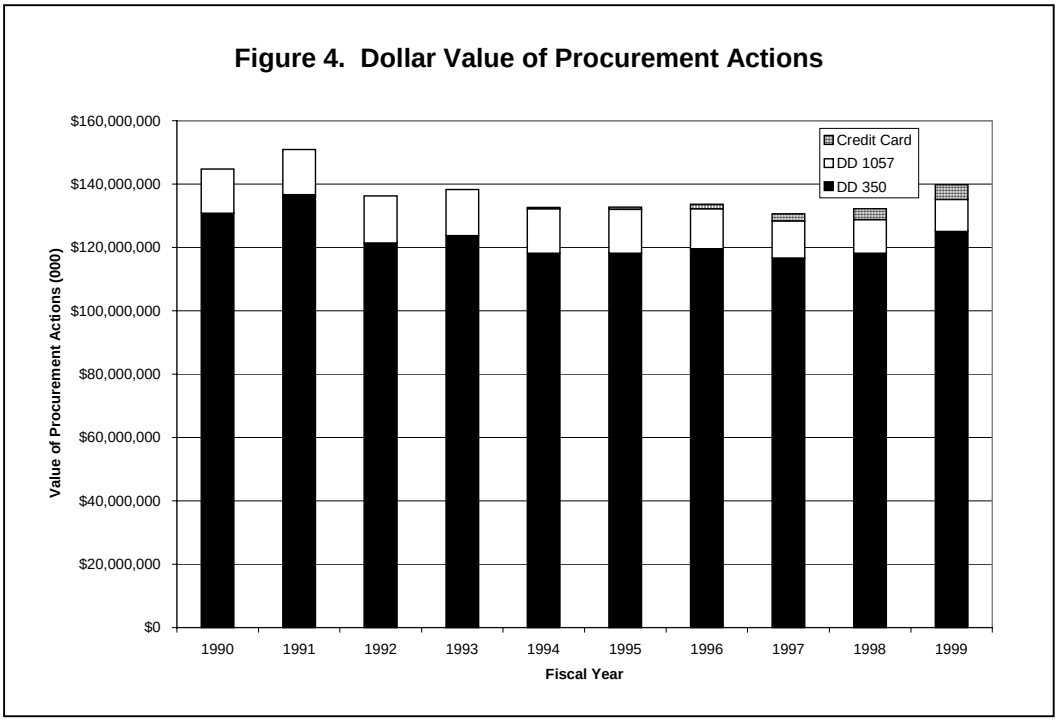


Figure 3b. Number of DD 350 Procurement Actions





Competition Advocates

Competition Advocate Responsibilities. Before 1994, competition advocates were responsible for promoting full and open competition, challenging requirements that were not stated in terms of functions to be performed, and challenging barriers to full and open competition. With the implementation of the Federal Acquisition Streamlining Act of 1994, competition advocates were also assigned responsibility for promoting the acquisition of commercial items. To perform their role as both the competition and commercial advocate, they needed to be knowledgeable of the regulatory and statutory requirements for market research and the techniques used to conduct market research.

The Federal Acquisition Regulation, Part 7, "Acquisition Planning," requires that agencies perform acquisition planning and conduct market research to promote and provide for:

- the acquisition of commercial items to the maximum extent practicable and
- full and open competition to the maximum extent practicable.

Further defining the requirements associated with market research is Federal Acquisition Regulation, Part 10, "Market Research," that requires agencies to conduct market research appropriate to the circumstances before:

- developing and finalizing new requirements documents for any acquisition or procurement,

- soliciting offers for acquisitions with an estimated value in excess of the simplified acquisition threshold of $100,000, and

- soliciting offers for acquisitions with an estimated value less than the simplified acquisition threshold when adequate information is not available and the circumstances justify its cost.

Consequently, some form of market research is mandatory before developing and finalizing any new requirements document and before soliciting offers for any acquisition or procurement that is expected to exceed the simplified acquisition threshold. To ensure that market research is being planned and conducted properly, competition advocates are involved in the acquisition planning process. They ensure that requirements are being defined in the least restrictive manner possible, that appropriate plans for market research are being developed, and that the market research is being properly executed.

Number of Competition Advocates. Generally, the DoD acquisition organizations visited stated that the number of competition advocates did not decrease significantly as a result of acquisition workforce reductions. However, some stated that the role of the competition advocates was decreasing because of commercial buying practices. Further, some stated that the staff supporting the competition advocates was reduced significantly. The Defense Logistics Agency, the Army, and the Air Force provided examples of competition advocate reductions.

Defense Logistics Agency. The Defense Logistics Agency (DLA) stated that it decentralized the competition advocate program in FY 1995 by forming commodity support teams and eliminated one level of management. Since 1995, DLA has reduced the number of competition advocates commensurate with its reduction in the number of field organizations. DLA consolidated six supply centers into four and two distribution regions into one command, resulting in a net reduction of three competition advocates.

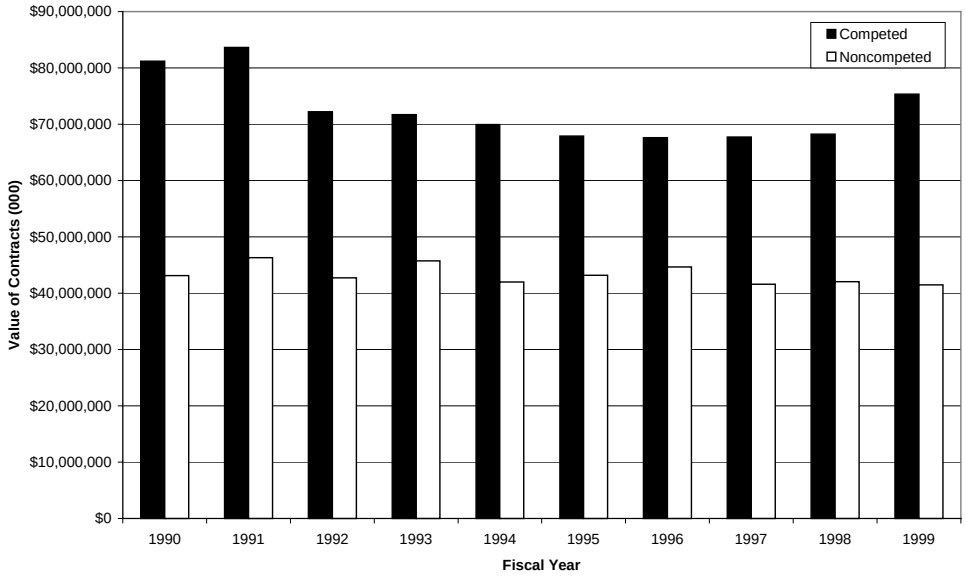
Army. The Army Materiel Command (AMC) stated that the number of competition advocates declined from nine in FY 1990 to six in FY 1998 because of the consolidation of major buying commands resulting from the Base Realignment and Closure process. As a result of recent changes in regulations allowing an Army buying command to appoint competition advocates at their subordinate organizations, AMC has 11 competition advocates, only 4 of which are full-time advocates with their own full-time staffs. The full-time staff supporting competition advocates has declined from about 119 personnel in FY 1990 to 21 in FY 1999, primarily because of continued overall personnel reductions within the AMC. Because of the reductions in their full-time staffs, the competition advocates depend upon matrix technical assistance from other AMC organizations. With the merger of two subordinate commands in 1997 to form the Aviation and Missile Command (AMCOM), the combined AMCOM competition advocates support staff went from 69 to 8. The number of competition advocates also went from two to one. The AMCOM competition

advocate did not consider the staff to be adequate and believed that the lack of staff limits his office's ability to create competitive business opportunities, to promote the acquisition of commercial items, and to evaluate justifications for sole source procurements. However, another major command, the Army Space and Missile Defense Command stated that it only has one competition advocate, which is adequate for its requirements.

Air Force. The Air Force Materiel Command stated that its competition advocates supporting staff at three Air Force Logistics Centers was reduced from 1,002 to 20 from FY 1990 to FY 1999. This reduction is the result of a major reorganization of the competition advocate function at the Air Force Logistics Centers, which included a transfer of the competition advocate function and staff to other divisions within the Air Force Logistics Centers.

Value of Competed and Noncompeted Contracting. The value of competed versus noncompeted DD Form 350 contracting actions over $100,000 have decreased slightly, as shown in Figure 5. From FY 1990 to FY 1999, the value of competed and noncompeted DD Form 350 contracting actions over $100,000 decreased from about $81.2 billion to about $75.3 billion and from about $43.1 billion to about $41.4 billion, respectively.

Figure 5. Competed and Noncompeted Contracting Dollars Over $100,000 Subject to Competition

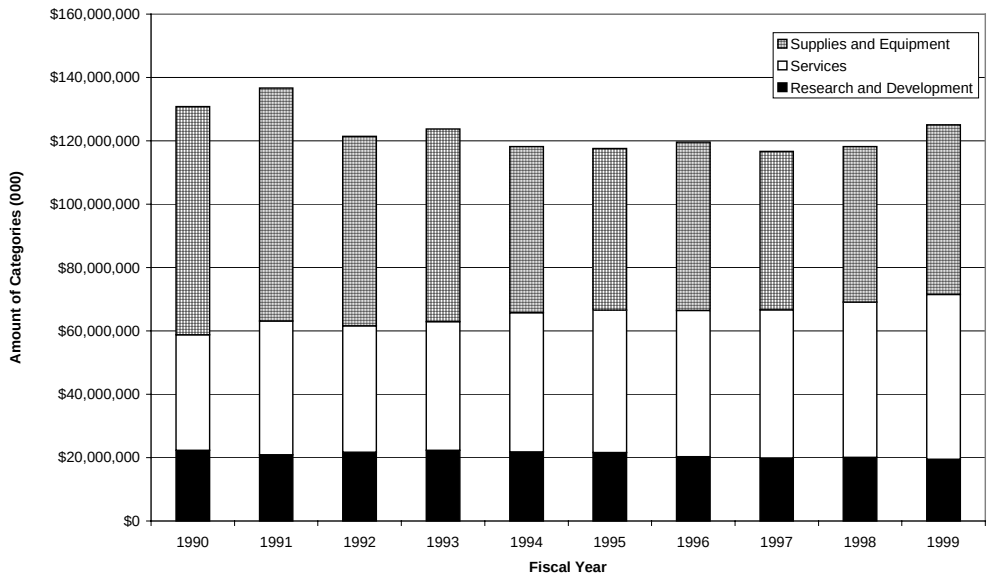


Changes in What DoD Buys

DD Form 350 Contracting Actions. The contracting actions recorded on DD Form 350 are divided into three categories: research, development, test,

and evaluation; other services and construction; and supplies and equipment. These categories are further discussed in Appendix J. Using DD Form 350 contracting action data, Figure 6 shows the dollar value for all contracting actions in the three categories from FY 1990 through FY 1999.

Figure 6. DD 350 Values by Selected Categories



DD Form 350 Categories. As DoD reduced its acquisition workforce from 460,516 to 230,556 personnel at the end of FY 1990 and FY 1999, respectively, for a reduction of 50 percent, the value of DD Form 350 categories exhibited the following changes, as shown in Table 5.

Table 5. DD Form 350 Category Percentage Change From FY 1990 to FY 1999

Category	Dollar Value (Billions) FY 1990	FY 1999	Percentage Change
Research, Development, Test, and Evaluation	$22.3	$19.4	(13)
Other Services and Construction	36.4	52.0	42.9
Supplies and Equipment	72.0	53.6	(25.6)
Totals	**$130.7**	**$125.0**	**(4.4)**

Other Transactions. In addition to contracting actions included in the DD Form 350, the DD Form 1057, and the credit card databases, DoD also uses other transactions to obtain research and prototypes from contractors that normally do not do business with DoD. Other transactions is a streamlined acquisition approach to stimulate, support, or acquire research or prototype projects and includes instruments other than contracts, grants, or cooperative agreements that Congress authorized to:

- reduce barriers to commercial firms in DoD contracting for research,
- contribute to a broadening of the technology and industrial base available to DoD, and
- foster new relationships and practices with commercial technology and industrial base firms that support national security.

Other transactions remove many of the acquisition statutes and regulations normally established for contracts or grants, including the Federal Acquisition Regulation, Defense Federal Acquisition Regulation Supplement, and cost accounting principles. Other transaction totals show a single agreement for $4 million in FY 1990 and 106 agreements for about $4 billion[7] in FY 1999.

Process for Reducing the DoD Acquisition Workforce

DoD had an overall plan for accomplishing the congressionally mandated numerical reductions in the DoD acquisition workforce; however, it did not correlate those reductions with specific skill level requirements. Using the National Performance Review framework, DoD targeted the Section 912(a) workforce per congressional guidance and set a 3-year goal of 15 percent staff reductions with FY 1997 as the baseline and FY 2000 as the target with periodic updates. DoD is programmed in FY 2000 to exceed the 15 percent goal by 4 percent. DoD achieved its acquisition workforce reductions through normal attrition, early buy-outs, reorganization, reengineering, and budget allocations. We have discussed the process for reducing the DoD acquisition workforce with personnel from 14 of the 21 DoD acquisition organizations listed in DoD Instruction 5000.58 and identified in Appendix A. As an example, the Army Materiel Command Headquarters allocated the authorized workforce positions to subordinate commands, such as the Aviation and Missile Command (the Command), through the Program Budget Guidance documentation. The Resource Management Directorate at the Command made recommendations to the Command's Executive Steering Committee concerning the allocation of reductions among the Command's organizations. When reductions occur, the affected organization determined what positions would be affected by the reductions. If the affected position was occupied, the Command preferred a

[7]The amount includes two prototype agreements that the Air Force issued on October 16, 1998, for the Evolved Expendable Launch Vehicle Program that had FY 1998 agreement numbers with a DoD and contractor value of $3.0 billion.

voluntary separation for the affected employee through the use of voluntary early retirement authority or voluntary separation in pay over involuntary separation through reduction-in-force.

Current Impact of Reductions to the DoD Acquisition Workforce

As DoD reduced its acquisition workforce over the years, the DoD acquisition organizations were impacted in various ways. We interviewed and collected information from senior acquisition personnel at 41 commands or offices within 14 of the 21 DoD acquisition organizations listed in DoD Instruction 5000.58. We discussed with the senior acquisition personnel the current impact of DoD acquisition workforce reductions; however, we did not validate the data provided to us by those personnel. Table 6 designates a letter for each of the 14 DoD acquisition organizations visited. Table 7 shows the primary current effects of the DoD acquisition workforce reductions that the 14 DoD acquisition organizations indicated they experienced and correlates those effects with the DoD acquisition organizations visited.

Table 6. Letter Designation for DoD Acquisition Organizations Visited

DoD Acquisition Organization	Letter Designation
Office of the Secretary of Defense	
Defense Logistics Agency	A
Ballistic Missile Defense Organization	B
Department of the Army	
Army Materiel Command	C
Army Space and Missile Defense Command	D
Army Acquisition Executive	E
Department of the Navy	
Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)	F
Naval Sea Systems Command	G
Naval Supply Systems Command	H
Office of Naval Research	I
Space and Naval Warfare Systems Command	J
Marine Corps Systems Command	K
Department of the Air Force	
Office of the Assistant Secretary of the Air Force (Acquisition)	L
Air Force Materiel Command	M
Air Force Program Executive Organization	N

Table 7. Current Effects of the Acquisition Workforce Reductions for the 14 DoD Acquisition Organizations Visited

Effect of Acquisition Workforce Reductions	DoD Acquisition Organizations Visited														Percent of Occurrence[9]
	OSD[8]		Army			Navy						Air Force			
Increased backlog in closing out completed contracts			C	D	E										21
Increased program costs resulting from contracting for technical support versus using in-house technical support			C		E		H	I	J	K		M			50
Insufficient personnel to fill-in for employees on deployment			C												7
Insufficient staff to manage requirements	A		C	D		G	H	I	J	K				N	64
Reduced scrutiny and timeliness in reviewing acquisition actions	A		C	D			H								29
Personnel retention difficulty	A	B	C			G	H					M			43
Increase in procurement action lead time						G									7
Some skill imbalances	A	B	C		E	G	H		J		L	M			64
Lost opportunities to develop cost savings initiatives			C				H								14

A summary of the primary current effects of the acquisition workforce reductions for the DoD acquisition organizations visited follows with a more detailed discussion of the effects for each of the 14 organizations in Appendix L. Unless noted, the organizations did not provide data to support their comments.

Increased Backlog in Closing Out Completed Contracts. Three of the 14 DoD acquisition organizations stated that their contracting offices experienced an increase in the backlog in closing out completed contracts. Contracting personnel did not regularly perform contract close outs because the personnel lacked time for the work. One organization stated that the value of its missile contracts shipped complete but not closed increased from $14 billion to $17 billion between FYs 1995 and 1999, and the total value of aviation contracts shipped complete but not closed as of the end of FY 1999 was $13.8 billion.

Defense Finance and Accounting Service accounting data showed that the number and obligation value of the open DoD contracts in the Mechanized

[8]Office of the Secretary of Defense.

[9]Percent of occurrence is the number of organizations that experienced the noted effect divided by 14, the number of DoD acquisition organizations visited.

Contract Administration Service increased up to FY 1998 and declined slightly in FYs 1999 and 2000, as shown in Table 8. As of January 31, 2000, the Defense Finance and Accounting Service had 116,954 contracts completed, but not closed out.

Table 8. Open Contracts

Fiscal Year*	Number	Obligation Value (millions)
1993	348,536	$489,000
1994	378,400	490,800
1995	376,048	667,000
1996	387,401	810,000
1997	395,486	855,000
1998	384,861	894,000
1999	339,712	833,709
2000	329,121	844,958

*The accounting data are as of different cutoff dates during the fiscal years.

Increased Program Costs Resulting from Contracting for Technical Support Versus Using In-House Technical Support. Seven of the 14 DoD acquisition organizations stated that reductions in in-house matrix support personnel required the organizations to contract for additional services, such as engineering and logistical analysis, that the Government once would have provided. As a result, technical support costs increased because, in general, obtaining contract support was more expensive than obtaining in-house matrix support. For example, one organization stated that customers requested 141 more staff years than the organization's on-board strength in FY 1999 and that the organization was constantly turning down requests from customers for Government support in many disciplines including configuration management, production engineering, prototype development, and quality assurance. When in-house matrix support is not available from the organization, the organization must contract for the support. According to the organization, the contract labor rates are significantly higher per staff year than rates the organization charged for the same service performed by Government employees. The organization stated that contract labor rates for various types of engineering support services cost an additional $20,000 to $180,000 per staff year in FY 1999 and that it contracted for 1,200 staff years of contract support to cover its own needs and customer requirements.

Insufficient Personnel to Fill-In for Employees on Deployment. One of the 14 DoD acquisition organizations stated that insufficient personnel remained on-hand to fill-in for military reserve employees detailed on operational deployments. As a result, normal operations at the organization suffered and its ability to respond to requisitions and transportation requests to support its weapon systems was reduced.

Insufficient Staff to Manage Requirements. Nine of the 14 DoD acquisition organizations stated that insufficient staff were available to manage

requirements. Personnel were not available to accurately review assets for disposal action in a timely manner, handle technical database updates to the logistics system, review and respond to prime contractor test plans and test reports, and witness contractor tests. For example, one organization stated that workforce reductions have:

- increased employee workloads and negatively affected employee morale;
- resulted in program managers supervising multiple programs, thereby negatively impacting program management functions; and
- resulted in an inability of the Command to focus on future technologies and the integration of these technologies.

Reduced Scrutiny and Timeliness in Reviewing Acquisition Actions. Four of the 14 DoD acquisition organizations stated they were able to process all mission-critical actions; however, the amount of time and the level of scrutiny put into responses were not sufficient to ensure accuracy and minimize risk. For example, one organization commented that some contractors stated that when the organization stopped performing inspections of all products, so did the contractors. As a result of the lack of inspections and recent failures with hardware in the Space Program, the organization is concerned that it may have reduced its quality assurance program too much.

Personnel Retention Difficulty. Six of the 14 DoD acquisition organizations stated that personnel retention rates were impacted because employees saw more advancement opportunities in project offices and private industry. For example, one organization stated that, because of a decreased workforce and an increased workload, some of its employees lacked promotional opportunities, obtained jobs with private industry, or worked uncompensated overtime. Another organization stated that it was having problems filling mid-grade military officer positions because too few of those officers were remaining in the military service.

Increase in Procurement Action Lead Time. One of the 14 DoD acquisition organizations documented that procurement action lead times increased for items procured. The organization provided data showing a 63 percent increase (67 days) in the procurement action lead time for contracts from FY 1993 through FY 1999. From FY 1995 through FY 1998, the organization's contracts division staff decreased 10 percent and the number of contract actions greater than $25,000 increased 25 percent.

Some Skill Imbalances. Nine of the 14 DoD acquisition organizations stated that acquisition workforce reductions contributed to the demographic distortion of the organizations' workforce and some program offices experienced skill imbalances. The organizations' acquisition workforces were skewed towards older workers with skills that did not always match work load skill requirements. The organizations were unable to hire younger workers with the required skills because of ongoing reductions to the DoD acquisition workforce. Specifically, one organization stated that it has a shortage of civilian engineers

among its activities near California's Silicon Valley because Government engineer salaries are not competitive with the private sector. Another organization stated that it needed fewer general facility, equipment, and quality assurance specialists and no longer needed supply catalogue specialists. Consequently, the organization was retraining personnel in overstaffed and unneeded billets.

Lost Opportunities to Develop Cost Savings Initiatives. Two of the 14 DoD acquisition organizations stated that they had not conducted studies or established a baseline to determine whether cost savings resulted from the acquisition workforce reductions. One organization stated that acquisition workforce reductions caused it to decrease efforts to evaluate parts control and management, conduct modeling and simulation projects, develop value engineering opportunities, and study the impact of the DoD acquisition workforce reductions on the organization. For example, the organization estimated that it lost an opportunity to achieve an estimated $20 million to $50 million in annual value engineering savings because of cut backs to its value engineering workshops from 10 or 12 per year to only one in FY 1999.

Related Audit Coverage. A recently completed audit by the Inspector General, DoD, indicated that program and contracting offices did not define requirements or use available history to develop accurate cost information and award low-risk contracts for services. Further, contract surveillance was not adequate. This condition occurred, in part, because acquisition officials were not reassigning work when vacancies occurred, were inexperienced and, in some cases, were overburdened with other work. For example, one contract had no contracting officer assigned for the 6 month period before the audit visit. On another contract, the contracting officer and program office personnel were unable to show evidence that they were qualified or possessed the skills to make technical assessments on the adequacy of hours, labor mix, and other costs they deemed acceptable and reasonable. Further, as a result of downsizing within contracting offices, contracting personnel were assigned more work resulting in higher demands on time. For example, a program office technical monitor stated that he was responsible to perform surveillance on 43 contracts valued at approximately $621 million. These conditions, which will be discussed in a pending report, are in-line with statements that the 14 DoD organizations made to us during this audit concerning the effects of acquisition workforce reductions.

Acquisition Reform Initiatives

To improve the acquisition process, DoD implemented over 40 acquisition reform initiatives over the last 5 years, some of which are listed in Appendix K. We discussed the implementation of these initiatives with senior acquisition personnel at 41 commands or offices within 14 of the 21 DoD acquisition organizations listed in DoD Instruction 5000.58. The organizations improved efficiency in contracting by using credit cards for processing acquisitions of $2,500 or less, using simplified acquisition threshold procedures for acquisitions of $100,000 or less, and using reengineered acquisition procedures for acquisitions in general as shown in Table 9. These improvements helped offset

the impact of acquisition workforce reductions. Table 9 shows the primary improvements associated with the acquisition reform initiatives that the 14 DoD acquisition organizations identified that improved efficiency in contracting and correlates those effects with the DoD acquisition organizations visited using the letter designations from Table 6.

Table 9. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the 14 DoD Acquisition Organizations Visited

Improvement Description	DoD Acquisition Organizations Visited: OSD	Army	Navy	Air Force	Percent of Occurrence[10]
Improvement in processing transactions of $2,500 or less by using credit cards	A B	C D E	G H I J	M	71
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	A B	C D E	H J	L M N	71

A summary of the primary improvements associated with acquisition reform initiatives identified by the DoD acquisition organizations visited follows with a more detailed discussion of the improvements for each of the 14 organizations in Appendix L. Unless noted, the organizations did not provide data to support their comments.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Ten of the 14 DoD acquisition organizations stated that the use of credit cards has streamlined their processing of transactions that were $2,500 or less. The credit card program shifted the workload for the small dollar, less complex, procurement actions, from the acquisition workforce to the operational workforce, which is generally part-time work for the cardholder. Since the implementation of the credit card program in FY 1994, the number of DoD credit cardholders has increased to 242,569, as of November 1999. For example, one organization provided statistics showing that procurement cycle times were reduced from an average of 11 months to about 6 weeks for processing its transactions of $2,500 or less by using credit cards.

Improved Efficiency and Economy in Contracting by Using Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). Ten of the 14 DoD acquisition organizations stated that the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures over $100,000 proved most helpful for acquisitions. For example, one

[10]Percent of occurrence is the number of organizations that experienced the noted effect divided by 14, the number of DoD acquisition organizations visited.

organization stated that it was able to significantly reduce quality assurance and technical billets as a result of using quantitative data analysis instead of strict product inspections. The organization also stated that it reduced its surcharge to users from 28.7 percent in FY 1996 to 19.8 percent in FY 1999 by implementing commercial buying practices.

Future Impact of Reductions to the DoD Acquisition Workforce

As the DoD acquisition workforce, using the Section 912(a) definition,[11] decreases by another 16 percent from FY 1999 through FY 2005, as shown in Figure 7, the aggregate of DoD operations and maintenance; procurement; and research, development, test, and evaluation funds is projected to increase during that same period by 6 percent using constant FY 2000 dollars, as shown in Figure 8. Figure 8 also shows how the aggregate of those funds has increased since FY 1990.

[11]The Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics did not have data available that projected the Section 912(b) definition of DoD acquisition workforce from FY 1999 through FY 2005.

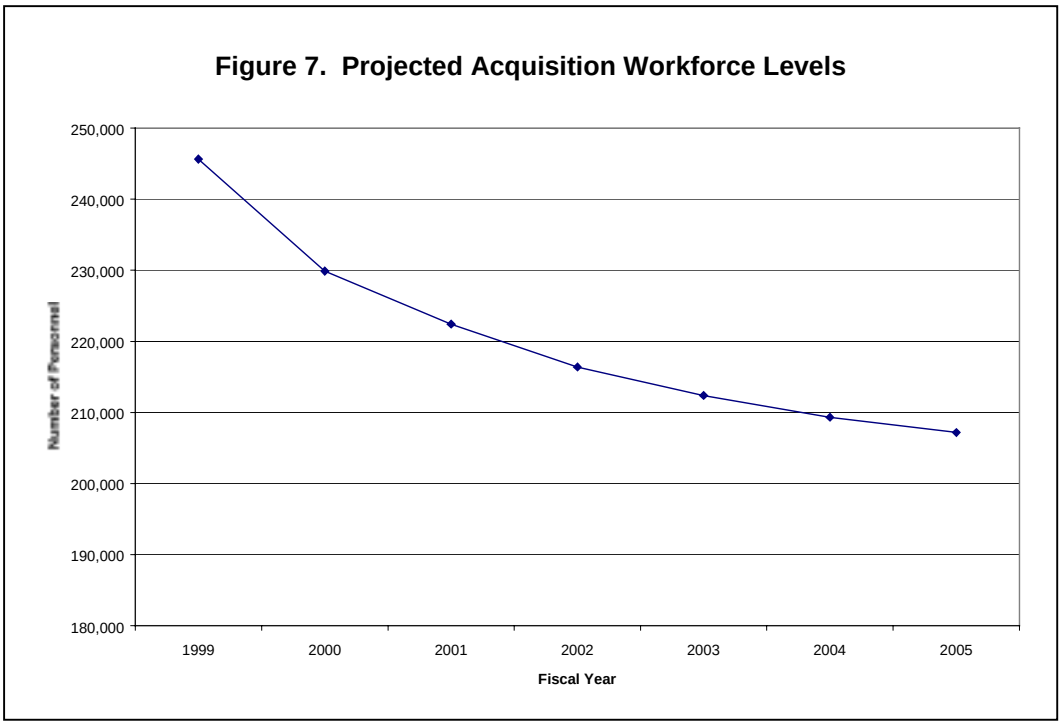


Figure 7. Projected Acquisition Workforce Levels
250,000
240,000
230,000
220,000
210,000
200,000
190,000
180,000
Number of Personnel
1999
2000
2001
2002
2003
2004
2005
Fiscal Year

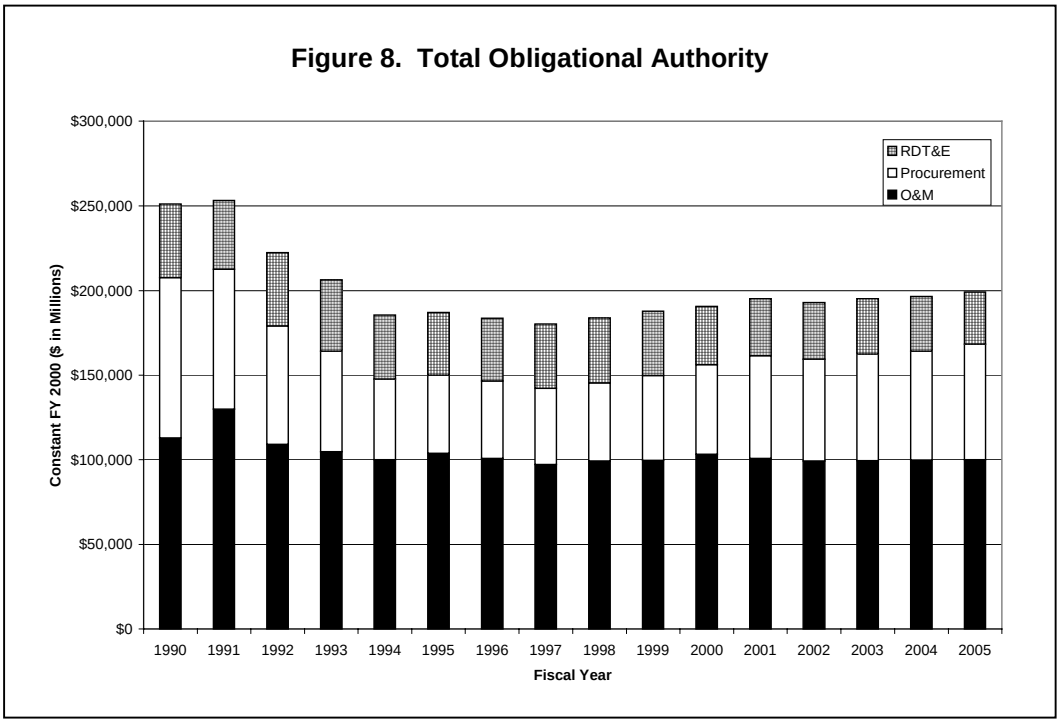


Figure 8. Total Obligational Authority
$300,000
$250,000
$200,000
$150,000
$100,000
$50,000
$0
Constant FY 2000 ($ in Millions)
RDT&E
Procurement
O&M
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Fiscal Year

Total DoD Acquisition Workforce Average Age. The following figures, from 9 through 15, use the Section 912(b) DoD acquisition workforce definition for civilian personnel as of September 1998. Based on discussions and data[12] from the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the average age of the DoD acquisition civilian workforce is projected to increase from about 46 years in FY 1999 to about 48 years in FY 2007, as shown in Figure 9.

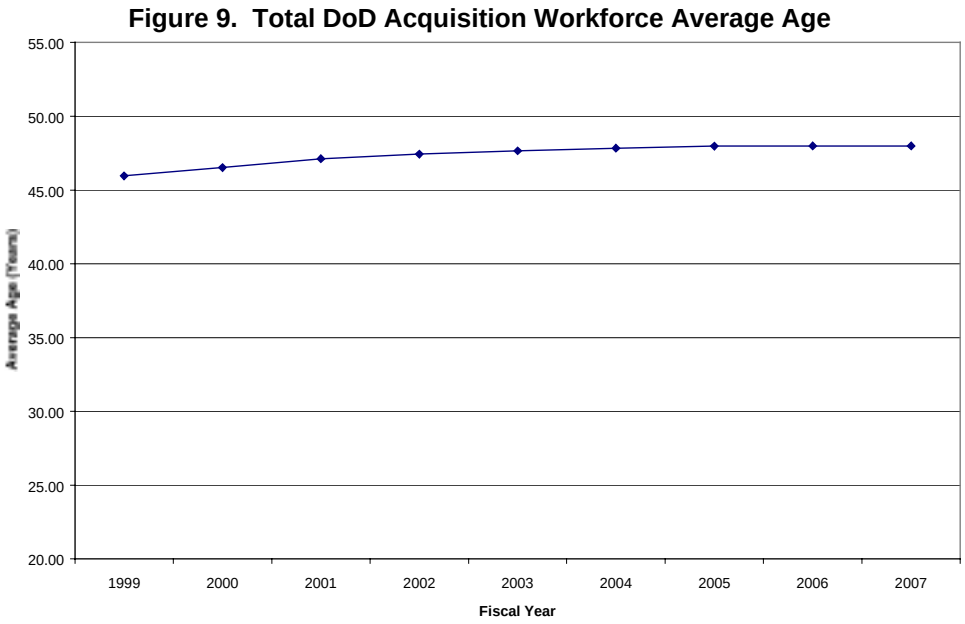
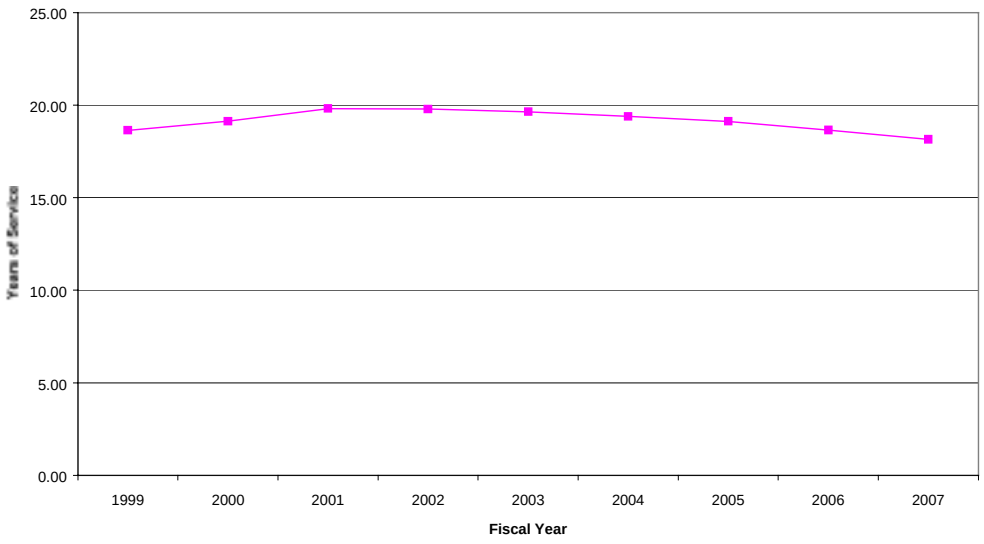


Figure 9. Total DoD Acquisition Workforce Average Age

[12]The acquisition workforce data consists of a baseline that uses the FY 1998 accession profile and currently budgeted end strength targets.

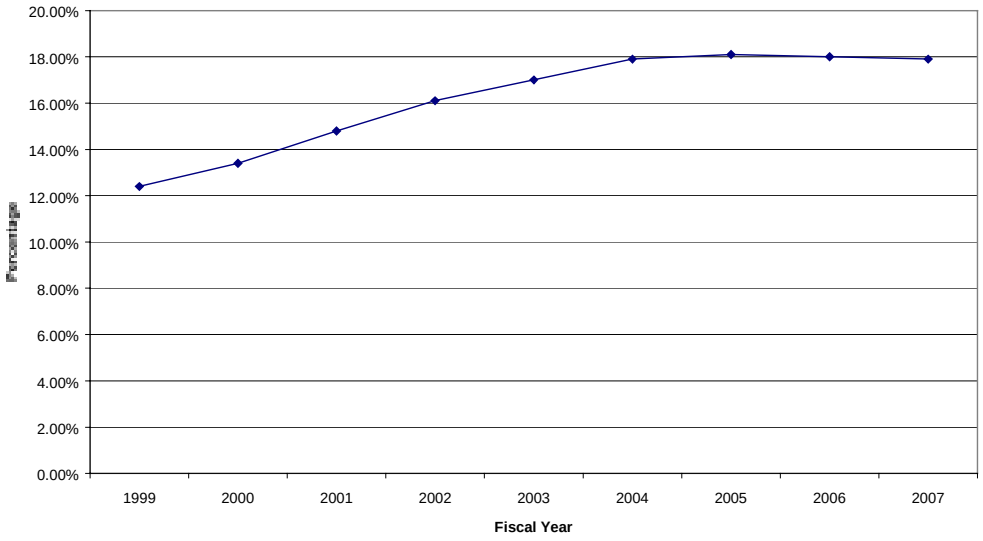
Total DoD Acquisition Workforce Average Years of Service. In conjunction with an increase in the age of the DoD acquisition civilian workforce, the average years of service of the DoD acquisition civilian workforce is projected to increase from 18.64 years in FY 1999 to 19.81 years in FY 2001 and then decrease to 18.15 years in FY 2007, as shown in Figure 10.

Figure 10. Total DoD Acquisition Workforce Average Years of Service



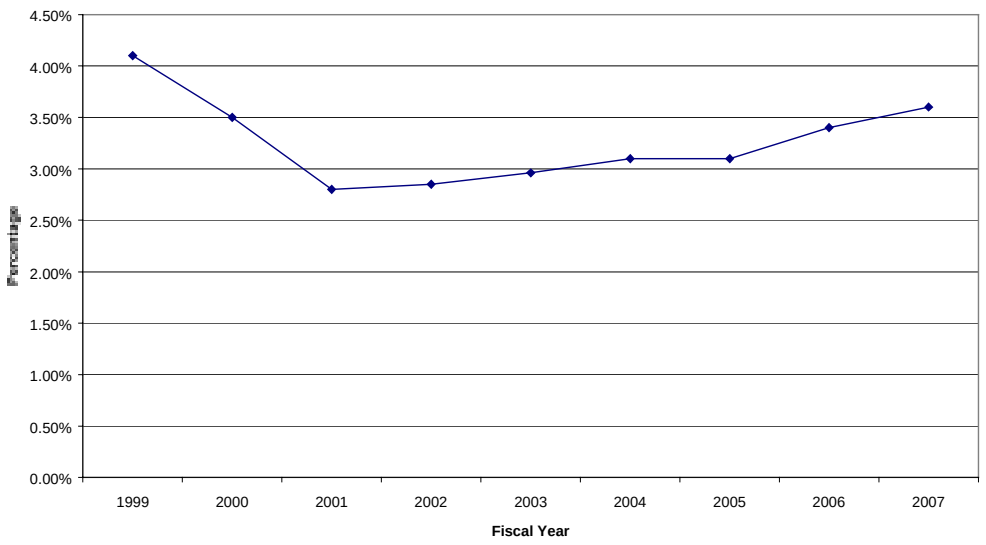
Total DoD Acquisition Workforce Percent Retirement Eligible. Similarly, as the average years of service of the DoD acquisition civilian workforce varies from FY 1999 through FY 2007, the percentage of the acquisition civilian workforce eligible for retirement is projected to increase from 12.4 percent in FY 1999 to 18.1 percent in FY 2005 and then decrease to 17.9 percent in FY 2007, as shown in Figure 11.

Figure 11. Total DoD Acquisition Workforce Percent Retirement Eligible



Total DoD Acquisition Workforce Percent Under Age 31. As the percentage of the DoD acquisition civilian workforce that is eligible for retirement increases and then decreases from FY 1999 through FY 2007, the percentage of the acquisition civilian workforce under age 31 is projected to decrease from 4.1 percent in FY 1999 to 2.9 percent in FY 2002 and then increase to 3.6 percent in FY 2007, as shown in Figure 12.

Figure 12. Total DoD Acquisition Workforce Percent Under Age 31



Section 912(b) Projected Losses for Selected Occupational Series. Using the Section 912(b) definition, the Office of the Under Secretary of Defense has projected the resulting losses for selected occupational series in the current DoD acquisition civilian workforce as the DoD acquisition workforce decreases from FY 1999 through FY 2005. The projected losses exclude new hires from the calculations. By FY 2005, the projected loss of 55,102 as shown in Figure 15 would be about 43 percent of the DoD acquisition civilian workforce of 129,618 shown in Table 4. Figures 13, 14, and 15 show the projected number of losses from the current DoD acquisition civilian workforce by occupational series, projected percentage of losses from the current DoD acquisition workforce by occupational series, and projected cumulative losses from the current DoD acquisition workforce, respectively. The occupational series in the figures are also identified in Appendix G.

Figure 13. Projected Losses from Current Workforce by Occupational Series, FY1999-2005 (Excludes New Hires)

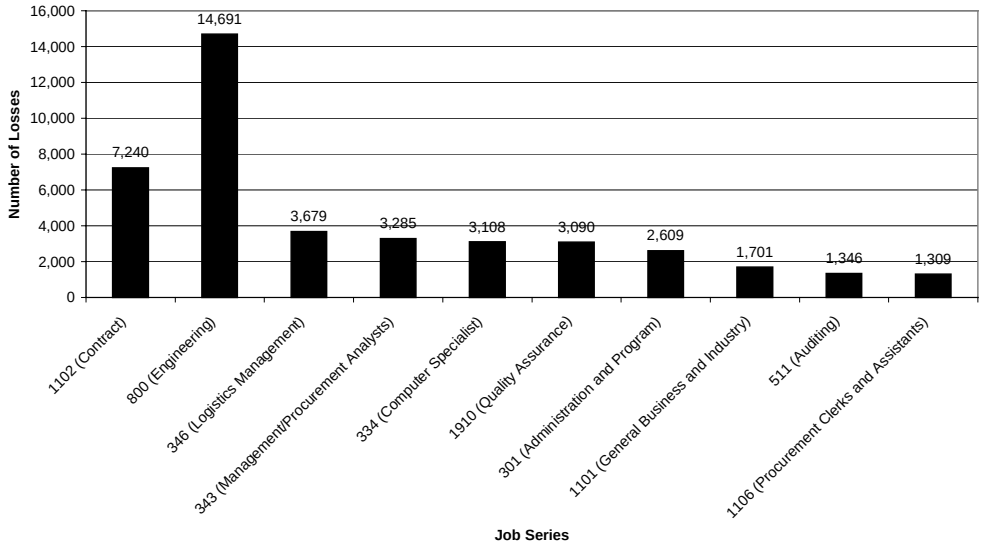


Figure 14. Projected Percent Losses from Current Workforce by Occupational Series, FY1999-2005 (Excludes New Hires)

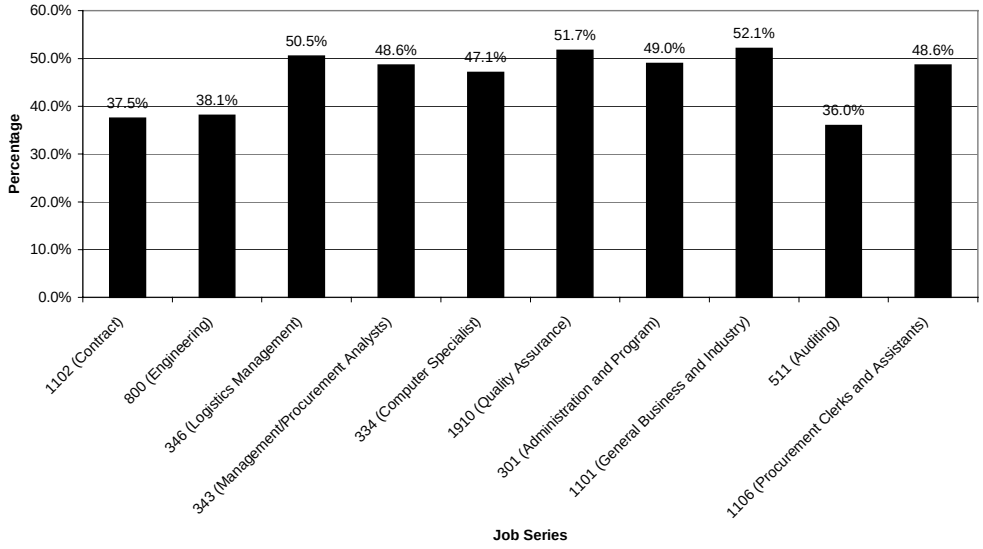
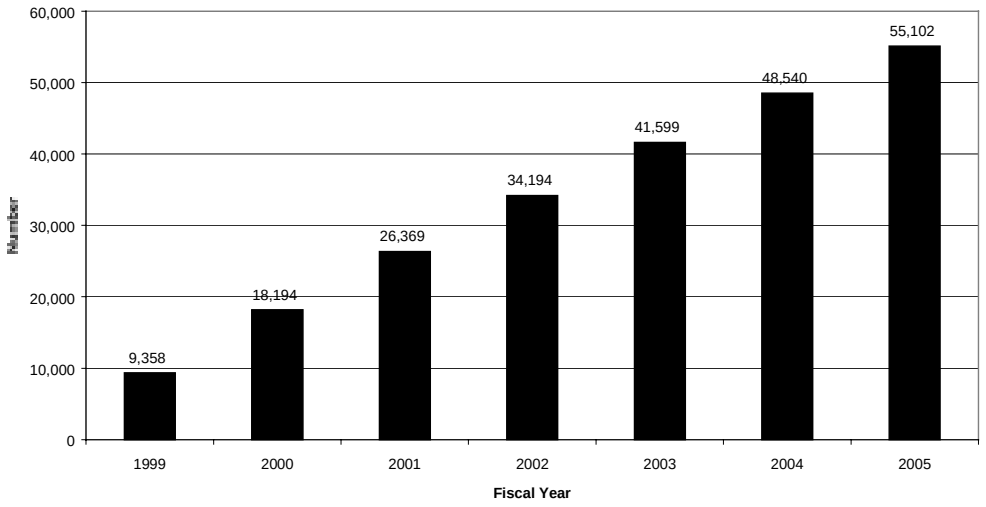


Figure 15. Projected Cumulative Losses from Current Acquistion Workforce by Fiscal Year, FY1999-2005 (Excludes New Hires)



Potential Future Impact of DoD Workforce Reductions

As future reductions in the DoD acquisition workforce occur, the acquisition organizations believe that the reductions will adversely affect the ability of the commands to accomplish their missions. Generally, the acquisition organizations did not have studies or metrics to support their conclusions concerning the future impact of further reductions to the acquisition workforce. We discussed the future impact of DoD acquisition workforce reductions with personnel from 14 of the 21 DoD acquisition organizations listed in DoD Instruction 5000.58. Table 10 shows the primary future effects of DoD acquisition workforce reductions that the 14 DoD acquisition organizations believed they might experience and correlates those effects with the DoD acquisition organizations visited using the letter designations from Table 6.

Table 10. Potential Future Effects of Acquisition Workforce Reductions for the 14 DoD Acquisition Organizations Visited

Potential Future Effect of Workforce Reductions	DoD Acquisition Organizations Visited: OSD	Army	Navy	Air Force	Percent of Occurrence[13]
Impairment of ability to accomplish mission	A B	C D E	H I J K	M	71
Increased administrative and procurement lead times		C D	H K		29
Impairment to workforce morale	A B	C D E	H	M N	57
Increase in backlog of contracts not closed out		C D E			21
Reduction in contract oversight	A	C E	I		29
Increased program costs and contracting for support	A	C D E	H J	M N	57
Reduction in ability to do market research		C			7
Inability to hire and retain employees	A	C E	G H	L N	50

The potential future effects of acquisition workforce reductions for the 14 DoD acquisition organizations visited as shown in Table 10 are summarized below with a more detailed discussion of the effects in Appendix L. Unless noted, the organizations did not provide data to support their comments.

Impairment of Ability to Accomplish Mission. Ten of the 14 DoD acquisition organizations believed that future acquisition workforce reductions would impair their ability to accomplish their missions. One organization indicated that it could not sustain additional workforce reductions without more dollars to hire contractor support; otherwise, mission performance may be impaired. Further, the organization indicated that reductions in authorized positions forced the organization to contract for more system engineering and technical assistance work. In this regard, the organization is concerned that continued congressional reductions to funds for advisory and assistance service contractors will further reduce mission funds and impair the ability to accomplish its mission.

Increased Administrative and Procurement Lead Times. Four of the 14 DoD acquisition organizations stated that future reductions in authorized positions may lead to increasing administrative and procurement lead times. One organization stated that if the workload did not decrease or continues to increase as it has for the last 2 years, the lead time would lengthen to the

[13]Percent of occurrence is the number of organizations that experienced the noted effect divided by 14, the number of DoD acquisition organizations visited.

point where the organization would not be able to effectively award contracts within the time constraints imposed by the budget cycle and not be responsive to the requirements of the active forces.

Impairment to Workforce Morale. Eight of the 14 DoD acquisition organizations stated that pending acquisition workforce reductions and unclear career paths may adversely affect workforce morale. For example, one organization stated that continued actions to reduce the workforce would have a demoralizing impact on the present workforce. The organization stated that some personnel have vocalized reluctance or apprehension to become members of the acquisition workforce if reductions continue. Further, the organization stated that the increased workload and resulting overtime may have an adverse impact on workforce morale.

Increase in Backlog of Contracts Not Closed Out. Three of the 14 DoD acquisition organizations indicated that the workload is not projected to decrease as their acquisition workforce decreases. As a result, they believe that even more contracts will not be closed out in a timely manner. For example, one organization stated that its staff is to be reduced from 678 authorized positions in FY 1999 to 505 authorized positions in FY 2005, which will cause the backlog of delivery complete but not closed-out contracts to increase. The organization also stated that it had over $100 billion in active and delivery completed contracts, as of August 1999, that will have to be closed out, and that it will continue to award about $5 billion annually in new contracts.

Reduction in Contract Oversight. Four of the 14 DoD acquisition organizations believed that less oversight will be placed on contracts for administrative review as the organizations experience more workforce reductions. For example, one organization stated that it would continue to assume greater risk in surveillance areas, such as quality assurance. While some DCMC functions such as contract payment and closeout might be adequately staffed, other contract management functions, such as negotiations, property, termination for convenience, and product inspection, might be inadequately staffed. Further, the organization stated that some of its contractors were concerned about the adequacy of future contract administration, such as inspection of materials, undefinitized contractual actions, contract close outs, and problem resolutions because of acquisition workforce reductions.

Increased Program Costs and Contracting for Support. Eight of the 14 DoD acquisition organizations believed that program costs will increase as the number of DoD employees is reduced and the number of contractor employees is increased. One organization stated that contracting for support services is not a good option because it normally costs more than comparable in-house matrix support, and increases program costs. Further, the organization stated that customers can pay an additional $20,000 to $30,000 per contract work year for production engineering journeyman level support and at least $50,000 per work year extra for a project leader for production engineering. The organization also commented that planning, coordination, direction, and

monitoring of technical management functions cannot be typically delegated to contractor personnel because of the inherently Government nature of these functions.

Reduction in Ability to Do Market Research. One of the 14 DoD acquisition organizations stated that it will not be able to do market research to qualify more vendors for business with the Government if further reductions are made to the acquisition workforce. The organization further stated that, if it incurs further cuts, it will not be able to do market research needed to qualify more missile and aviation spare parts vendors. As a result, the organization believes that the vendor base for missile and aviation spare parts will shrink and prices for those spare parts may increase.

Inability to Hire and Retain Employees. Seven of the 14 DoD acquisition organizations believed that reductions in the acquisition workforce will make it difficult for the organizations to hire and retain young people. The organizations also believed that further acquisition workforce reductions will result in fewer opportunities for promotions and consequently hurt personnel morale. For example, one organization stated that the average age of its workforce is 47 years and that it may lose core competencies, such as general business, industrial, production control, and program management specialists. The organization provided data indicating that 54 percent of its acquisition workforce is eligible to retire by the end of FY 2004. Further, the organization stated that it may be unable to hire sufficient employees to replace retirement eligible employees.

Future DoD Acquisition Workforce

Human Capital. DoD employs a diverse and knowledgeable workforce, its human capital. Before DoD can establish a plan to further reduce its acquisition workforce, it must have a clear understanding of its human capital situation. In September 1999, the General Accounting Office issued a discussion draft report, No. GAO/GGD-99-179, "Human Capital: A Self-Assessment Checklist for Agency Leaders," stating that, to attain the highest level of performance and accountability, Federal agencies depend on people, process, and technology. In addition, the report stated that, "The most important of these is people, because an agency's people define its character and its capacity to perform." The report further states that, during the 1990s, Congress responded to long-standing shortcomings in the way Federal agencies were managed by creating a framework for more businesslike and results-oriented management. The three major areas addressed were financial management, information technology management, and performance-based management. Although legislative consensus on another key concept, strategic human capital management, has yet to emerge, agency heads can still take practical steps to improve their human capital practices. First and foremost, an agency must have a clear and fact-based understanding of its human capital situation by conducting a self-assessment. The report's approach to self-assessment is grounded in two principles:

- investing to enhance the value of individual employees and the agency workforce as a whole; and

- clearly defining and communicating a shared vision, including mission, core values, goals, and strategies, and then aligning components and systems to support the shared vision.

The report outlines a self-assessment checklist, which is to be used to obtain senior management's views of its agency's human capital policies and practices.

Workforce Management Metrics. The only acquisition reform goal and performance measure DoD currently has related to human capital is one that measures how fast the Department can downsize the acquisition workforce. In the reports to the Vice-President's National Reinvention Impact Center, DoD claims credit for exceeding the downsizing goal of 11.1 percent of the acquisition workforce in FY 1999, by achieving a reduction of 13.8 percent. We question whether workforce reduction per se is an appropriate reform goal. Improvements to acquisition practices that eliminate redundant, marginally useful, or overly labor intensive activity may result in opportunities to reduce staff without damaging mission effectiveness. Workforce reductions should not be planned, however, merely to meet what may be arbitrary reduction goals that bear no relationship to performance measurement data.

Future Acquisition and Technology Workforce Requirements. DoD has established a senior steering group, in conjunction with a working group, to describe the performance characteristics and training requirements of the future acquisition and technology workforce and to outline action plans and the requisite documentation, legislation, and other tools to support career paths for transitioning to the DoD acquisition workforce of the 21st century.

Sections 912(c) and (d) of the National Defense Authorization Act for FY 1998 directed the Secretary of Defense to submit to Congress a report containing a plan to streamline the DoD acquisition organizations, workforce, and infrastructure and to conduct a review of the organizations and functions of DoD acquisition activities and of the personnel required to carry out those functions. In the implementation plan submitted to Congress, "Secretary of Defense Report to Congress: Actions to Accelerate the Movement to the New Workforce Vision," April 1, 1998, the Secretary of Defense committed to specific development initiatives to help ensure that the acquisition workforce has the experience and competencies required to accomplish future acquisitions. The Report identified and described an urgent need to re-skill the future workforce to transition from a workforce of doers to a workforce that manages the work of others. To support this urgent need, the Under Secretary of Defense for Acquisition, Technology, and Logistics issued a memorandum, "The Future Acquisition and Technology Workforce," August 25, 1999, directing the establishment of a senior steering group under the direction of the Director, Systems Acquisition, to describe the knowledge, skills, and abilities that the future acquisition workforce will need.

The working group, whose membership includes representatives from the Office of the Secretary of Defense, the Military Departments, and the Defense

Agencies, developed a methodology for translating functions that the workforce will perform into key competencies that will be structured into outlines for career development plans. The working group considered near and far term acquisition workforce issues and was tasked to:

- assimilate projected changes to current acquisition and technology functions and processes to describe required future workforce functions;
- identify knowledge, skills, and abilities required to accomplish acquisition functions and the types of career development actions necessary to support that development;
- identify personnel, manpower, and information management issues that influence the transition of the workforce and the legislative, regulatory, or policy changes needed to support the transition; and
- provide an annotated action plan, including tasks, responsibilities, schedule, milestones, and remaining actions, for professional development and force shaping of the acquisition and technology workforce.

In accomplishing the tasks, the working group examined projected trends in the size and composition of the acquisition and technology workforce as shown in current plans, programs, budgets, end strengths, and workloads; and reviewed emerging procedures for the acquisition of products, systems, and services. In addition, the working group developed a set of 27 universal managerial and leadership competencies for the acquisition and technology workforce. On December 21, 1999, the senior steering group briefed its findings and recommendations to the Under Secretary of Defense for Acquisition, Technology, and Logistics (the Under Secretary). The Under Secretary approved the briefing and recommendations. The senior steering group planned to complete coordination of a final report by March 1, 2000.

Conclusion

In presenting the proposed budget for FY 2001, the President set forth 24 Priority Management Objectives, one of which is to “align Federal human resources to support agency goals.” This is exactly what the DoD needs to do to “right-size” the acquisition workforce. Performing good long-range human resource planning in a dynamic environment is always challenging, and DoD is hampered considerably by the current lack of reliable and uniform data on requirements, performance, and the cumulative or individual impact of acquisition process changes on workload and productivity. It is vitally important that the Department undertake and sustain intensive analytical efforts to acquire a better understanding of the human resources implications of its mission and process changes. The adverse consequence of the acquisition workforce reductions through FY 1999, as well as the prospect of massive losses of experienced personnel in the near future, make it imperative that the likely impact of further cuts be carefully assessed.

Management Comments on the Audit Results and Audit Response

The Deputy Under Secretary of Defense (Acquisition Reform), Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, provided comments on the overall report and selected statements in the Audit Results section of the draft report. His comments and our responses follow. The complete text of those comments is in the Management Comments section of this report.

Management Comments on the Overall Report. The Deputy Under Secretary stated that the report represents a very comprehensive and impressive effort and documented a number of impacts of downsizing the workforce in acquisition organizations. He noted that these impacts are matters of concern, particularly as the workforce at these organizations continues to downsize. He stated that current reform initiatives in the areas of contract closeout, competitive sourcing, priced based acquisitions, and inspection and acceptance will address some of the acquisition organization concerns. In conclusion, he stated that the report analysis, in conjunction with the Section 912(c) Future Acquisition and Technology Workforce Study, should prove to be most helpful in managing the future workforce to ensure that DoD has a high-quality, well-trained workforce for the 21st century. In addition, he emphasized that DoD is refining the Packard Commission methodology to proceed with full implementation of this uniform definition for the DoD acquisition and technology workforce.

Even though the Deputy Under Secretary concurred with the report as a whole, he did not concur with specific statements in the draft report concerning the Price Fighter Program, increased program costs in contracting for technical support, and reduced scrutiny and timeliness in reviewing acquisition actions, as follows.

Management Comments on the Price Fighter Program. The Deputy Under Secretary disagreed with the draft report statement that like-item pricing and parametric analysis are inferior to analysis of cost or pricing data.

Audit Response. We agree that, under certain circumstances, pricing methods based on other than cost data can be an appropriate method of pricing goods and services. However, we determined that the draft report discussion of the Price Fighter Program was not sufficiently relevant to the audit objectives and deleted it entirely from the final version.

Management Comments on Increased Program Costs. The Deputy Under Secretary commented that the draft report did not address the level of expertise acquired from the increase in contracting for technical support. He stated that the rapid pace of the changing technology of DoD products may be a cause for the increase in contracting for technical services rather than just workforce reductions.

Audit Response. While the DoD acquisition organizations visited may have acquired a higher level of expertise than was previously available through

in-house technical support, the senior acquisition officials at those organizations did not indicate that the increase in contracting for technical support was to achieve a higher level of expertise. Instead, they indicated that they contracted for technical support because they did not have the in-house personnel needed to perform technical support in areas such as engineering and logistical analysis.

Management Comments on Reduced Scrutiny and Timeliness. The Deputy Under Secretary commented on the draft report statement concerning the quality of products based on the reduction of Government inspections. He stated that the reduction in Government oversight should not cause the contractor to reduce inspections or to provide poor quality products. Further, he stated that the acquiring of quality products and services is an underlining tenet of acquisition reform that DoD is facilitating through increased use of past performance in contractor selections.

Audit Response. We agree that the reduction in Government oversight should not cause the contractor to reduce inspections or to provide poor quality products; however, this condition is occurring. Senior acquisition officials at one of the acquisition organizations visited commented that some contractors stated that when the organization stopped performing inspections of all products, so did the contractors.

Appendix A. Audit Process

Scope and Methodology

We conducted this audit from July through December 1999 and reviewed documentation dated November 1995 through December 1999. To accomplish the audit objective, we did the following:

- interviewed and provided questionnaires to senior acquisition personnel at 41 commands or offices within 14 of the 21 DoD acquisition organizations;
- discussed the issues relating to DoD acquisition workforce reduction trends and impacts with senior personnel from the 14 DoD acquisition organizations selected for review; however, we did not validate the data provided to us by those personnel;
- determined the DoD acquisition workforce size since FY 1990;
- determined the process for reducing the DoD acquisition workforce;
- determined the current and potential future impacts of reductions to the DoD acquisition workforce;
- discussed the implementation of DoD acquisition reform initiatives with senior personnel from the 14 DoD acquisition organizations selected for review; and
- determined the number and types of transactions that the DoD acquisition workforce has completed since FY 1990.

In accomplishing the objective, we selected and visited the following 14 of the 21 DoD acquisition organizations listed in DoD Instruction 5000.58.

Office of the Secretary of Defense

- Defense Logistics Agency
- Ballistic Missile Defense Organization

Department of the Army

- Army Materiel Command
- Army Space and Missile Defense Command
- Army Acquisition Executive

Department of the Navy

- Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)
- Naval Sea Systems Command
- Naval Supply Systems Command

Department of the Navy (Continued)

- Office of Naval Research
- Space and Naval Warfare Systems Command
- Marine Corps Systems Command

Department of the Air Force

- Office of the Assistant Secretary of the Air Force (Acquisition)
- Air Force Materiel Command
- Air Force Program Executive Organization

Auditing Standards. We conducted this economy and efficiency audit in accordance with standards implemented by the Inspector General, DoD. Our scope was limited in that we did not include tests of management controls.

Use of Computer-Processed Data. To achieve the audit objective, we relied on data from computer-processed contracting reports relating to the procurement of goods and services over $25,000 (DD Form 350) and $25,000 and below (DD Form 1057). The audit did not establish the reliability of the data because the scope was limited to identifying the number of procurement transactions DoD acquisition organizations conducted between FY 1990 and FY 1999. Not establishing the reliability of the data does not materially affect the results of the audit because the results were used for trend analysis purposes.

Use of Technical Assistance. Technical experts from the Operations Research Branch, Quantitative Methods Division of the Audit Followup and Technical Support Directorate; and the Information Technology Services Division of the Information Systems Directorate, Inspector General, DoD, assisted in the audit. The experts assisted in determining the number of procurement transactions DoD acquisition organizations conducted between FY 1990 and FY 1999.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

DoD-Wide Corporate-Level Government Performance and Results Act Goals. In response to the Government Performance and Results Act, the Secretary of Defense annually establishes DoD-wide corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following corporate level goal, subordinate performance goal, and performance measure.

FY 2000 DoD Corporate Level Goal 2: Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **(00-DoD-2)**
FY 2000 Subordinate Performance Goal 2.4: Meet combat forces' needs smarter and faster, with products and services that work better and cost less, by improving the efficiency of the DoD acquisition processes. **(00-DoD-2.4)** **FY 2000 Performance Measure 2.4.6:** Reductions in the Acquisition Workforce (15 percent). **(00-DoD-2.4.6)**

DoD Functional Area Reform Goals. Most major DoD functional areas have also established performance improvement reform objectives and goals. This report pertains to achievement of the following acquisition functional issue area objective and goal.

Objective: Internal Reinvention. **Goal:** Eliminate layers of management by streamlining processes while reducing the DoD acquisition-related workforce by 15 percent. **(ACQ-3.1)**

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in the DoD. This report provides coverage of the Defense Weapons Systems Acquisition high-risk area.

Appendix B. Summary of Prior Coverage

During the last 5 years, the General Accounting Office presented one testimony and issued seven reports that address the DoD acquisition workforce.

- General Accounting Office Report No. NSIAD-99-206 (OSD Case No. 1856), "Best Practices: DoD Training Can Do More to Help Weapon System Programs Implement Best Practices," August 16, 1999.

- General Accounting Office Report No. NSIAD-98-127 (OSD Case No. 1647), "Acquisition Management: Workforce Reductions and Contractor Oversight," July 31, 1998.

- General Accounting Office Report No. NSIAD-98-161 (OSD Case No. 1628), "Defense Acquisition Organizations: Status of Workforce Reductions," June 29, 1998.

- General Accounting Office Report No. NSIAD-98-8 (OSD Case No. 1549), "Defense Depot Maintenance: DoD Shifting More Workload for New Weapon Systems to the Private Sector," March 31, 1998.

- General Accounting Office Report No. NSIAD-98-36R (OSD Case No. 1470), "Defense Acquisition Organizations: Reductions in Civilian and Military Workforce," October 23, 1997.

- General Accounting Office Testimony No. T-NSIAD-97-140,* "Defense Acquisition Organization: Linking Workforce Reductions With Better Program Outcomes," April 8, 1997.

- General Accounting Office Report No. NSIAD-96-102 (OSD Case No. 1091), "Acquisition Management: Fiscal Year 1995 Waivers of Acquisition Workforce Requirements," April 15, 1996.

- General Accounting Office Report No. NSIAD-96-46 (OSD Case No. 1026), "Defense Acquisition Organizations: Changes in Cost and Size of Civilian Workforce," November 13, 1995.

*OSD case numbers are not assigned to testimonies.

Appendix C. DoD Acquisition Organizations

Office of the Secretary of Defense

- Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics
- Defense Logistics Agency
- Strategic Defense Initiative Organization (renamed the Ballistic Missile Defense Organization)
- Special Operations Command Acquisition Center

Department of the Army

- Army Materiel Command
- Army Information Systems Command (disestablished and merged with the Communications-Electronics Command, a subordinate command of the Army Materiel Command)
- Army Strategic Defense Command (renamed the Army Space and Missile Defense Command)
- Army Acquisition Executive

Department of the Navy

- Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)
- Naval Sea Systems Command
- Naval Air Systems Command
- Naval Supply Systems Command
- Naval Facilities Engineering Command
- Office of Naval Research
- Space and Naval Warfare Systems Command
- Navy Strategic Systems Program Office
- Navy Program Executive Officer/Direct Reporting Program Manager Organization
- Marine Corps Research, Development, and Acquisition Command (renamed the Marine Corps Systems Command)

Department of the Air Force

- Office of the Assistant Secretary of the Air Force (Acquisition)
- Air Force Materiel Command (formed by combining the Air Force Systems Command and the Air Force Logistics Command)
- Air Force Program Executive Organization

Appendix D. Definitions of Technical Terms

A-76. The Commercial Activities Program, commonly referred to as the "A-76 Program," is a resource management tool that allows Government managers to compare the relative cost of performing commercial type work using Government employees versus contract services. Office of Management and Budget Circular No. A-76 (Revised), "Performance of Commercial Activities," states that Government policy is to rely generally on private commercial sources for supplies and services if certain criteria are met while recognizing that some functions are inherently Governmental and must be performed by Government personnel. In addition, Government policy is to give appropriate consideration to relative cost in deciding between Government performance and contractors. In comparing the costs of Government and contractor performance, the Circular states that agencies will base the contractor's cost of performance on firm offers.

Acquisition Corps. The acquisition corps is a subset of a DoD Component's acquisition workforce, composed of military officers, lieutenant commander or major and above; and civilian personnel, General Schedule 13 and above, who are acquisition professionals. Each Military Department and all other DoD Components, including OSD and the Defense Agencies, have an acquisition corps.

Acquisition Development Program. An acquisition development program is a directed, funded effort designed to provide a new or improved materiel capability in response to a validated need.

Acquisition Function. An acquisition function is a group of related acquisition workforce activities having a common purpose within the DoD acquisition system. DoD has seven acquisition functions: acquisition management; procurement and contracting; business, cost estimating and financial management; auditing; production; acquisition logistics; and science and engineering.

Acquisition Organization. An acquisition organization is an organization, including its subordinate elements, whose mission includes planning, managing, and executing acquisition programs that are governed by DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs," Change 4, May 11, 1999. Appendix C lists the 21 DoD acquisition organizations.

Acquisition Positions. Acquisition positions include civilian positions and military billets that are in the DoD acquisition system, have acquisition duties, and fall in an acquisition position category established by the Under Secretary of Defense for Acquisition, Technology, and Logistics.

Acquisition Position Categories. Acquisition position categories are functional subsets of acquisition positions. DoD has 14 acquisition position categories: program management; program management oversight; communication-

computer systems; contracting, including contracting for construction; purchasing, including procurement assistant; industrial property management; business, cost estimating, and financial management; auditing; quality assurance; manufacturing and production; acquisition logistics; systems planning, research, development, and engineering; test and evaluation engineering; education, training, and career development.

Acquisition Workforce. The acquisition workforce is the personnel component of the acquisition system. The acquisition workforce includes permanent civilian employees and military members who occupy acquisition positions, are members of an acquisition corps, or are in acquisition development programs.

Algorithm. An algorithm is a procedure for solving a mathematical problem in a finite number of steps that frequently involves repetition of an operation.

Competition Advocate. A competition advocate is a duly appointed Government official whose duties are to promote competition and commercial practices in Government acquisitions.

Contracting Actions. A contracting action includes any written action obligating or deobligating funds in connection with the purchasing, renting, or leasing of supplies, services, or construction. The term does not include grants or cooperative agreements. The term includes, but is not limited to:

- definitive contracts, including notices of award;
- letter contracts;
- purchase orders;
- orders under existing contracts or agreements; and
- contract modifications.

Defense Acquisition and Support Personnel. Defense acquisition and support personnel are military and civilian personnel, excluding civilian personnel employed at a maintenance depot, who are assigned to or employed in DoD acquisition organizations as specified in DoD Instruction 5000.58 and any other organizations that the Secretary of Defense may determine to have a predominantly acquisition mission.

Defense Acquisition Workforce Improvement Act. The Defense Acquisition Workforce Improvement Act (Public Law 101-510) was enacted to improve DoD acquisition by improving the acquisition workforce. The intent of the Defense Acquisition Workforce Improvement Act is to ensure that DoD military and civilian personnel engaged in the DoD acquisition process have the opportunity to achieve the highest standards of professional excellence. The Defense Acquisition Workforce Improvement Act requires the Secretary of Defense to establish policies and procedures for the effective management, including accession, education, training, and career development, of DoD acquisition professionals.

Fourth Estate. Using the Section 912(b) acquisition workforce definition, the Fourth Estate consists of DoD Components, excluding the Military Departments. The Fourth Estate primarily includes acquisition and technology personnel from the Defense Logistics Agency; the Defense Contract Audit Agency; the Defense Information Systems Agency; the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics; and the Ballistic Missile Defense Organization.

Full-Time Equivalent. Full-time equivalent employment is the total number of regular hours worked by employees divided by the number of compensable hours applicable to each fiscal year. Annual leave, sick leave, compensatory time off and other approved leave categories are considered hours worked for purposes of defining full-time equivalent employment.

Market Research. Market research is collecting and analyzing information to be used in developing plans to meet agency needs.

Matrix Support. Matrix support is Government technical and business assistance to a program manager from outside the program management office.

Micro-Purchases. Micro-purchases are supplies or services where the total cost does not exceed $2,500, except in construction where the limit is $2,000. Executive Order 12931 of October 13, 1994, expanded the use of the Government credit card and directed Federal agencies to take maximum advantage of the micro-purchase authority provided in the Federal Acquisition Streamlining Act of 1994 by delegating purchase authority to the offices using the supplies or services purchased.

Other Transactions. Other transactions are instruments other than contracts, grants, or cooperative agreements used to stimulate, support, or acquire research or prototype projects. Other transactions were authorized to reduce barriers to commercial firms in DoD contracting for research, to contribute to a broadening of the technology and industrial base available to DoD, and to foster new relationships and practices with commercial technology and industrial base firms that support national security. Other transactions remove many of the acquisition regulations normally established for contracts or grants, including the Federal Acquisition Regulation, Defense Federal Acquisition Regulation Supplement, and cost accounting principles.

In 1989, Congress enacted section 2371, title 10, United States Code, that authorized the use of other transactions for basic, applied, and advanced research projects. Other transactions are usually issued to a consortium consisting of private companies, not-for-profit agencies, universities, and Government organizations. Other transactions may be used when a standard contract, grant, or cooperative agreement is not feasible or appropriate. The National Defense Authorization Act of FY 1994, Section 845, augmented the other transactions authority and allowed prototype projects directly relevant to weapons or weapon systems to be issued.

Procurement Action Lead Time. Procurement action lead time is the interval in months between the initiation of procurement action and receipt into the supply system of the production model, excluding prototypes, purchased as the result of the procurement action. Procurement action lead time consists of two elements, administrative lead time and production lead time.

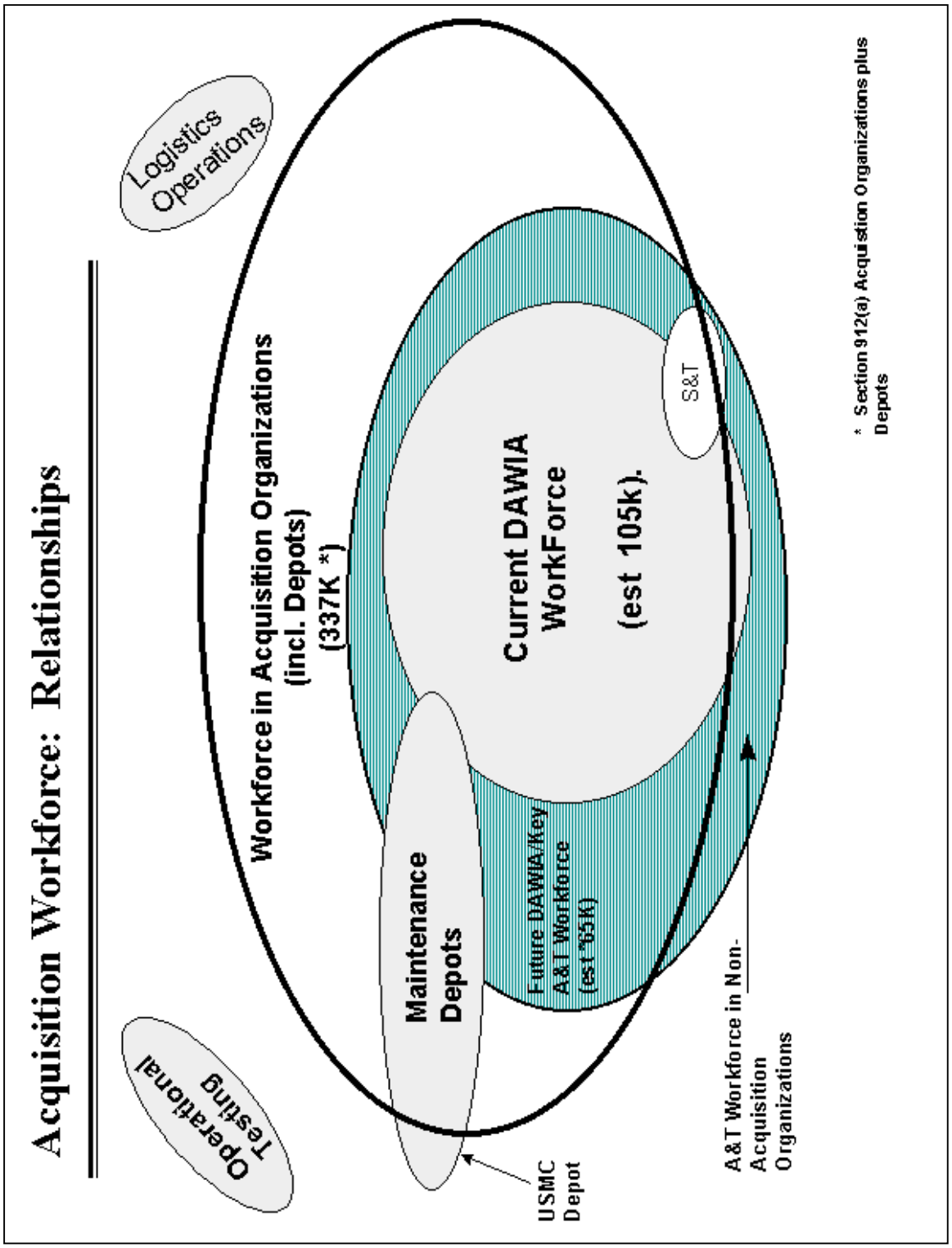
Program Budget Decision. Program budget decisions are Secretary of Defense decision documents that affirm or change dollar amounts or manpower allowances in the Military Departments' budget estimate submissions.

Section 912(a). Section 912(a) of the National Defense Authorization Act for FY 1998 defined the term "Defense acquisition personnel" as the military and civilian personnel, excluding civilian personnel employed at a maintenance depot, who are assigned to or employed in DoD acquisition organizations as specified in DoD Instruction 5000.58.

Section 912(b). Section 912(b) of the National Defense Authorization Act for FY 1998 required DoD to report reductions in the DoD acquisition workforce, define the term Defense acquisition workforce, and apply the term uniformly throughout DoD. On December 18, 1997, the Secretary of Defense informed Congress that beginning October 1, 1998, DoD would uniformly identify members of the acquisition workforce using a methodology that is an update to the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission) approach. The methodology uses occupational and organizational data to identify the workforce. DoD is still refining the Section 912(b) methodology as it proceeds towards full implementation. DoD has ongoing efforts to restructure the acquisition workforce manpower planning, programming, and budgeting to correspond with the Section 912(b) methodology.

Warrant. A warrant is an official document designating an individual as a contracting officer. The warrant usually states the limits of the contracting officer's authority.

Appendix E. Acquisition Workforce Relationships as of November 1998



Appendix F. Section 912(b) Methodology or Refined Packard Commission Approach

This appendix discusses the process for identifying the DoD acquisition workforce using the Section 912(b) methodology, also called the Refined Packard Commission approach. On May 13, 1999, the Under Secretary of Defense for Acquisition and Technology issued a memorandum, "Refined Packard Key Acquisition and Technology Workforce Identification Policy for the Fiscal Year 1999 (FY99)." The memorandum states that, on December 18, 1997, in response to the requirement contained in Section 912(b) of the National Defense Authorization Act for FY 1998, the Secretary of Defense informed Congress that beginning October 1, 1998, members of the acquisition workforce would be uniformly identified. The identification will be based on an updated version of an approach developed by the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission). He also advised Congress that refinements would be made to the acquisition workforce identification model as it proceeds toward implementation.

An Acquisition Workforce Identification Working Group (the Working Group) was formed to facilitate the process across DoD and to make refinements to the model so that the workforce determination would be as consistent and verifiable as possible. The Working Group agreed that two counts would be made to validate the identification methodology using a data baseline of March 31,1998. The Jefferson Solutions' April 1999 Report, "Identification of the Department of Defense Key Acquisition and Technology Workforce," describes the validation methodology and provides the data and analyses for both counts. The Report states that there has been considerable controversy concerning the size and composition of the DoD acquisition workforce. Various definitions have been used to identify this workforce, without consensus. Of the many attempts made to identify those carrying out the acquisition mission, each was subject to significant limitations.

Jefferson Solutions Methodology

In April 1997 testimony to Congress, the Acting Under Secretary of Defense for Acquisition and Technology committed to developing a better means for identifying the DoD acquisition workforce. In May 1997, the Office of the Under Secretary of Defense for Acquisition and Technology contracted with Jefferson Solutions to review alternative ways of identifying this workforce. Jefferson Solutions recommended that the DoD acquisition workforce could best be identified using an updated and modified version of an approach developed by the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission). The Jefferson Solutions' methodology builds on the Packard Commission algorithm of using occupational and organizational data for identifying the workforce. The methodology is detailed in Jefferson Solutions'

September 1997 Report, which identified a total acquisition workforce of 189,158 personnel, including clerical support. The September 1997 Report was based on March 31, 1997, civilian and military personnel data.

In a December 18, 1997 letter, the Secretary of Defense forwarded Jefferson Solutions' September 1997 Report to Congress, stating that beginning October 1, 1998, members of the acquisition workforce would be uniformly identified using the Jefferson Solutions' model. In December 1997, the Working Group was formed to comply with the Secretary's direction to refine the model.

Refinement Process and Associated Counts

From December 1997 through March 1998, the Working Group made numerous adjustments to the model. The Working Group examined acquisition functions within an acquisition lifecycle framework to identify more precisely which occupations and organizations should be included in any workforce count. The Working Group determined that two counts should be conducted to validate the model and to take advantage of lessons learned from the first count. In a April 7, 1998, memorandum, the Under Secretary of Defense for Acquisition and Technology tasked DoD Components to conduct an initial count of their acquisition workforce using March 31, 1998, personnel data. This count afforded the Working Group an opportunity to refine both the occupational and organizational lists used in the workforce identification algorithm. The initial count, as well as all subsequent counts, reflects personnel data, actual civilian and military personnel on board, and not manpower data, as for example, authorized spaces or full time equivalent employees. Appendix I identifies the functions to identify the workforce from a life-cycle, cradle-to-grave perspective.

The DoD Components conducted the initial count from mid-April through early June 1998, and the Working Group compiled and analyzed the data from mid-June through October 1998. The Working Group addressed such issues as whether or not to include the Defense Contract Audit Agency and the Army Corps of Engineers in the workforce and how to deal with science and technology personnel and clerical support. The DoD acquisition workforce for the initial count was 168,678 personnel as shown in Table F-1 by DoD Component.

Table F-1. Section 912(b) DoD Acquisition Workforce Initial Count by DoD Component

DoD Component	Personnel
Department of the Army	43,273
Department of the Navy	55,562
Department of the Air Force	37,892
Defense Agencies	31,951
Total DoD acquisition workforce	**168,678**

One result of the initial count review was to revise the algorithm to count the Science and Technology component of the workforce in a separate category (Category IIB). In addition, the Working Group agreed to change the name of the DoD acquisition workforce to the DoD acquisition and technology workforce to recognize the technical expertise required across DoD to perform the acquisition mission.

The Working Group has made many useful refinements to the identification model during the past year to make the workforce determination as accurate as possible. It also incorporated into the model lessons learned from the initial count. On November 20, 1998, the Under Secretary of Defense for Acquisition and Technology issued a memorandum, tasking the DoD Components to conduct a second count, again using the March 31, 1998, personnel data to validate and baseline the Jefferson Solutions' methodology. The DoD Components are comprised of the Military Departments and the Fourth Estate. The Fourth Estate consists primarily of acquisition and technology personnel from the Defense Logistics Agency; the Defense Contract Audit Agency; the Defense Information Systems Agency; the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics; and the Ballistic Missile Defense Office. The updated methodology represents the FY 1999 Refined Packard algorithm.

The FY 1999 Refined Packard algorithm only counts the key acquisition and technology workforce members, not clerical or support personnel. The following describes its basic elements:

- The model includes three categories of occupations (Appendix G) and two groupings of DoD organizations (Appendix H).
- All occupations listed in Category I are counted across all DoD organizations.
- All occupations listed in Category IIA or IIB are counted whenever they are located in a listed acquisition-related (Group IIA) or science and technology-related (Group IIB) organization.
- All military officers located in Group IIA or IIB organizations are considered part of the workforce.

- Category III is used to add any key acquisition and technology positions not captured above, or to delete any Category II positions that are not applicable. For example, all applicable military enlisted acquisition and technology positions are added to the workforce using this category.

- All previously identified Defense Acquisition Workforce Improvement Act positions not captured above are added to the workforce under Category III.

To conduct the second count, the Working Group devoted most of their time to refining Army; Navy, including Marine Corps; Air Force; Defense Logistics Agency; Defense Contract Audit Agency; and Ballistic Missile Defense Office personnel numbers, which comprised approximately 99 percent of the total DoD acquisition and technology workforce. The second count, as of March 1999, resulted in a civilian and military acquisition and technology workforce of 149,439 as shown in Table F-2 by DoD Component, in Table F-3 by category, and in Table F-4 by occupation.

Table F-2. Section 912(b) DoD Acquisition Workforce Second Count by DoD Component

DoD Component	Personnel
Department of the Army	42,365
Department of the Navy	49,683
Department of the Air Force	33,421
Fourth Estate	23,970
Total DoD acquisition workforce	**149,439**

Table F-3. Section 912(b) DoD Acquisition Workforce Second Count by Category

Category	Personnel
Category I (Civilians)	25,567
Category IIA (Civilians)	85,504
Category IIB (Civilians)	8,789
Category III (Civilians)	13,201
Total Civilians	133,061
Total Military	16,378
Total DoD acquisition workforce	**149,439**

Table F-4. Section 912(b) DoD Acquisition Workforce Second Count by Civilian Occupational and Military Group

Civilian Occupational Group	Personnel
Engineers	44,117
Management	15,509
Contracting	19,387
Communications and Computers	9,370
Financial Management	3,618
Business and Industry	12,989
Scientists	4,476
Administration and Programs	5,116
Auditing	3,692
Procurement Assistant	2,650
Mathematics and Statistics	2,400
Purchasing	2,158
Supply Program Management	1,753
Inventory Management	944
Equipment Specialist	858
General Supply	326
Miscellaneous	3,698
Civilian Total	133,061
Military Group[1]	
Military	16,378
Total	**149,439**

In June 1999, the Working Group ran the algorithm again using September 30, 1998, personnel data to provide the FY 1998 end count as shown in Table F-5 by DoD Component and Table F-6 by occupation. The FY 1998 end count will serve as the FY 1999 starting baseline and will be updated on a regular basis. Table F-6 shows the DoD acquisition workforce under the Section 912(b) definition by civilian occupational and military group.

Table F-5. Section 912(b) DoD Acquisition Workforce Third Count by DoD Component

DoD Component	Personnel
Department of the Army	41,241
Department of the Navy	49,294
Department of the Air Force	31,794
Fourth Estate	23,742
Total DoD acquisition workforce	**146,071**

[1]The Military Group is not broken out by occupation.

Table F-6. Section 912(b) DoD Acquisition Workforce by Third Count by Civilian Occupational and Military Group

Civilian Occupational Group	Personnel
Engineers	41,861
Management	15,541
Contracting	18,777
Communications and Computers	9,240
Financial Management	3,849
Business and Industry	12,265
Scientists	4,480
Administration and Programs	5,051
Auditing	3,584
Mathematics and Statistics	2,618
Purchasing	1,988
Supply Management	1,697
Miscellaneous	8,667
Civilian Total	129,618
Military Group[2]	
Military	16,453
Total	**146,071**

Key Considerations

Some of the key considerations associated with the algorithm are as follows:

- The algorithm counts people, not positions. These numbers are used for personnel management, such as for fulfilling education, training, and career development requirements for the acquisition and technology workforce. These are not manpower numbers and are not to be viewed as the full-time equivalents used for workforce reductions. Moreover, while all of the personnel identified perform acquisition, they do not all perform acquisition all of the time. For example, logistics management personnel are included only if they spend more than half of their time on acquisition matters. Therefore, any reductions related to these numbers would likely affect other functions in the DoD and not just the acquisition mission.

- The Military Departments and the Fourth Estate will have to update their Category III information with FY 1999 data before the Defense Manpower Data Center database for FY 1999 can be used as a baseline.

[2]The Military Group is not broken out by occupation.

- The numbers are only as good as the data in the Defense Manpower Data Center database. Components are responsible for keeping the numbers current for each quarter.

- Past trends are hard to develop due to changes in unit identification codes, which represent key sorting parameters for the organizational component of the algorithm. These codes identify subcomponents of organizations and allow a more precise accounting of the specific activities that are performing acquisition or technology functions.

- Differences in the size for the acquisition and technology workforces of the three Military Departments and the Fourth Estate occur as a result of various factors, such as overall funding levels, use of contracted support, significant organizational differences, and the extent of the organizations' mission. All of these factors should be taken into account in any downsizing assessments.

- Occupational series do not always reflect the actual function being performed by the individuals in them. For example, engineers are not all performing engineering functions. Many are in management positions or are providing technical insight into contractor activities for leading-edge technology procurements. However, those scientists and engineers in Group IIB science and technology organizations are more likely to be performing real science and engineering than other members of the workforce.

- The combination of occupation and organization data offers a good approximation of the type of effort provided to carry out DoD acquisition and technology functions as well as an indicator of the likely training and career management requirements necessary to keep this workforce current.

- Some areas will require further refinement such as fully accounting for Reserve and Guard personnel and possibly counting personnel in classified organizations.

- Ninety-nine percent of the workforce comes from the Military Departments, the Defense Logistics Agency, the Defense Contract Audit Agency, and the Ballistic Missile Defense Organization.

- A review of occupational series 340, program management, for possible shift to Category II will be conducted in the near future for implementation in the FY 2000 Refined Packard algorithm. The Army and the Air Force were in favor of this change after they conducted their final count, but the Navy and the Fourth Estate did not have time to review this change.

- Category III allows the DoD Components to add any applicable key acquisition and technology workforce personnel not previously captured by the model, or to delete any Category II personnel not considered to be key acquisition and technology workforce

personnel. Review of the second count data indicated that over 90 percent of all Category III additions are Defense Acquisition Workforce Improvement Act personnel not captured elsewhere by the model. Furthermore, a very small percentage of all Category III actions are deletes. Additional analysis is planned with a view toward reducing the number of Category III additions and deletions.

- Finally, the count does not identify the contractor workforce used to support the DoD acquisition mission and, as such, does not provide a picture of all the resources available to carry out the DoD acquisition mission.

Conclusion

The Jefferson Solutions' April 1999 Report concluded that even given all of the qualifications provided, the Section 912(b) methodology or Refined Packard Commission approach provides DoD with a consistent and uniform approach for identifying those serving in the DoD acquisition and technology workforce that can be independently verified using the Defense Manpower Data Center database. The methodology also provides significantly greater clarity on the roles played by those serving in the workforce and offers the potential for a much more effective system for managing these DoD staff. The accuracy of the model depends on the data collected and these data are only as good as the DoD Components' databases used in forming the model. If databases are frequently and carefully updated, then the model will be more useful. In addition, as the model proves itself, it should be used to satisfy a variety of DoD needs.

In summary, when fully implemented, the model should provide DoD with an effective, independently verifiable, uniform, DoD-wide system for identifying, managing, and training the key acquisition and technology workforce.

Appendix G. Acquisition Workforce Occupation Categories

This following are the acquisition workforce occupations categories for identifying the DoD acquisition workforce using the Section 912(b) methodology or Refined Packard Commission approach.

Category I Occupations
(Counted across DoD)

Series	Occupation
246 -	Contractor Industrial Relations
340 -	Program Management
1102 -	Contracting
1103 -	Industrial Property Management
1105 -	Purchasing
1150 -	Industrial Specialist

Category IIA Occupations
(Counted in Group IIA organizations[1] only)

Series	Occupation
150 -	Geography
180 -	Psychologist
301 -	Administration and Program Management
334 -	Computer Specialist
343 -	Management/Program Analyst
346 -	Logistics Management
391 -	Telecommunications Specialist
392 -	Communications Specialist
413 -	Physiologist
501 -	Financial Administration
505 -	Financial Management
510 -	Accounting
511 -	Auditing
560 -	Budget Analysis
801 -	General Engineering
806 -	Materials Engineering
810 -	Civil Engineering

[1]Appendix H lists the Group IIA organizations.

Category IIA Occupations
(Continued)

Series	Occupation
818 -	Engineering Drafting
819 -	Environmental Engineering
830 -	Mechanical Engineering
840 -	Nuclear Engineering
850 -	Electrical Engineering
854 -	Computer Engineering
855 -	Electronics Engineering
858 -	Biomedical Engineering
861 -	Aerospace Engineering
871 -	Naval Architecture
873 -	Ship Surveying
880 -	Mining Engineering
881 -	Petroleum Engineering
890 -	Agricultural Engineering
892 -	Ceramic Engineering
893 -	Chemical Engineering
894 -	Welding Engineering
896 -	Industrial Engineering
1021 -	Office Drafting
1101 -	General Business and Industry
1104 -	Property Disposal
1130 -	Public Utilities Specialist
1152 -	Production Control
1160 -	Financial Analysis
1301 -	General Physical Science
1310 -	Physics
1313 -	Geophysics
1315 -	Hydrology
1320 -	Chemistry
1321 -	Metallurgy
1330 -	Space Science
1350 -	Geology
1360 -	Oceanography
1361 -	Navigational Information
1370 -	Cartography
1372 -	Geodesy
1373 -	Land Surveying
1510 -	Actuary
1515 -	Operations Research
1520 -	Mathematics
1529 -	Mathematical Statistician
1530 -	Statistician
1550 -	Computer Science

Category IIA Occupations
(Continued)

Series	Occupation
1910 -	Quality Assurance
2003 -	Supply Program Management
2150 -	Transportation Operations

Category IIB Occupations
(Counted in Group IIB Science and Technology organizations[2] only)

Science and Engineering Occupations at Science and Technology Organizations[3]

Series	Occupation
150 -	Geography
180 -	Psychologist
401 -	General Biological Science
403 -	Microbiology
408 -	Ecology
413 -	Physiologist
414 -	Entomology
430 -	Botany
434 -	Plant Pathology
435 -	Plant Physiology
440 -	Genetics
454 -	Range Conservation
457 -	Soil Conservation
460 -	Forestry
470 -	Soil Science
471 -	Agronomy
480 -	General Fish and Wildlife Administration
482 -	Fishery Biology
486 -	Wildlife Biology
487 -	Animal Science
601 -	General Health Science
602 -	Medical Officer
610 -	Nurse
630 -	Dietitian and Nutritionist
644 -	Medical Technologist

[2]Appendix H lists the Group IIB Science and Technology organizations.

[3]This list may be revised as a result of future counts.

Category IIB Occupations
(Continued)

Series	Occupation
660 -	Pharmacist
662 -	Optometrist
665 -	Speech Pathology and Audiology
690 -	Industrial Hygiene
701 -	Veterinary Medical Science
801 -	General Engineering
803 -	Safety Engineering
804 -	Fire Prevention Engineering
806 -	Materials Engineering
807 -	Landscape Architecture
808 -	Architecture
810 -	Civil Engineering
818 -	Engineering Drafting
819 -	Environmental Engineering
830 -	Mechanical Engineering
840 -	Nuclear Engineering
850 -	Electrical Engineering
854 -	Computer Engineering
855 -	Electronics Engineering
858 -	Biomedical Engineering
861 -	Aerospace Engineering
871 -	Naval Architecture
890 -	Agricultural Engineering
881 -	Petroleum Engineering
892 -	Ceramic Engineering
893 -	Chemical Engineering
894 -	Welding Engineering
896 -	Industrial Engineering
1301 -	General Physical Science
1306 -	Health Physics
1310 -	Physics
1313 -	Geophysics
1315 -	Hydrology
1320 -	Chemistry
1321 -	Metallurgy
1330 -	Space Science
1340 -	Meteorology
1350 -	Geology
1360 -	Oceanography
1370 -	Cartography
1372 -	Geodesy
1373 -	Land Surveying
1380 -	Forest Products Technology
1382 -	Food Technology

Category IIB Occupations
(Continued)

Series	Occupation
1384 -	Textile Technology
1386 -	Photographic Technology
1515 -	Operations Research
1520 -	Mathematics
1529 -	Mathematical Statistician
1530 -	Statistician
1550 -	Computer Science

Category IIB Occupations
(Continued)

Other Occupations at Science and Technology Organizations[4]

Series	Occupation
301 -	Administration and Program
334 -	Computer Specialist
343 -	Management/Program Analyst
346 -	Logistics Management
391 -	Telecommunications Specialist
392 -	Communications Specialist
501 -	Financial Administration
505 -	Financial Management
510 -	Accounting
511 -	Auditing
560 -	Budget Analysis
873 -	Ship Surveying
1021 -	Office Drafting
1101 -	General Business and Industry
1104 -	Property Disposal
1130 -	Public Utilities Specialist
1152 -	Production Control
1160 -	Financial Analyst
1361 -	Navigational Information
1510 -	Actuary
1910 -	Quality Assurance

[4]These occupations are based on other occupations that are part of the acquisition and technology workforce which may or may not be present in science and technology organizations just as they are in the Group IIA list. However, where appropriate, science and technology organizations are to count these individuals and provide them in this secondary science and technology occupational grouping as opposed to adding them to Category III.

Category IIB Occupations
(Continued)

Series	Occupation
2003 -	Supply Program Management
2150 -	Transportation Operations

Category III Occupations
(Counted across DoD)

This category is to be used for:

- Adding military officers and civilian personnel who are not covered by the previous categories (occupations or organizations) that are key acquisition and technology personnel.
- Deleting military officers and civilian personnel from the previous categories (occupations or organizations) that are not key acquisition and technology personnel.
- Adding military enlisted personnel who are key acquisition and technology personnel.
- Adding all Defense Acquisition Workforce Improvement Act military and civilian personnel not covered by the previous categories.

Appendix H. Acquisition Workforce Organization Groups

This following are the acquisition workforce organization groups for identifying the DoD acquisition workforce using the Section 912(b) methodology or Refined Packard Commission approach.

Group IIA Organizations

Office of the Secretary of Defense

- Under Secretary of Defense for Acquisition, Technology, and Logistics
- Defense Logistics Agency
- U.S. Special Operations Command (Special Operations Acquisition Center only)
- Ballistic Missile Defense Office
- Defense Information Systems Agency
- Defense Contract Audit Agency
- TRICARE Support Office

Department of the Army

- Army Acquisition Executive
- Army Materiel Command
- Assistant Secretary of the Army (Acquisition, Logistics, and Technology)
- Army Corps of Engineers
- Army Medical Research and Materiel Command
- Army Space and Missile Defense Command

Department of the Navy

- Naval Air Systems Command
- Naval Supply Systems Command
- Naval Sea Systems Command
- Naval Facilities Engineering Command
- Navy Program Executive Officer/Direct Reporting Program Manager Organization
- Space and Naval Warfare Systems Command

Department of the Navy (Continued)

- Assistant Secretary of the Navy (Research, Development, and Acquisition)
- Marine Corps Systems Command

Department of the Air Force

- Air Force Materiel Command (formed by combining the Air Force Systems Command and the Air Force Logistics Command)
- Assistant Secretary of the Air Force (Acquisition)
- Air Force Program Executive Organization

Group IIB Organizations

Office of the Secretary of Defense

- Defense Advanced Research Projects Agency
- Defense Threat Reduction Agency (Defense Special Weapons Agency)
- Service Warfare Centers

Department of the Army

- Army Research Institute
- Army Research Laboratory
- Army Research Office

Department of the Navy

- Office of Naval Research
- Naval Research Laboratory

Department of the Air Force

- Air Force Office of Scientific Research
- Air Force Research Laboratory

Appendix I. Acquisition and Technology Workforce Functional Description

The Jefferson Solutions' April 1999 Report, "Identification of the Department of Defense Key Acquisition and Technology Workforce," describes the acquisition and technology workforce functions. The report recommends the following functions to help identify the workforce. These recommended functions apply to all DoD organizations.

Functions

Requirements Development, Systems Planning, Research, Development, Testing, Evaluation, and Science and Engineering. Work in these functions is primarily related to acquisition and technology programs, projects, or activities. The primary duties and functions of the scientists and engineers directly or indirectly support acquisition and technology or acquisition-related efforts, especially when found in Group II organizations. This function would also include services, engineering, and construction for facilities and installations. For example, civil engineers at the Naval Facilities Engineering Command and the Army Corps of Engineers would be included, except for deployable troops. However, construction related to civil works should not be considered a defense acquisition or technology function, except for contracting personnel in Category I occupations and engineers with warrants. Within the test function, personnel performing developmental test and evaluation are included in the workforce. However, operational testing is not considered as an acquisition and technology function with respect to the workforce count because in general, personnel performing operational testing are assigned to operational commands as their primary duties support operations, not acquisition and technology.

Program Management. Work performed in program management is primarily related to oversight of programs or management of the DoD acquisition system.

Information Technology. For the purpose of defining the workforce, information technology includes personnel responsible for the technology, acquisition, management, and oversight of equipment used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information.

Industrial and Contract Property Management. Work in this area is related to supporting contractual requirements involving the acquisition, control, management, use, and disposition of Government-owned property provided to contractors. Duties may include performance of pre-award surveys, property management system reviews, and plant clearance operations.

Contracting and Procurement. Work in contracting and procurement involves the procurement of supplies and services; selection of sources; negotiation, administration, and award of contracts; lease of supplies and services; and similar activities.

Production. Work in production involves acquisition-related manufacturing, production, and quality assurance. Acquisition-related manufacturing and production duties involve management of or monitoring the efforts of private sector contractors. Quality assurance includes such duties as evaluating DoD contractor compliance with the technical and quality requirements of acquisition contracts, performing analyses of contractor data, and performing quality engineering.

Contract Auditing. The basic nature of contract auditing makes this area an acquisition function. This functional area is comprised of the contract auditing occupation.

Business, Cost Estimating and Financial Management, and Management and Administration. Work in this function is primarily related to personnel performing work for the listed acquisition and technology functions when, and only when, these type of duties and functions are found in Group II organizations. This area includes, but is not limited to, occupations such as, budget analysis, management analysis, program analysis, general business administration and industry, and mathematics.

Logistics Planning and Management. Work in this area is related to supporting acquisition programs, projects, or activities, either directly or indirectly. The primary duties and functions of such occupations as logistics management specialist and supply program manager found in this area, almost always involve acquisition activities. Exceptions are those personnel that are spending more than 50 percent of their time involved in supporting existing hardware programs or functions that are primarily in a local support, training, or operational logistical support role.

Appendix J. Individual Contracting Action Report (DD Form 350) Categories

With some exceptions, the Individual Contracting Action Report (DD Form 350) is prepared for contracting actions that:

- obligate or deobligate more than $25,000, including actions that DoD executed for purchase of land, or rental or lease of real property, or
- obligate or deobligate $25,000 or less and are in a designated industry group under the Small Business Competitiveness Demonstration Program or are under a very small business set-aside, except for:
  - actions of $500 or less,
  - foreign military sales,
  - orders or modifications under Federal schedules,
  - actions with government agencies,
  - actions with non-U.S. business firms, and
  - actions where the place of performance is other than the United States and its outlying areas.

The contracting actions recorded on the DD Form 350 are for research, development, test, and evaluation; other services and construction; and supplies and equipment. Tables J-1, J-2, and J-3, list those categories and the value of contracting actions for subcategories within those categories for FYs 1990 and 1999 and associated percentage change.

Table J-1. Research, Development, Test, and Evaluation Category

Subcategory	Dollar Value of Contracting Actions (in thousands) FY 1990	FY 1999	Percentage Change
Basic Research	993,809	1,785,497	80
Applied Research	1,813,382	2,254,763	24
Advanced Technology Development	6,462,145	4,732,184	(27)
Demonstration and Validation	8,283,893	4,323,637	(48)
Engineering and Manufacturing Development	3,951,061	5,066,788	28
Management Support	814,621	1,008,743	24
Operational System Development	0	265,756	--
Totals	**22,318,911**	**19,437,368**	**(13)**

Table J-2. Other Services and Construction

Subcategory	Dollar Value of Contracting Actions (in thousands) FY 1990	FY 1999	Percentage Change
Special Studies and Analyses, not including Research and Development	188,737	1,078,118	471
Architect and Engineering Services	1,628,995	1,997,730	23
Automatic Data Processing and Telecommunication Services	1,501,762	4,772,300	218
Purchase of Structures and Facilities	135	962	613
Natural Resources and Conservation Services	213,669	1,399,678	555
Social Services	469,490	47,287	(90)
Quality Control, Testing, and Inspection Services	411,672	504,108	22
Maintenance, Repair, and Rebuilding of Equipment	6,182,103	5,847,410	(5)
Modification of Equipment	1,218,210	960,018	(21)
Technical Representative Services	629,213	721,998	15
Operation of Government-Owned Facilities	2,977,877	1,878,946	(37)
Installation of Equipment	406,944	110,104	(73)
Salvage Services	152,599	141,249	(7)
Medical Services	454,241	3,430,938	655
Professional, Administrative, and Management Support Services	6,268,530	10,280,342	64
Utilities and Housekeeping Services	3,311,776	3,331,379	1
Photographic, Mapping, Printing, and Publication Services	121,410	225,528	86
Educational and Training Services	603,505	711,092	18
Transportation, Travel, and Relocation Services	2,601,268	2,655,087	2
Lease or Rental of Equipment	388,057	238,670	(38)
Lease or Rental of Facilities	199,647	156,178	(22)
Construction of Structures and Facilities	3,472,688	6,162,572	77
Maintenance, Repair, or Alteration of Real Property	3,037,504	5,393,574	78
Totals	**36,440,032**	**52,045,268**	**43**

Table J-3. Supplies and Equipment

Subcategory	Dollar Value of Contracting Actions (in thousands) FY 1990	FY 1999	Percentage Change
Weapons	1,320,657	964,338	(27)
Nuclear Ordnance	29,296	671	(98)
Fire Control Equipment	1,490,216	394,466	(74)
Ammunition and Explosives	3,034,198	1,693,994	(44)
Guided Missiles	7,329,454	3,956,772	(46)
Aircraft and Airframe Structural Components	12,344,805	11,704,977	(5)
Aircraft Components and Accessories	2,518,911	1,906,531	(24)
Aircraft Launching, Landing, and Ground Handling Equipment	166,614	190,155	14
Space Vehicles	804,154	230,897	(71)
Ships, Small Craft, Pontoons, and Floating Docks	4,766,562	3,533,470	(26)
Ship and Marine Equipment	224,498	347,377	55
Railway Equipment	2,280	650	(71)
Ground Effect Vehicles, Motor Vehicles, Trailers, and Cycles	1,778,020	1,682,016	(5)
Tractors	20,773	26,811	29
Vehicular Equipment Components	770,316	510,103	(34)
Tires and Tubes	136,084	90,076	(34)
Engines, Turbines, and Components	4,962,203	3,381,214	(32)
Engine Accessories	427,482	387,886	(9)
Mechanical Power Transmission Equipment	93,811	117,065	25
Bearings	83,534	132,309	58
Woodworking Machinery and Equipment	1,329	940	(29)
Metalworking Machinery	101,286	49,786	(51)
Service and Trade Equipment	13,377	40,724	204
Special Industry Machinery	65,097	94,296	45
Agricultural Machinery and Equipment	3,037	4,003	32
Construction, Mining, Excavating, and Highway Maintenance Equipment	120,551	96,314	(20)
Materials Handling Equipment	259,131	198,253	(23)
Rope, Cable, Chain, and Fittings	22,017	13,909	(37)
Refrigeration, Air Conditioning, and Air Circulating Equipment	83,902	95,186	13
Fire Fighting, Rescue, and Safety Equipment	241,217	112,860	(53)
Pumps and Compressors	120,561	117,768	(2)

Table J-3. Supplies and Equipment (Continued)

Subcategory	Dollar Value of Contracting Actions (in thousands) FY 1990	FY 1999	Percentage Change
Furnace, Steam Plant, and Drying Equipment and Nuclear Reactors	694,074	703,260	1
Plumbing, Heating, and Sanitation Equipment	16,785	21,052	25
Water Purification and Sewage Treatment Equipment	29,093	9,803	(66)
Pipe, Tubing, Hose, and Fittings	64,693	130,903	102
Valves	110,844	125,483	13
Maintenance and Repair Shop Equipment	535,797	297,415	(44)
Hand Tools	19,136	31,609	65
Measuring Tools	7,622	4,239	(44)
Hardware and Abrasives	96,697	101,623	5
Prefabricated Structures and Scaffolding	96,279	81,820	(15)
Lumber, Millwork, Plywood, and Veneer	28,809	19,854	(31)
Construction and Building Materials	49,778	59,978	20
Communication, Detection, and Coherent Radiation Equipment	9,284,660	3,830,883	(59)
Electrical and Electronic Equipment Components	1,296,940	1,816,320	40
Fiber Optics Materials, Components, Assemblies, and Accessories	24,800	17,441	(30)
Electric Wire and Power Distribution Equipment	668,024	507,101	(24)
Lighting Fixtures and Lamps	62,796	27,314	(57)
Alarm, Signal, and Security Detection Systems	48,724	86,218	77
Medical, Dental, and Veterinary Equipment and Supplies	547,214	887,043	62
Instruments and Laboratory Equipment	1,084,379	973,588	(10)
Photographic Equipment	42,297	53,983	28
Chemicals and Chemical Products	115,757	228,636	98
Training Aids and Devices	775,547	598,275	(23)
Automatic Data Processing Equipment, including Firmware, Software, Supplies, and Support Equipment	1,949,833	2,985,713	53
Furniture	220,459	371,463	68
Household and Commercial Furnishings and Appliances	41,874	81,836	95
Food Preparation and Serving Equipment	51,355	29,275	(43)

Table J-3. Supplies and Equipment (Continued)

Subcategory	Dollar Value of Contracting Actions (in thousands) FY 1990	FY 1999	Percentage Change
Office Machines, Text Processing Systems, and Visible Record Equipment	12,709	24,842	95
Office Supplies and Devices	31,070	18,296	(41)
Books, Maps, and Other Publications	133,199	71,832	(46)
Musical Instruments, Phonographs, and Home-Type Radios	1,820	3,143	73
Recreational and Athletic Equipment	9,065	27,973	209
Cleaning Equipment and Supplies	62,497	3,164	(95)
Brushes, Paints, Sealers, and Adhesives	7,750	28,844	272
Containers, Packaging, and Packing Supplies	123,154	121,949	(1)
Textiles, Leather, Furs, Apparel, and Shoe Findings, Tents, and Flags	66,705	89,431	34
Clothing, Individual Equipment, and Insignia	773,513	831,760	8
Toiletries	44,462	2,447	(94)
Agricultural Supplies	12,723	946	(93)
Live Animals	878	333	(62)
Subsistence	1,819,196	1,685,190	(7)
Fuels, Lubricants, Oils, and Waxes	5,163,591	2,627,759	(49)
Nonmetallic Fabricated Materials	40,648	11,419	(72)
Nonmetallic Crude Materials	371	96	(74)
Metal Bars, Sheets, and Shapes	57,181	85,756	50
Ores, Minerals, and Their Primary Products	113,642	2,082	(98)
Miscellaneous	2,225,337	1,759,203	(21)
Totals	**71,999,150**	**53,554,410**	**(26)**

Appendix K. Reform Initiatives

In the past 5 years, DoD has introduced over 40 initiatives to its acquisition workforce to improve the way it does business and to enable the reduced acquisition workforce to accomplish its mission.

Federal Acquisition Streamlining Act of 1994

Cost and Pricing Data. The Federal Acquisition Streamlining Act of 1994 (the Act) streamlines the acquisition process and minimizes Government-unique requirements. The Act increased the threshold for contractors to submit cost or pricing data from $100,000 to $500,000 and adds penalties for defective pricing. The Act also established reviewing the threshold for cost and pricing data based on inflation every fifth year. Further, the Act added a new exception to the requirement for contractors to submit cost or pricing data for commercial items, lowered the approval level for waivers, and prohibited the requirement for acquiring cost or pricing data when the exception applies.

Defense Acquisition Pilot Programs. The Defense Acquisition Pilot Programs (the Pilot Programs) are an integral component of the DoD approach to reform the acquisition process. The Under Secretary of Defense for Acquisition, Technology, and Logistics directed that the five Pilot Programs demonstrate innovative approaches in the use of commercial practices and the acquisition of commercial products. To explore innovative approaches, the Federal Acquisition Streamlining Act of 1994 and the FY 1995 National Defense Authorization Act authorized regulatory and statutory relief for the Pilot Programs.

Multiple Award Task and Delivery Orders. Multiple award contracts occur when two or more contracts are awarded from one solicitation. The Federal Acquisition Streamlining Act of 1994 (the Act) established a general preference for using multiple awards and required that the implementing Federal Acquisition Regulation "establish a preference for awarding, to maximum extent practicable, multiple task or delivery order contracts for the same or similar services or property." The Act mandates use of multiple award contracts for advisory and assistance services contracts exceeding $10 million and 3 years in duration.

Promoting and Streamlining the Use of the Government-Wide Purchase or Credit Card. The General Services Administration awarded the first Government-wide credit card contract in 1989. In 1993, the Vice President's National Performance Review identified the credit card as a major acquisition reform and recommended that all Federal agencies increase use of the card to reduce the red tape normally associated with the Federal procurement process. The Federal Acquisition Streamlining Act of 1994 established $2,500 as the micro-purchase threshold and eliminated most of the procurement restrictions for purchases identified within that threshold. Executive Order 12931, "Federal Procurement Reform," October 13, 1994, directed Federal agencies to expand

the use of credit cards and delegate micro-purchase authority to program officials. In 1995, the Federal Acquisition Regulation designated the credit card as the preferred method to pay for micro-purchases.

Simplified Acquisition Threshold. Executive Order 12931 of October 13, 1994, directed that the simplified acquisition procedures be established and used, to the maximum extent practicable, for procurements under the simplified acquisition threshold to reduce administrative burdens and more effectively support the accomplishment of agency missions. The Federal Acquisition Streamlining Act of 1994 increased the simplified acquisition threshold from $25,000 to $100,000 to streamline the process of making small purchases and to reduce the time needed to make such purchases. The simplified acquisition procedures were established in Part 13 of the Federal Acquisition Regulation for the acquisition of supplies and services, including construction and research and development, the aggregate amount of which does not exceed the simplified acquisition threshold.

Federal Acquisition Reform Act of 1995

Protest Reform. An important issue to the Administration, including DoD, is to reduce the number of bid protests because the protests are highly disruptive to the procurement process. A GAO report on information technology procurements stated that protested procurements take approximately 30 to 40 percent longer to award than contracts that are not protested. Almost 40 percent of the Government's information technology contracts over $25 million are protested. The Administration's protest reform initiatives are intended to improve the efficiency and timeliness of the acquisition process by significantly reducing the number of protests filed, while continuing to safeguard the interests of those unfairly treated in the acquisition process.

Subdivision E of the Clinger-Cohen Act of 1996

Electronic Commerce and Electronic Data Interchange. The Federal Acquisition Streamlining Act of 1994 required DoD to transform the acquisition system from a paperwork process to a process based on electronic data interchange. Electronic data interchange is a technique for electronically transferring and storing formatted information between computers. Electronic commerce and electronic data interchange is the interchange and processing of information via electronic techniques for accomplishing transactions based upon the application of commercial standards and practices.

Modular Contracting. As described in the Clinger-Cohen Act, program managers will use modular contracting for major information technology acquisitions and will consider the use of modular contracting for other acquisition programs. Modular contracting is the use of one or more contracts to acquire information technology systems in successive, interoperable increments.

DoD Reform Initiatives

Advanced Concept Technology Demonstrations. Advanced Concept Technology Demonstrations (the Demonstrations) exploit mature and maturing technologies to solve important military problems. In early 1994, DoD initiated a new program designed help expedite the movement of maturing technologies from the developers to the users. The Demonstrations emphasize technology integration rather than technology development, with the goal to provide the warfighter a prototype capability and support to evaluate that capability. The warfighter evaluates the prototype capability in real military exercises and at a scale sufficient to assess military utility. The Demonstrations are designed to allow warfighters to gain an understanding of proposed new capabilities for which no warfighter experience base exists.

Cost as an Independent Variable (CAIV). CAIV is a strategy that requires program managers to set aggressive, yet realistic cost objectives when defining operational requirements for acquiring Defense systems and managing achievement of these objectives. The cost objectives must balance mission needs with the projected out-year resources, taking into account existing technology, maturation of new technologies, and anticipated process improvements in both DoD and industry. As system performance and cost objectives are decided on the basis of cost-performance trade-offs, program managers are to use the requirements and acquisition processes to make cost more of a constraint, and less of a variable, while nonetheless obtaining the needed military capability of the system. Although much discussion of CAIV is centered on new systems, opportunity always exists for cost reduction in older systems. CAIV principles are applicable throughout a system's life cycle. The key tenets of CAIV are:

- Requirements are stated in terms of capabilities and may be exchanged, substituted, or adjusted for the sake of another.
- Capabilities should be established at the system level and not at lower levels.
- Early and continuous customer and warfighter participation in setting and adjusting program goals throughout the program is imperative.
- Trade space (that is, cost gradient with respect to performance) around the cost objective is encouraged.

Defense Acquisition Deskbook. The Under Secretary of Defense for Acquisition and Technology made the Defense Acquisition Deskbook available to the acquisition community in FY 1996. The Defense Acquisition Deskbook is an electronic knowledge presentation system providing the most current acquisition policy and guidance for all DoD Services and Agencies. The Deskbook's extensive reference material includes information on the various DoD functions, disciplines, activities, and processes beginning with "user" requirements and flowing through concept development, program establishment, contracting, testing, production, sustainment, and ending with disposal.

Earned Value. Earned value is a management technique that relates resource planning to schedules and to technical, cost, and schedules requirements. In 1997, DoD accepted industry guidelines for earned value management systems as a replacement for the Cost/Schedule Control Systems Criteria (the Criteria). DoD had required its contractors to comply with the Criteria for nearly 30 years. In accepting the industry guidelines, DoD encouraged industry to develop a widely accepted industry or international standard that would obviate the need for DoD to maintain its own requirements. The change from the Criteria to earned value management systems is a major change in responsibility from government to industry and supports the "insight, not oversight" philosophy underlying DoD acquisition reform initiatives.

Integrated Product Team. In a memorandum, "Use of Integrated Product and Process Development and Integrated Product Teams in DoD Acquisition," May 10, 1995, the Secretary of Defense directed a fundamental change in the way DoD acquires goods and services. This memorandum directed program managers to establish and use integrated product teams to facilitate the decision-making process. The integrated product teams are to function in a spirit of teamwork with participants from all appropriate functional disciplines empowered and authorized, to the maximum extent possible, to make commitments for the organization or the functional area they represent.

Military Specification and Standard Reform. In the "Mandate for Change," the Secretary of Defense identified one of the roadblocks to change as the use of military specifications and standards. His statement was based on a 1991 report by the Center for Strategic International Studies. The study concluded that military specifications resulted in higher prices for DoD purchases than for commercial alternatives that could meet the same requirements. Based on the study and recommendations from an internal DoD process action team, the Secretary of Defense, on June 29, 1994, directed the Military Departments to use performance and commercial specifications instead of military specifications and standards in developing new weapon systems, unless no practical alternative exists to meet the user's needs.

Open Systems Initiative. The Secretary of Defense emphasized his commitment to use performance and commercial specifications and standards in a June 29, 1994, memorandum, "Specifications & Standards – A New Way of Doing Business." To further the goals set out in that memorandum, the Secretary of Defense directed, on November 22, 1994, that program managers use "open systems" specifications and standards, such as electrical, mechanical, and thermal, for the acquisition of weapon systems electronics to the greatest extent practical. Open system specifications and standards are consensus-based public or nonproprietary specifications and standards for systems and interfaces of hardware, software, tools, and architecture. These systems and subsystems are to be designed, developed, and constructed as open systems during the acquisition and modification process to reduce life-cycle cost and to facilitate effective weapon system intra- and interoperability.

Single Process Initiative. In December 1995, the Secretary of Defense introduced the single process initiative as a means for DoD to start eliminating costly multiple processes within contractor facilities. He directed that the

acquisition community use the integrated product team model to establish a mechanism for making “block changes” to modify the specifications and standards for all existing contracts on a facility-wide basis, rather than on a contract by contract basis. The goal was to consolidate or eliminate multiple management or manufacturing processes and rely on commercial processes as much as possible.

Appendix L. Effects of DoD Acquisition Workforce Reductions

This appendix provides a detailed discussion of the primary effects of the acquisition workforce reductions and the primary improvements associated with the acquisition reform initiatives for the 14 DoD acquisition organizations visited. Unless otherwise noted, the organizations did not provide data to support their comments. See the specific page for the comments from the respective organization.

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Defense Logistics Agency

The following discusses the current and potential future impacts on the Defense Logistics Agency (DLA) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-1 designates a letter for each of the Agency organizations visited. Table L-2 shows the primary current effects of the DoD acquisition workforce reductions that the Agency organizations indicated that they experienced and correlates those effects with the Agency organizations visited. Table L-3 shows the primary improvements associated with the acquisition reform initiatives for the Agency organizations visited. Table L-4 shows the primary future effects of DoD acquisition workforce reductions that the Agency organizations believed they might experience and correlates those effects with the Agency organizations visited using the letter designations from Table L-1. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-1. Letter Designation for Defense Logistics Agency Organizations Visited

Defense Logistics Agency Organizations	Letter Designation
Defense Logistics Agency Headquarters	A
Defense Contract Management Command Headquarters	B
Defense Contract Management Command Philadelphia	C
Defense Supply Center Philadelphia	D

Current Impact

Table L-2. Current Impact of the Acquisition Workforce Reductions for the Defense Logistics Agency Organizations Visited

Current Impact of Acquisition Workforce Reductions	Defense Logistics Agency Organizations
Insufficient staff to manage requirements	A B C D
Reduced scrutiny and timeliness in reviewing acquisition actions	A B C D
Personnel retention difficulty	B C D
Some skill imbalances	A B C D

The primary current impacts of the acquisition workforce reductions for the Agency organizations visited as shown in Table L-1 are discussed below.

Insufficient Staff to Manage Requirements. All four DLA organizations indicated that they have insufficient staff to manage requirements as result of acquisition workforce reductions. DCMC has attempted to accommodate all workforce reductions by implementing acquisition reform initiatives and by

using assessment and risk management practices and other initiatives. However, DCMC stated that an increased risk exists because of continued workforce reductions. For example, many of its customers have expressed concern that the risk is too high. A review of its operations recommended that DCMC significantly increase its engineering and quality assurance presence in plants producing space launch vehicles to reduce program and process risk. DCMC addressed the reduced oversight of contractors as an area of concern in its annual statement of assurance.

Reduced Scrutiny and Timeliness In Reviewing Acquisition Actions. All four DLA organizations stated that they decreased oversight of contractors who historically performed well, and increased oversight of contractors who historically performed marginally. In this regard, DCMC commented that some contractors stated that when DCMC stopped performing inspections of all products, so did the contractors. As a result of the lack of inspections and recent failures with hardware in the Space Program, DCMC is concerned that it may have reduced its quality assurance program too much. Also, DLA stated that customer complaints about the quality of material received has increased; however, it has placed less emphasis on responding to the customer complaints because of acquisition workforce reductions.

Personnel Retention Difficulty. Three of the four DLA organizations stated that retention of personnel is difficult because employees, especially younger individuals, do not see a future in the DoD acquisition workforce; therefore, it is difficult to attract and retain employees. In this regard, DCMCP stated that the lack of promotional opportunities had an adverse affect on morale that resulted in some employees obtaining jobs with private industry. Further, employees were working uncompensated overtime due to workforce reductions and an increased workload.

Some Skill Imbalances. All four DLA organizations stated that at least 78 percent of their workforce was acquisition certified under the Defense Acquisition Workforce Improvement Act; however, workforce skill imbalances existed. Specifically, DCMC stated that it has a shortage of civilian engineers among its activities near California's Silicon Valley because Government engineer salaries are not competitive with the private sector. The Defense Supply Center Philadelphia (DSCP) stated that it needed fewer general facility, equipment, and quality assurance specialists and no longer needed supply catalogue specialists. Consequently, DSCP was retraining those personnel in the overstaffed and unneeded billets.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-3. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Defense Logistics Agency Organizations Visited

Improvement Description	Defense Logistics Agency Organizations			
Improvement in processing transactions of $2,500 or less by using credit cards	A			D
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	A	B	C	D

The primary improvements associated with acquisition reform initiatives identified for the Agency organizations visited as shown in Table L-1 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Two of the four DLA organizations stated that the implementation of the credit card program significantly improved the processing of transactions of $2,500 or less. The credit card program shifted the workload for the small dollar, less complex, procurement actions, from the acquisition workforce to the operational workforce. For example, DLA cardholders numbered 3,529 through the end of FY 1999. However, DLA stated that many of its contractors did not want to be paid by credit card because of the fees that the credit card companies levied.

Improved Efficiency and Economy In Contracting Through The Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). All four DLA organizations stated that they improved business practices and reduced the acquisition workforce as a result of using simplified acquisition procedures. For example, the Defense Contract Management Command (DCMC) stated that it was able to reduce quality assurance and technical billets as a result of using quantitative data analysis instead of strict product inspections. Also, DLA stated that it reduced its surcharge to users from 28.7 percent in FY 1996 to 19.8 percent in FY 1999 by implementing commercial buying practices.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that DLA organizations believed they might experience are listed in Table L-3. The table correlates those effects with DLA organizations visited using the letter designations from Table L-1.

Table L-4. Potential Future Impact of the Acquisition Workforce Reductions for the Defense Logistics Agency Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Defense Logistics Agency Organizations			
Impairment of ability to accomplish mission		B	C	D
Impairment to workforce morale		B	C	D
Reduction in contract oversight	A	B	C	
Increased program costs and contracting for support	A			
Inability to hire and retain employees		B	C	D

The primary potential future impacts of the acquisition workforce reductions for the Agency organizations visited as shown in Table L-1 are discussed below.

Impairment of Ability to Accomplish Mission. Three of the four DLA organizations stated that further reductions in their acquisition workforce would adversely impact their ability to perform their mission. For example, DCMC stated that it would focus on highest risk or statutorily required processes and oversight, and would not be able to fully accomplish lower risk areas.

Impairment to Workforce Morale. Three of the four DLA organizations stated that future workforce reductions may result in lower workforce morale. For example, DCMC stated that the stress of maintaining DoD readiness, sustaining a high operational tempo, and supporting contingency operations is beginning to strain its already reduced workforce.

Reduction In Contract Oversight. Three of four DLA organizations stated that they would reduce oversight of contracts with further reductions in the acquisition workforce. For example, DCMC stated that it would continue to assume greater risk in surveillance areas, such as quality assurance. While some DCMC functions such as contract payment and closeout might be adequately staffed, other contract management functions, such as negotiations, property, termination for convenience, and product inspection, might be inadequately staffed. Further, DCMC stated that some of its contractors were concerned about the adequacy of future contract administration, such as inspection of materials, undefinitized contractual actions, contract close outs, and problem resolutions because of acquisition workforce reductions.

Increased Program Costs and Contracting for Support. One of the four DLA organizations stated that its contractor support is often significantly more costly than using the existing acquisition workforce because the contract support requires expensive up-front training and government leadership. Further, the organization stated that its contractor support personnel find other employment shortly after the organization trains them because of the low unemployment rate in the private sector.

Inability to Hire and Retain Employees. Three of four DLA organizations stated that they will have difficulty attracting and retaining new employees. For example, DSCP stated that it may be unable to hire sufficient employees to replace retirement eligible employees. DSCP will attempt to fill the vacancies

by various methods, such as recruiting through the "Outstanding Scholars" program and using upward mobility job opportunity announcements. Further, DSCP stated that the average age of their workforce is 47 years and that they may lose core competencies, such as general business, industrial, production control, and program management specialists. Data at DSCP indicated that 54 percent of its acquisition workforce is eligible to retire by the end of FY 2004.

Ballistic Missile Defense Organization

The following discusses the current and potential future impacts on the Ballistic Missile Defense Organization (BMDO) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives.

Current Impact

Personnel Retention Difficulty. BMDO stated that personnel retention and the increased workload of the acquisition workforce is a concern. BMDO stated that the reduced job stability and the uncertainty of future workforce reductions has contributed to the migration of the workforce to private industry or other segments of the Government. Further, BMDO stated that the increased workload and resulting overtime was having an adverse impact on the workforce. BMDO stated, "You can see it [the increased workload] in their faces along with the elements of stress." BMDO stated that the increased workload is supported by an increase in overtime and compensatory time, however, much of the overtime is not reported, particularly at the supervisory and management levels.

Some Skill Imbalances. BMDO stated that 72 percent of its acquisition workforce was acquisition certified under the Defense Acquisition Workforce Improvement Act by the end of FY 1999; however, skill imbalances existed. BMDO stated that most Navy personnel were not acquisition certified before assignment to BMDO. Further, BMDO stated that the remainder of its workforce was unable to obtain acquisition certification primarily because of an increase in workloads and the unavailability of classes at the Defense Acquisition University.

Primary Improvements Associated with Acquisition Reform Initiatives

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. BMDO stated that implementation of the credit card program significantly reduced the time between ordering an item and receiving that item. The credit card program shifted the workload from the acquisition workforce to the operational workforce for the small dollar, less complex, procurement actions, such as office supplies. BMDO stated that its cardholders increased from 3 in FY 1996 to 10 in FY 1999.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). BMDO stated that its procurement action lead time was significantly reduced by implementing a simplified process to

accelerate the source selection method. As a result, BMDO was able to reduce its procurement action lead time from 122 days in FY 1997 to 56 days in FY 1999.

Potential Future Impact

Impairment of Ability to Accomplish Mission. BMDO that future reductions in the acquisition workforce would have an adverse impact on fielding ballistic missile defense systems. BMDO stated that, although Congress has allocated over $10 billion for the National Missile Defense System and allocated additional full-time equivalents to support this effort for Government oversight and management of this program, any further reductions would hamper this acquisition program. Additionally, BMDO stated that further reductions would cause a dwindling of potential qualified candidates to fill vacant acquisition positions and largely would impact program management, engineering, and contracting functions.

Impairment to Workforce Morale. BMDO stated that continued actions to reduce the workforce would have a demoralizing impact on the present workforce. BMDO stated that some personnel have vocalized reluctance or apprehension to become members of the acquisition workforce if reductions continue. Additionally, BMDO stated that, based on feedback from "Town Hall" meetings, employees are concerned about the workforce reductions and many feel that they will continue to not have enough time to do a good job. BMDO also stated that the increased workload and resulting overtime may have an adverse impact on workforce morale.

Army Materiel Command

The following discusses the current and potential future impacts on the Army Materiel Command (AMC) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-5 designates a letter for each of the AMC organizations visited. As of December 1999, AMC consisted of eight major subordinate commands, of which we visited the Aviation and Missile Command. Table L-6 shows the primary current effects of the DoD acquisition workforce reductions that the AMC organizations indicated that they experienced and correlates those effects with the AMC organizations visited. Table L-7 shows the primary improvements associated with the acquisition reform initiatives for the AMC organizations visited. Table L-8 shows the primary future effects of DoD acquisition workforce reductions that the AMC organizations believed they might experience and correlates those effects with the AMC organizations visited using the letter designations from Table L-5. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-5. Letter Designation for Army Materiel Command Organizations Visited

Army Materiel Command Organizations	Letter Designation
Army Materiel Command Headquarters	A
Aviation and Missile Command	
Acquisition Center	B
Competition Management Office	C
Integrated Materiel Management Center	D
Research, Development, and Engineering Center[1]	E
Short Range Air Defense Project Office	F

[1]On October 1, 1999, the Army formed the Research, Development, and Engineering Center at the Aviation and Missile Command by combining the Aviation Research, Development, and Engineering Center with the Missile Research, Development, and Engineering Center, both at the Aviation and Missile Command.

Current Impact

Table L-6. Current Impact of the Acquisition Workforce Reductions for the Army Materiel Command Organizations Visited

Current Impact of Acquisition Workforce Reductions	Army Materiel Command Organizations					
Increased backlog in closing out completed contracts	A	B				F
Increased program costs resulting from contracting for technical support versus using in-house technical support	A			D	E	F
Insufficient personnel to fill-in for employees on deployment				D		
Insufficient staff to manage requirements	A	B	C	D	E	F
Reduced scrutiny and timeliness in reviewing acquisition actions		B	C	D	E	
Personnel retention difficulty	A			D	E	F
Some skill imbalances	A			D	E	
Lost opportunities to develop cost savings initiatives					E	

The primary current impacts of the acquisition workforce reductions for the AMC organizations visited, as shown in Table L-5, are discussed below.

Increased Backlog in Closing Out Completed Contracts. Three of the six AMC organizations stated that contract close out is given low priority. According to the Acquisition Center, the value of missile contracts shipped complete but not closed increased from $14 billion to $17 billion between FYs 1995 and 1999, and the total value of aviation contracts shipped complete but not closed as of the end of FY 1999 was $13.8 billion.

Increased Program Costs Resulting from Contracting for Technical Support Versus Using In-House Technical Support. Four of the six AMC organizations stated that staffing shortages caused the Army to contract for technical support at rates higher than for in-house matrix support. For example, the Research, Development, and Engineering Center (RDEC) and the Integrated Materiel Management Center (IMMC) stated that customers requested 141 and 48 more staff years, respectively, of reimbursable support than those organizations could provide in FY 1999. When in-house matrix support is not available from the RDEC and IMMC, they must contract for the support. Contract labor rates are significantly higher per staff year than rates those organizations charged for the same service performed in-house. The RDEC stated that contract labor rates for various types of engineering support services cost an additional $20,000 to $180,000 per staff year and that it contracted for 1,200 contract staff years in FY 1999. The IMMC stated it cost between $70,000 to $85,000 per staff year for in-house field service representative support compared to contracted field service support rates that ranged between $122,000 and $273,000 per staff year. The IMMC stated that it contracted for about 89 staff years of field service support in FY 1999.

Insufficient Personnel to Fill-In for Employees on Deployment. One of the six AMC organizations, the IMMC, stated that contingency deployments to Southwest Asia and Western Europe have taken military reservists from the IMMC for deployments of up to 6 months and that it cannot temporarily replace the deployed personnel with experienced skilled replacements. As a result, the IMMC has less staff and less flexibility to respond to requisition and transportation requests during the contingencies. Further, the IMMC stated that it lacked staffing during the contingencies to support normal operations and to fully staff a 24-hour emergency operations center and logistics operations center.

Insufficient Staff to Manage Requirements. All six AMC organizations stated that staffing was not adequate to manage requirements. For example, the IMMC stated that its staffing was reduced 46 percent from over 500 to under 300 billets in supply career fields from FY 1997 through FY 1999. From FY 1989 through FY 1999, the number of item managers at the IMMC decreased about 51 percent. During FY 1999, its transportation office staff was at 65 percent of authorized strength, which was less than 50 percent of that authorized in prior years. The IMMC stated that weapon system readiness rates were maintained by concentrating on its critical mission to process requisitions and new procurements. Consequently, the IMMC gave little attention to other important supply functions such as:

- reviewing assets beyond requirements objectives for disposal action;
- reducing backlogs in processing Quality Deficiency Reports and Equipment Improvement Reports, estimated in August 1999 to be 1,679 staff hours; and
- processing technical database changes, corrections, and updates to the logistics system to assure asset management requirements determination and maintenance actions are valid and effective to support user and field requirements.

For another example, the Acquisition Center stated that it had to eliminate its dedicated pricing division, its aviation logistics production management group, and many administrative personnel. The Acquisition Center stated that about 80 percent of the value of its contract awards in FY 1998 and FY 1999 were on procurement actions exceeding $1 million, most of them sole source that required intense evaluation, negotiation, and management. To compensate for the reduction in staff, the Acquisition Center had to reassign the work of those individuals to contract specialists. Consequently, the loss of expertise has impacted its:

- efforts to develop price analyses in a timely manner;
- support of the source selection boards, multiple procurement actions, and contractor assessments; and
- ability to provide centralized pickup and storage of technical data and distribution of solicitations, technical data, and contracts.

Reduced Scrutiny and Timeliness in Reviewing Acquisition Actions. Four of the six AMC organizations stated that the level and extent of supervisory review had been reduced and supervisor to employee ratios had increased significantly. For example, the IMMC stated that its supervisor to employee ratio in some cases is as high as 1 to 70. Further, the RDEC stated that it must use contractors as decisionmaking lead system engineers at one of its directorates because it has too few high-grade Government lead engineers. The Acquisition Center stated that it reduced its oversight of the procurement function, increasing the risk that contracting actions were not properly executed.

Personnel Retention Difficulty. Four of the six AMC organizations stated that retention is difficult because employees see advancement opportunities in project offices or private industry. The IMMC and the RDEC also stated that workforce reductions have hurt employee morale. For example, the IMMC stated that personnel cuts have constrained promotional opportunities, and have increased leave usage, complaints, and grievances.

Some Skill Imbalances. Three of the six AMC organizations stated that they have lost smart-buyer expertise and are no more than one deep in many skills. For example, the RDEC stated that it did not have a sufficient number of engineers in software, information technology, simulation, system engineering, missile guidance and control, or aviation airworthiness.

Lost Opportunities to Develop Cost Savings Initiatives. One of the six AMC organizations stated that workforce reductions have reduced its efforts in several high-payoff activities such as parts control and management, modeling and simulation, and value engineering. For example, the RDEC estimated that it lost an opportunity to achieve an estimated $20 million to $50 million in annual value-engineering savings because of cut backs to its value-engineering workshops from 10 or 12 per year to only one in FY 1999.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-7. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Army Materiel Command Organizations Visited

Improvement Description	Army Materiel Command Organizations				
Improvement in processing transactions of $2,500 or less by using credit cards	A	B	C	E	
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	A	B			F

The primary improvements associated with acquisition reform initiatives identified for the AMC organizations visited as shown in Table L-5 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Four of the six AMC organizations commented that credit card program implementation offset some of the impact of workforce reductions. Specifically, they indicated that the credit card program shifted the workload for small dollar value, less complex, procurement actions, from the Acquisition Center to card holders in the Aviation and Missile Command operating units and simplified ordering and expedited receipt of supplies. For example, the Research, Development, and Engineering Center's initial statistics showed that the Center reduced its procurement cycle times from an average of 11 months to 6 weeks for its purchases.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). Three of the six AMC organizations stated that the simplified acquisition threshold and procedures have been beneficial. For example, the Acquisition Center commented that the simplified acquisition procedures have streamlined the purchase of test equipment and other support items and services for Redstone Arsenal tenant organizations.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that AMC organizations believed they might experience are listed in Table L-8. The table correlates those effects with the AMC organizations visited using the letter designations from Table L-5.

Table L-8. Potential Future Impact of the Acquisition Workforce Reductions for the Army Materiel Command Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Army Materiel Command Organizations					
Impairment of ability to accomplish mission	A	B	C	D	E	F
Increased administrative and procurement lead times	A	B		D		
Impairment to workforce morale	A	B	C	D	E	F
Increase in backlog of contracts not closed out	A	B				F
Reduction in contract oversight	A	B			E	
Increased program costs and contracting for support	A			D	E	F
Reduction in ability to do market research			C			
Inability to hire and retain employees	A	B		D	E	

Discussion of the primary potential future impacts of the acquisition workforce reductions for the AMC organizations visited as shown in Table L-5 follow.

Impairment of Ability to Accomplish Mission. All six AMC organizations stated that continued reductions in their staffs will make it increasingly difficult to accomplish their missions. For example, the IMMC believed that it cannot sustain additional reductions without hiring additional contractor support. Without additional contractor support, inventory requirements studies may be backlogged; technical processing time may be lengthened, which may decrease

competition and increase contract costs; foreign military sales support may be severely impacted; updates to field manuals may be delayed; and technology insertion and modifications may be delayed.

Increased Administrative and Procurement Lead Times. Three of the six AMC organizations stated that procurement cycle times have declined as a result of the Army implementing contracting initiatives; however, they anticipate that the procurement cycle times may increase as a result of further acquisition workforce reductions without a corresponding reduction in the workload. For example, AMC has reduced administrative and procurement lead times for spare parts by using flexible long-term contracts, electronic ordering by item managers, direct vendor delivery, and teaming with industry; however, AMC believes that its contracting workload will stay constant or increase in the future and that its contracting staff will take longer to award contracts as the result of further workforce reductions.

Impairment to Workforce Morale. All six AMC organizations stated that morale will suffer because of limited opportunities for career advancement.

Increase in Backlog of Contracts Not Closed Out. Three of the six AMC organizations believed that the backlog of contracts not closed out will increase as a result of workforce reductions. For example, the Acquisition Center stated that its staff is to be reduced from 678 authorized positions in FY 1999 to 505 in FY 2005, which will cause the backlog of delivery complete but not closed-out contracts to increase. The Acquisition Center also stated that it had over $100 billion in active and delivery complete contracts, as of August 1999, that will have to be closed out in the future, and that it will continue to award about $5 billion annually.

Reduction in Contract Oversight. Three of the six AMC organizations stated that reductions in Government personnel have resulted in less oversight of contracts. For example, the RDEC stated that it reduced the amount of time spent reviewing prime contractor designs and relies more on the thoroughness of contractor designs.

Increased Program Costs and Contracting for Support. Four of the six AMC organizations stated that further reductions of authorized positions will lessen their ability to adequately support their customers, even with a higher level of contracting for support services. For example, the RDEC and the IMMC stated that contracting for support services is not a good option because it normally costs more than comparable in-house matrix support, and increases program costs. Further, the RDEC stated that customers can pay an additional $20,000 to $30,000 per contract work year for production engineering journeyman level support and at least $50,000 per work year extra for a project leader for production engineering. The RDEC also commented that planning,

coordination, direction, and monitoring of technical management functions cannot be typically delegated to contractor personnel because of the inherently Government nature of these functions.

Reduction in Ability to Do Market Research. One of the six AMC organizations stated that, if the organization incurs additional cuts, it will not be able to do the market research needed to qualify more missile and aviation spare parts vendors for business with the Aviation and Missile Command. As a result, the organization believes that the vendor base for missile and aviation spare parts will shrink and prices for those spare parts may increase.

Inability to Hire and Retain Employees. Four of the six AMC organizations stated they are in danger of losing core competencies. In addition, three of the AMC organizations stated that the average age of its workforce is over 44 years. For example, the Acquisition Center stated that the average age of its contracting personnel is 47 years and 50 percent of its employees are eligible to retire within the next 3 years. Additionally, the Acquisition Center cannot hire a sufficient number of interns to train to replace retirement eligible contracting employees in the next 4 or 5 years.

Army Space and Missile Defense Command

The following discusses the current and potential future impacts on the Army Space and Missile Defense Command (SMDC) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-9 designates a letter for each of the SMDC organizations visited. Table L-10 shows the primary current effects of the DoD acquisition workforce reductions that the SMDC organizations indicated that they experienced and correlates those effects with the SMDC organizations visited. Table L-11 shows the primary improvements associated with the acquisition reform initiatives for the SMDC organizations visited. Table L-12 shows the primary future effects of DoD acquisition workforce reductions that the SMDC organizations believed they might experience and correlates those effects with the SMDC organizations visited using the letter designations from Table L-9. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-9. Letter Designation for Army Space and Missile Defense Command Organizations Visited

Army Space and Missile Defense Command Organizations	Letter Designation
Acquisition Center	A
Battle Laboratory	B
Contracting and Acquisition Management Office	C
Resource Management Office	D
Strategic Planning and Analysis Office	E

Current Impact

Table L-10. Current Impact of the Acquisition Workforce Reductions for the Army Space and Missile Defense Command Organizations Visited

Current Impact of Acquisition Workforce Reductions	Army Space and Missile Defense Command Organizations
Increased backlog in closing out completed contracts	C
Insufficient staff to manage requirements	A
Reduced scrutiny and timeliness in reviewing acquisition actions	C D

Discussion of the primary current impacts of the acquisition workforce reductions for the five SMDC organizations visited as shown in Table L-9 follows.

Increased Backlog in Closing Out Completed Contracts. One of the five SMDC organizations commented that the backlog of delivery complete but

not closed contracts has increased from 662 contracts as of September 1995, to 795 contracts as of September 1999, because contracting personnel lack the time to close out contracts.

Insufficient Staff to Manage Requirements. One of the five SMDC organizations commented that congressional reductions to funds for advisory and assistance services resulted in a reduction of 6 staff years of system engineering and technical assistance support in FY 1998 and 4 staff years in FY 1999. One of the project offices within the Acquisition Center stated that the reduction in the FY 1998 advisory and assistance services budget resulted in cancellation of several risk reduction activities planned for FY 1998 and prevented it from obtaining radar surveillance and other technical expertise.

Reduced Scrutiny and Timeliness in Reviewing Acquisition Actions. Two of the five SMDC organizations commented that personnel reductions have caused them to scale back quality control functions in the award of contracts and the monitoring of contracts. For example, the Contracting and Acquisition Management Office stated that pre-and post-negotiation clearances and contracting officer approval levels were increased, and that the number of internal procurement management reviews were decreased from four to two per year.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-11. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Army Space and Missile Defense Command Organizations Visited

Improvement Description	Army Space and Missile Defense Command Organizations	
Improvement in processing transactions of $2,500 or less by using credit cards	C	D
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	C	

The primary improvements associated with acquisition reform initiatives identified for the SMDC organizations visited as shown in Table L-9 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Two of the five SMDC organizations stated that the Government credit card program has improved operations considerably.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). One of the five SMDC organizations commented that a change to the simplified acquisition threshold and procedures, along with other initiatives, such as the use of other transaction authority and multiple task order contracts has streamlined the acquisition process and permitted the Contracting and Acquisition Management Office to process significantly more procurement actions in FY 1999 (2,802 actions) with a staff of 60 as compared to FY 1994 (2,182 actions) with a staff of 63.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that the five SMDC organizations believed they might experience are listed in Table L-12. The table correlates those effects with the SMDC organizations visited using the letter designations from Table L-9.

Table L-12. Potential Future Impact of the Acquisition Workforce Reductions for the Army Space and Missile Defense Command Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Army Space and Missile Defense Command Organizations			
Impairment of ability to accomplish mission	A	B		
Increased administrative and procurement lead times			C	
Impairment to workforce morale		B	C	
Increase in backlog of contracts not closed out			C	
Increased program costs and contracting for support				D

Discussion of the primary potential future impacts of the acquisition workforce reductions for the SMDC organizations visited as shown in Table L-9 follows.

Impairment of Ability to Accomplish Mission. Two of the five SMDC organizations commented that future acquisition workforce reductions would impair their ability to accomplish their missions. For example, one of the project offices within the Acquisition Center commented that continued reductions in its advisory and assistance services may cause delays in completing or cancellation of planned acquisition tasks, such as modeling and simulation and system engineering.

Increased Administrative and Procurement Lead Times. One of the five SMDC organizations commented that additional personnel reductions may increase administrative lead times in getting requirements on contract, will slow responses to contractor problems, and will permit less time for personnel to support requirements organizations needing assistance in preparing procurement packages.

Impairment to Workforce Morale. Two of the five SMDC organizations stated that the morale of their acquisition workforce could be hurt because of limited opportunities for promotion and result in reduced productivity.

Increase in Backlog of Contracts Not Closed Out. One of the five SMDC organizations commented that closing out contracts is a low priority. The Contracting and Acquisition Management Office commented that its backlog of delivery complete contracts has grown and that it awards about $1.2 billion a year in new contracts.

Increased Program Costs and Contracting for Support. One of the five SMDC organizations commented that the Program Budget Guidance provides for a planned reduction of 82 civilian positions at SMDC between FYs 1999 and 2003, and more reductions may require additional contracting for support services.

Army Acquisition Executive

The following discusses the current and potential future impacts resulting from the reductions in their acquisition workforce and the primary improvements associated with the acquisition reform initiatives on the five Army Acquisition Executive organizations visited. Table L-13 designates a letter for each of the five Army Acquisition Executive organizations visited. Table L-14 shows the primary current effects of the DoD acquisition workforce reductions that the Army Acquisition Executive organizations indicated that they experienced and correlates those effects with the Army Acquisition Executive organizations visited. Table L-15 shows the primary improvements associated with the acquisition reform initiatives for the Army Acquisition Executive organizations visited. Table L-16 shows the primary future effects of DoD acquisition workforce reductions that the five Army Acquisition Executive organizations believed they might experience and correlates those effects with the Army Acquisition Executive organizations visited using the letter designations from Table L-13. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-13. Letter Designation for Army Acquisition Executive Organizations Visited

Army Acquisition Executive Organizations	Letter Designation
Office of the Deputy Assistant Secretary for Plans, Programs, and Policy	A
Program Executive Officer Aviation	B
Improved Cargo Helicopter Project Office, Office of the Program Executive Officer Aviation	C
Program Executive Officer Tactical Missiles	D
Multiple Launch Rocket System Project Office, Office of Program Executive Officer Tactical Missiles	E

Current Impact

Table L-14. Current Impact of the Acquisition Workforce Reductions for the Army Acquisition Executive Organizations Visited

Current Impact of Acquisition Workforce Reductions	Army Acquisition Executive Organizations
Increased backlog in closing out completed contracts	C
Increased program costs resulting from contracting for technical support versus using in-house technical support	B C D E
Some skill imbalances	B

Discussion of the primary current impacts of the acquisition workforce reductions for the five Army Acquisition Executive organizations visited as shown in Table L-13 follows.

Increased Backlog in Closing Out Completed Contracts. One of the five Army Acquisition Executive organizations commented that, because of DCMC staff reductions, DCMC has experienced delays in closing out 87 delivery complete Improved Cargo Helicopter Program contracts, in some cases in excess of 10 years after final delivery of goods or services. If additional funding is required to close out the old contracts, the Improved Cargo Helicopter Project Office will have to use its current year program funds, which will have a severe impact on its ability to execute its current acquisition program.

Increased Program Costs Resulting from Contracting for Technical Support Versus Using In-House Technical Support. Four of the five Army Acquisition Executive organizations stated that the Integrated Materiel Management Center and the Research, Development, and Engineering Center, both at the Aviation and Missile Command, did not have enough core staff to provide Government matrix engineering and logistics management support to the Offices of the Program Executive Officers for Aviation and Tactical Missiles. Consequently, those Offices acquired engineering and logistics management support services from contractors at rates higher than Government in-house matrix support.

Some Skill Imbalances. One of the five Army Acquisition Executive organizations commented that the Army has traditionally relied on voluntary separations through use of Voluntary Early Retirement Authority or Voluntary Separation Incentive Program to reduce its workforce, which has caused shortages in some core skills and surpluses in other skills in the acquisition workforce.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-15. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Army Acquisition Executive Organizations Visited

Improvement Description	Army Acquisition Executive Organizations	
Improvement in processing transactions of $2,500 or less by using credit cards	B	C
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)		C

The primary improvements associated with acquisition reform initiatives identified for the Army Acquisition Executive organizations visited as shown in Table L-13 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Two of the five Army Acquisition Executive organizations commented that the implementation of the credit card program offset some of the impact of workforce reductions. The Office of the Program Executive Officer Aviation stated that the credit card program has resulted in greater efficiency and responsiveness, eliminating much administrative time and effort. The Improved Cargo Helicopter Project Office stated that the use of Government-wide credit cards has been very effective.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). One of the five Army Acquisition Executive organizations commented that the simplified acquisition thresholds and procedures have reduced its contracting workload.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that the Army Acquisition Executive organizations believed they might experience are in Table L-16. The table correlates those effects with the Army Acquisition Executive organizations visited using the letter designations from Table L-13.

Table L-16. Potential Future Impact of the Acquisition Workforce Reductions for the Army Acquisition Executive Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Army Acquisition Executive Organizations				
Impairment of ability to accomplish mission	A		C		E
Impairment to workforce morale		B	C		E
Increase in backlog of contracts not closed out			C		
Reduction in contract oversight		B		D	E
Increased program costs and contracting for support		B		D	E
Inability to hire and retain employees	A				

Discussion of the primary potential future impacts of the acquisition workforce reductions for the Army Acquisition Executive organizations visited, as shown in Table L-13 follows.

Impairment of Ability to Accomplish Mission. Three of the five Army Acquisition Executive organizations commented that any future cuts may impair their ability to manage their weapon system programs. For example, the Deputy Assistant Secretary for Plans, Programs, and Policy believes that the

Army will not have the core competencies needed to manage its projected weapon system requirements and related acquisition budgets because between FYs1999 and 2005:

- planned reductions will reduce the Army acquisition workforce by 17 percent and
- the Army's projected budgets for research and development and procurement will increase by 35 percent.

Impairment to Workforce Morale. Three of the five Army Acquisition Executive organizations commented that future acquisition workforce reductions may result in lower morale.

Increase in Backlog of Contracts Not Closed Out. One of the five Army Acquisition Executive organizations commented that the backlog of contracts not closed out may continue to grow as a result of future workforce reductions.

Reduction in Contract Oversight. Three of the five Army Acquisition Executive organizations stated that further acquisition workforce reductions may result in less time to review prime and support contractor work products and to monitor the performance of its contractors.

Increased Program Costs and Contracting for Support. Three of the five Army Acquisition Executive organizations commented that Army organizations may have to contract more for technical support as further cuts are made in the core staffs of the program executive office and the Aviation and Missile Command functional organizations.

Inability to hire and retain employees. One of the five Army Acquisition Executive organizations commented that:

- the average age of the Army acquisition workforce[2] is 49 years;
- 60 percent of its acquisition workforce, which includes personnel under the Civil Service Retirement System and Federal Employees Retirement System, will be eligible to retire by FY 2005; and
- the annual number of interns joining its workforce will not be sufficient to replace the retirement eligible employees.

[2]Army Acquisition Executive, Army Materiel Command, and Army Space and Missile Defense Command personnel employed at those organizations, excluding Army depot personnel.

Office of the Assistant Secretary of the Navy (Research, Development, Acquisition)

The Office of the Assistant Secretary of the Navy (Research, Development, and Acquisition) did not provide comments on current or future impacts resulting from acquisition workforce reductions and the primary improvements associated with the acquisition reform initiatives. The Office of the Assistant Secretary recommended that the major commands could more easily provide examples and data to support actual and future impacts resulting from reductions to the Navy's acquisition workforce and the primary improvements associated with the acquisition reform initiatives.

Naval Sea Systems Command

The following discusses the current and potential future impacts on the Naval Sea Systems Command (NAVSEA) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives.

Current Impact

Insufficient Staff to Manage Requirements. NAVSEA stated that acquisition certification is a priority and an essential part of employee growth. However, NAVSEA stated that sending its personnel to training to obtain DoD acquisition certification under the Defense Acquisition Workforce Improvement Act was challenging at times because of reduced staffing.

Personnel Retention Difficulty. NAVSEA stated that several of its best employees and interns have left the organization for positions in private industry and other government agencies because it had only a limited number of vacancies at the higher grade levels.

Increase in Procurement Action Lead Time. The NAVSEA contracts division provided metrics showing a 63 percent increase (67 days) in the procurement action lead time for contracts from FY 1993 through FY 1999. From FY 1995 through FY 1998, the NAVSEA contracts division staff decreased 10 percent and the number of contract actions greater than $25,000 increased 25 percent.

Some Skill Imbalances. The Commander, NAVSEA, implemented the Core Equity[3] Process in June 1998 to identify the changing focus of its organic capabilities. Management is using this process to identify core functions that must be maintained to meet mission needs and to achieve a unified corporate alignment within NAVSEA. The core equity concept dictates what positions continue or decrease.

Primary Improvements Associated with Acquisition Reform Initiatives

Improvement in the processing of transactions of $2,500 or less using credit cards. The NAVSEA contracts division stated that the credit card program has had an negligible impact on their acquisition workforce. The number of credit card transactions has increased significantly, from less than 1,000 in FY 1996

[3]Core equity is a critical capability and the quantity and means to sustain that capability required for the continuing performance of key functions to the Naval Sea Systems Command, Navy, and Joint Missions. Core equity includes skills, facilities, knowledge, and experience.

and FY 1997 to greater than 5,000 transactions in FY 1998 and FY 1999, and the value of those transactions ($2.6 million in FY 1999) amounts to about 0.02 percent of the NAVSEA workload in dollars.

Potential Future Impact

Inability to Hire and Retain Employees. The NAVSEA contracts division stated that it has experienced shortages in its intern program and that the shortages will probably continue in the future. The Navy implemented an intern program in early 1970 to train college graduates for future contracting positions. In 1992, the Defense Acquisition University took over training for DoD. The Navy typically hires an intern at the GS-7 grade level and when the employee has reached the GS-11 grade level, the employee has achieved a level II acquisition certification under the Defense Acquisition Workforce Improvement Act. The Navy centrally funds its intern program and bases the number of interns admitted into the program on projected need. Contracts personnel stated that NAVSEA has experienced higher turnover than programmed and that there are fewer interns in the program than needed to fill available vacancies. Additionally, because opportunities for advancement above the GS-13 level are so limited, interns are leaving before completing the program and graduates are taking positions with private industry and other government agencies. As a result, future vacancies will not get filled leading to shortages in the NAVSEA acquisition workforce.

Naval Supply Systems Command

The following discusses the current and potential future impacts on the Naval Supply Systems Command (NAVSUP) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-17 designates a letter for each of the NAVSUP organizations visited. Table L-18 shows the primary current effects of the DoD acquisition workforce reductions that the NAVSUP organizations indicated that they experienced and correlates those effects with the NAVSUP organizations visited. Table L-19 shows the primary improvements associated with the acquisition reform initiatives for the NAVSUP organizations visited. Table L-20 shows the primary future effects of DoD acquisition workforce reductions that the NAVSUP organizations believed they might experience and correlates those effects with the NAVSUP organizations visited using the letter designations from Table L-17. Following the tables are detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-17. Letter Designation for Naval Supply Systems Command Organizations Visited

Naval Supply Systems Command Organizations	Letter Designation
Naval Supply Systems Command Headquarters	A
Naval Inventory Control Point Mechanicsburg	B
Fleet Industrial Supply Center San Diego	C

Current Impact

Table L-18. Current Impact of the Acquisition Workforce Reductions for the Naval Supply Systems Command Organizations Visited

Current Impact of Acquisition Workforce Reductions	Naval Supply Systems Command Organizations		
Increased program costs resulting from contracting for technical support versus using in-house technical support			C
Insufficient staff to manage requirements		B	
Reduced scrutiny and timeliness in reviewing acquisition actions		B	
Personnel retention difficulty		B	
Some skill imbalances	A	B	C
Lost opportunities to develop cost savings initiatives		B	

The primary current impacts of the acquisition workforce reductions for the NAVSUP organizations visited as shown in Table L-17 are discussed below.

Increased Program Costs Resulting from Contracting for Technical Support Versus Using In-House Technical Support. One of the three NAVSUP organizations stated that it did not have enough core staff to compensate for the reduction in acquisition workforce personnel. Specifically, the Fleet Industrial Supply Center San Diego (the Center) contracted for 3.5 staff-years of support to supplement its administrative and procurement clerk staff. By using contractor support, the Center must spend more funds for that support than it would for comparable Government personnel. The Center is also undergoing several A-76[4] reviews, including reviews of its procurement clerical and assistance personnel. Consequently, the Center may contract for even more of its acquisition workload.

Insufficient Staff to Manage Requirements. One of the three NAVSUP organizations stated that staffing was not adequate to manage requirements. The Naval Inventory Control Point Mechanicsburg (the Control Point) stated that it placed personnel in positions previously held by other personnel or assigned additional duties because of the reductions-in-force. Consequently, the Control Point stated that performance has declined as less experienced personnel are reassigned to new positions where they may require several years of training and experience before they can perform at the same level as the personnel who previously held those positions.

Reduced Scrutiny and Timeliness in Reviewing Acquisition Actions. One of the three NAVSUP organizations stated that personnel reductions resulted in the reduction or elimination of select data integrity reviews. The Naval Inventory Control Point Mechanicsburg (the Control Point) stated that it performed supply and logistics validations on an exception basis only, increasing the risk of using erroneous data to make supply and logistics decisions. For example, the Control Point raised the threshold for performing contract termination reviews from $10,000 to $25,000. The Control Point also stated that the personnel reductions significantly impacted reviews of unliquidated obligations. As a result, the Control Point was not reviewing a large percentage of the unliquidated obligations or was giving the unliquidated obligations cursory reviews. Therefore, the accuracy of the status of the Control Point's ledger documents may be questionable.

Personnel Retention Difficulty. One of the three NAVSUP organizations stated that personnel retention is difficult. Specifically, the Naval Inventory Control Point Mechanicsburg (the Control Point) reported that, in the past few months, several excellent employees with less than 15 years of Federal service voluntarily resigned to pursue private sector opportunities. In the meantime, its workforce continues to age without a balancing influx of new personnel. In addition, the Control Point has spent time and resources to train new employees and lost them to competing industry, which represents an additional cost to the Control Point.

[4]The Commercial Activities Program, commonly referred to as the "A-76 Program," is a resource management tool that allows Government managers to compare and make decisions concerning the relative cost of performing commercial activity type work using Government employees versus using contract services.

Some Skill Imbalances. All three NAVSUP organizations stated that skill imbalances exist. For example, NAVSUP identified skill imbalances. NAVSUP was addressing this issue through a strategic plan that includes a data call to define the workforce for the next generation. The plan addresses skill imbalances, staffing, and diversity issues that could impact NAVSUP in meeting its mission. At the Fleet Industrial Supply Center San Diego, the role of the contracting officials has changed more to that of a business manager. As a result, the contracting officers are in need of additional training in some areas, including market research.

Lost Opportunities to Develop Cost Savings Initiatives. One of the three NAVSUP organizations stated that it had difficulty supporting new initiatives such as direct vendor deliveries and contractor logistics support because of reductions to the acquisition workforce. Further, the organization, the Naval Inventory Control Point Mechanicsburg, stopped performing various functions and outsourced some functions to the Defense Finance and Accounting Service and the Defense Information Systems Agency after the functions were regionalized, resulting in increased costs.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-19. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Naval Supply Systems Command Organizations Visited

Improvement Description	Naval Supply Systems Command Organizations
Improvement in processing transactions of $2,500 or less by using credit cards	A B C
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	A B C

The primary improvements associated with acquisition reform initiatives identified for the NAVSUP organizations visited as shown in Table L-17 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. All three NAVSUP organizations commented that the implementation of the credit card program (the program) was successful. For example, NAVSUP Headquarters reported that its program shifted micro-purchase responsibility to the end user, freeing acquisition personnel to concentrate on more complex purchases. However, reconciling the credit card statements is an additional workload on the personnel using the credit cards. The program also eliminated some of the need for procurement assistance and allowed NAVSUP to meet existing mandatory reductions in the acquisition workforce by reducing their purchasing employees.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). All three NAVSUP organizations stated that the simplified acquisition procedures have improved efficiency and economy in contracting. For example, NAVSUP Headquarters (the Headquarters) reported that the acquisition reform initiatives, including simplified acquisition procedures, resulted in a more efficient Headquarters workforce by streamlining its processing of requirements documents and by enabling it to obtain goods and services at a better price, more quickly, and without any degradation in quality. Another example, the Fleet Industrial Supply Center San Diego empowered its lower level employees to review contracts that were once reviewed by a contract review board because of the acquisition reform initiatives.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that the NAVSUP organizations believed they might experience are listed in Table L-20. The table correlates those effects with the three NAVSUP organizations visited using the letter designations from Table L-17.

Table L-20. Potential Future Impact of the Acquisition Workforce Reductions for the Naval Supply Systems Command Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Naval Supply Systems Command Organizations		
Impairment of ability to accomplish mission		B	C
Increased administrative and procurement lead times		B	C
Impairment to workforce morale		B	
Increased program costs and contracting for support			C
Inability to hire and retain employees	A	B	C

Discussion of the primary potential future impacts of the acquisition workforce reductions for the three NAVSUP organizations visited as shown in Table L-17 follows.

Impairment of Ability to Accomplish Mission. Two of the three NAVSUP organizations stated that they have generally been able to cope with reductions without degradation to mission so far; however, they are concerned that further workforce reductions will generate significant impacts to the level of support provided to their customers. The Fleet Industrial Supply Center San Diego believed that customer satisfaction will decline and that contract close outs will become a lower priority as a result of future workforce reductions.

Increased Administrative and Procurement Lead Times. Two of the three NAVSUP organizations stated that procurement lead times declined as a result of contracting initiatives; however, they anticipate that the procurement lead times may increase as a result of further acquisition workforce reductions without a corresponding reduction in the workload. In this regard, the Naval

Inventory Control Point Mechanicsburg stated that acquisition and contract management functions such as acquisition lead time and procurement acquisition lead time may increase with further reductions in personnel.

Impairment to Workforce Morale. One of the three NAVSUP organizations visited stated that downsizing has been exceptionally detrimental to morale and productivity, especially when the budget reductions were made without specific explanations or across the board. The Naval Inventory Control Point Mechanicsburg (the Control Point) stated that personnel were very concerned with future employment and careers and dwelled on this thought, causing a considerable loss in morale and productivity. The Control Point also stated that the negative consequences can be seen as some highly trained personnel voluntarily leave the workforce because of fear of losing their job, causing a loss of corporate knowledge.

Increased Program Costs and Contracting for Support. One of the three NAVSUP organizations stated that additional reductions in the workforce accompanied by A-76 studies could lead to more work being contracted to support contractors. Specifically, the Fleet Industrial Supply Center San Diego (the Center) has over 70 percent of its workforce undergoing A-76 reviews. Although the Center's acquisition workforce may not be affected because of the inherently governmental nature of the contracting function, the procurement clerical and assistance series workforce was being reviewed as part of the A-76 reviews and could be contracted to support contractors.

Inability to Hire and Retain Employees. All three NAVSUP organizations stated that they had trouble retaining employees because of the large number of personnel eligible for retirement. The average age of the Naval Inventory Control Point Mechanicsburg (the Control Point) workforce is 47 years. By FY 2005, over 30 percent of the Control Point employees will be eligible for full retirement and nearly 78 percent for early retirement. A similar condition is true at NAVSUP Headquarters. At the Fleet Industrial Supply Center San Diego, the average age reported of the acquisition workforce was 48 years, with 19 percent eligible for retirement, and an additional 16 percent eligible for early retirement in FY 2000. The Control Point is subject to another personnel reduction and the potential of this event has had a definite negative impact on its ability to retain quality personnel.

Office of Naval Research

The following discusses current and potential future impacts on the Office of Naval Research (ONR) resulting from the reductions in its acquisition workforce and the primary improvement associated with the acquisition reform initiatives.

Current Impact

Increased Program Costs Resulting from Contracting Out for Technical Support Versus Using In-House Technical Support. ONR has contracted out several support functions. Unable to recruit, hire and retain qualified information technology staff within the authorized grade structure, ONR has contracted out the majority of its information technology program. Further, ONR outsourced its Acquisition Department's contract file room support, Public Affairs Office support functions, and some employee development support functions within the Human Resources Office. ONR stated that those outsourced functions generally did not result in reduced costs; however, the quality of the support service improved. In addition, the ONR Comptroller Department used contractor support to conduct unmatched disbursements research. Using a mixture of in-house and contract resources, ONR has been able to reduce unmatched disbursements for commercial work from $183 million to $5 million.

Insufficient Staff to Manage Requirements. ONR invested in extensive reengineering efforts and initiated a wide-reaching effort to automate the acquisition process in an effort to counteract anticipated downsizing. These reengineering efforts have streamlined both acquisition and financial management processes, have expanded its electronic data interchange and electronic funds transfer programs, and reduced procurement action lead time, without adversely impacting its support to science and technology customers. ONR stated that the most adverse impact of the acquisition workforce reductions has been to its field administration organizations where the workload has risen 222 percent since FY 1990, while staffing at those organizations decreased by 31 percent.

Primary Improvement Associated with Acquisition Reform Initiatives

Improvement in the processing of transactions of $2,500 or less using credit cards. For ONR headquarters, the major impact derived from the credit card program has been increased flexibility and convenience when making small purchases and when paying for peripheral items such as subscriptions and training. ONR is also looking at other opportunities for card use, including printing and payment for patent fees.

Potential Future Impact

Impairment of Ability to Accomplish Mission. If confronted with additional workforce reductions, ONR stated that it would examine opportunities to shift non-ONR workload elsewhere. Current ONR policy is to only accept work from external organizations that can be leveraged to support ongoing science and technology efforts. Further, ONR stated that additional downsizing would force it to curtail or terminate services not specifically mandated by statute or higher authority that it provided to outside customers.

Reduction in Contract Oversight. ONR stated that it conducted a review in FY 1998 of functions that might be reduced, eliminated, or shifted elsewhere as the result of future workforce reductions. ONR stated that the review showed that its service and oversight would decrease and that field administrative staff would not be able to conduct as many contractor purchasing system reviews[5] and reviews of contractor property control systems[6] as mandated by the Federal Acquisition Regulation.

[5]Federal Acquisition Regulation, subpart 44.3, defines the objective of a contractor purchasing system review as an evaluation of the efficiency and effectiveness that a contractor spends Government funds and complies with Government policy when subcontracting. The review also provides the basis for granting, withholding, or withdrawing approval of the contractor's purchasing system.

[6]Federal Acquisition Regulation, subpart 45.104, requires the contracting officer or the representative assigned the responsibility as property administrator to review contractors' property control systems to ensure compliance with the Government property clauses of the contract. Subpart 5.5 outlines the minimum requirements contractors must meet in establishing and maintaining control over Government property.

Space and Naval Warfare Systems Command

The following discusses the current and potential future impacts on the Space and Naval Warfare Systems Command (SPAWAR) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives.

Current Impact

Increased Program Costs Resulting from Contracting for Technical Support Versus Using In-House Technical Support. SPAWAR stated it has had to use contractor support because of acquisition workforce reductions. However, the use of contractor support has not resulted in savings.

Insufficient Staff to Manage Requirements. SPAWAR stated that workforce reductions have:

- increased employee workloads and negatively affected employee morale;
- resulted in program managers supervising multiple programs, thereby negatively impacting program management functions; and
- resulted in an inability of the Command to focus on future technologies and the integration of these technologies.

Further, SPAWAR stated that constant travel back and forth to Washington, D.C., impacted its ability to manage requirements. As a result, SPAWAR was not as productive as it could be because at any given time about one-third of SPAWAR personnel was on some type of travel. For example, the SPAWAR Commander spent 42.4 percent of his time at SPAWAR and 34.5 percent of his time in Washington, D.C., for the period March 16, 1998, to October 23, 1998.

Some Skill Imbalances. SPAWAR stated that it has a contractor performing a study to determine how SPAWAR should be structured and what kind of workforce it will need in the future. SPAWAR will use the report to manage its current workforce skill mixture and to make decisions on outsourcing to compensate for workforce skill imbalances. Further, SPAWAR stated that reductions in the workforce and increases in the workload have negatively impacted its ability to meet the training requirements for its acquisition personnel by negating the availability of personnel for training.

Primary Improvements Associated with Acquisition Reform Initiatives

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. SPAWAR stated that implementation of the credit card program

significantly reduced the time between ordering an item and receiving that item for the user. The credit card program shifted the workload from the acquisition workforce to the operational workforce for the small dollar, less complex, procurement actions, such as office supplies.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). SPAWAR stated that its procurement administrative lead time was significantly reduced by implementing acquisition reform initiatives to accelerate the contracting process. SPAWAR used acquisition reform initiatives that included buying commercial items, as applicable; draft requests for proposals; and one-on-one meetings with industry. As a result, SPAWAR reduced its procurement action lead time for competitive procurements by 49 percent and for sole source procurements by 38 percent since FY 1996.

Potential Future Impact

Impairment of Ability to Accomplish Mission. SPAWAR stated that future acquisition workforce reductions may make its programs unmanageable, preclude execution, and impair the proper performance of some essential functions because program offices are already minimally staffed.

Increased Program Costs and Contracting for Support. SPAWAR stated that it planned to increase the outsourcing of work that is not inherently governmental. Specifically, SPAWAR stated that by outsourcing work, such as engineering, it can maintain a constant workload for its workforce as its workforce is reduced.

More Streamlined and Efficient Contracting Processes. SPAWAR was in the process of consolidating over 50 support contracts. SPAWAR had several plans for reducing acquisition cycle times, including corporate contracting, a standard procurement system, paperless acquisition, a procurement performance management assessment program, and an expanded business opportunities web page. Streamlining the corporate contracting process should reduce the number of contracts, the duplication of contracts, administration and acquisition lead time, management oversight, operating costs, and stovepipe or stand-alone operations.

Marine Corps Systems Command

The following discusses the current and potential future impacts on the Marine Corps Systems Command (MCSC) resulting from the reductions in its acquisition workforce.

Current Impact

Increased Program Costs Resulting From Contracting for Technical Support Versus Using In-House Technical Support. MCSC obtained contractor support because it lacked in-house technical support in logistics management, administration and program, computer specialists, and general engineer skill categories. MCSC stated that it could not claim any overall savings because the contractor cost to perform the work always exceeded the budget given to perform the work.

Insufficient Staff to Manage Requirements. The MCSC Program Manager for Transportation and Engineering Systems stated that his personnel authorization had decreased by 40 percent since FY 1995. As a result, the Program Manager had to rely on a support contractor to complete acquisition documentation that would normally be completed by Government personnel. The support contractor also completed all presentation material and acquisition documentation to include analysis of alternatives and life-cycle cost estimates. MCSC stated that it employed contractor support to resolve unliquidated obligations because of acquisition workforce reductions.

Potential Future Impact

Impairment of Ability to Accomplish Mission. The MCSC program managers stated that, if any additional workforce reductions occur, they would resort to greater use of contractors, restructure of programs to accommodate workforce levels, and request program cancellations to permit successful execution of a reduced number of programs.

Increase in Procurement Action Lead Time. MCSC stated that if the workload did not decrease or continues to increase, as it has for the last two years, the lead time would lengthen to the point where it would neither be able to effectively award contracts within the time constraints imposed by the budget cycle nor be responsive to the requirements of the active forces.

Office of the Assistant Secretary of the Air Force (Acquisition)

The following discusses the current and potential future impacts on the Office of the Assistant Secretary of the Air Force (Acquisition) (the Office) resulting from the reductions in the Air Force acquisition workforce and the primary improvement associated with the acquisition reform initiatives.

Current Impact

Some Skill Imbalances. The Office concluded that the Air Force had generally done a good job managing the acquisition workforce reductions. However, the attrition method that the Air Force used to meet the congressionally mandated acquisition workforce goals contributed to some mismatch between acquisition workforce's skills and the skills that the Air Force needed its acquisition workforce to possess. The attrition method also distorted hiring patterns during the workforce downsizing that contributed to the creation of a workforce with high-average years of service and an increasing percentage of the workforce eligible for retirement. The Air Force was studying these trends; however, future acquisition workforce reductions may have to be accomplished with targeted reductions-in-force to prevent further workforce skill imbalances caused by attrition-based workforce reductions. The Office emphasized that the aging workforce may create a critical lack of skills and experience during the next 5 years.

Primary Improvement Associated with Acquisition Reform Initiatives

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). The Office stated that the simplified acquisition procedures had significantly reduced the time required for the program offices to accomplish source selections that met the Federal Acquisition Regulation criteria. The simplified acquisition procedures facilitated the Air Force's adjustment to directed reductions in its acquisition workforce.

Potential Future Impact

Inability to Hire and Retain Employees. The Air Force is studying the issue of a workforce with high average years of service and high retirement eligibility to identify adverse trends, such as an increase in workforce skill imbalances and the further reduction in opportunities to hire younger employees with needed skills.

Air Force Materiel Command

The following discusses the current and potential future impacts on the Air Force Materiel Command (AFMC) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-21 designates a letter for each of the AFMC organizations visited. Table L-22 shows the primary current effects of the DoD acquisition workforce reductions that the AFMC organizations indicated that they experienced and correlates those effects with the AFMC organizations visited. Table L-23 shows the primary improvements associated with the acquisition reform initiatives for the AFMC organizations visited. Table L-24 shows the primary future effects of DoD acquisition workforce reductions that the AFMC organizations believed they might experience and correlates those effects with the AFMC organizations visited using the letter designations from Table L-16. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-21. Letter Designation for Air Force Materiel Command Organizations Visited

Air Force Materiel Command Organizations	Letter Designation
Air Force Materiel Command Headquarters	A
Aeronautical Systems Center	B
Oklahoma City Air Logistics Center	C
Reconnaissance System Program Office	D
Training Systems Product Group	E
Subsystem Systems Program Office	F

Current Impact

Table L-22. Current Impact of the Acquisition Workforce Reductions for the Air Force Materiel Command Organizations Visited

Current Impact of Acquisition Workforce Reductions	Air Force Materiel Command Organizations				
Increased program costs resulting from contracting for technical support versus using in-house technical support		B	C		
Personnel retention difficulty	A		C		
Some skill imbalances	A	B			F

Discussion of the primary current impacts of the acquisition workforce reductions for the AFMC organizations visited as shown in Table L-21 follows.

Increased Program Costs Resulting from Contracting for Technical Support versus Using In-House Technical Support. Two of the six AFMC organizations stated that staffing shortages caused them to contract for specialized workers. Generally, the AFMC organizations were satisfied with the contract worker support they received. Opinions, as to the cost impact of contractor provided workers, were varied. Contract workers were thought to be more costly on a program basis but less costly when evaluated from an overall Government career and retirement cost perspective. The AFMC organizations did not provide any cost comparisons between in-house and contractor provided workers. With some types of skills, such as cost analyst, the organizations preferred Government estimators because of the specific program expertise they gained over time, which was useful to the organization. However, the organizations stated that they had no preference between using Government and contractor workers for most other skills.

Personnel Retention Difficulty. Two of the six AFMC organizations indicated that they experienced or will experience retention problems. The AFMC Headquarters stated that retention of some military grades was becoming a problem. For example, the AFMC Headquarters stated that it was having problems filling mid-grade military officer positions because too few were remaining in the military service. Another organization, the Oklahoma City Air Logistics Center, stated that 38 members of its civilian management staff would be eligible for retirement within the next 3 years and that the institutional knowledge base would be degraded once those managers retired.

Some Skill Imbalances. Three of the six AFMC organizations stated that the use of attrition to accomplish the acquisition workforce reductions contributed to the demographic distortion of the workforce. The AFMC acquisition workforce was skewed towards workers with high-average years of experience, many with skills that were no longer needed for accomplishing the current acquisition workload. The organizations stated that the current workforce was not balanced correctly for the way that AFMC was organized to conduct business. The organizations also stated that they needed workers with new skills, and that they needed additional personnel management tools to shape the existing workforce to achieve the necessary workforce balance and skill mix. For example, the Aeronautical Systems Center stated that it did not have a sufficient number of contract, cost analyst, and financial personnel to staff its integrated product teams. In addition, it was no more than one deep in many skills needed on the integrated product teams. Accordingly, it began using engineers as program managers for managing some of their smaller development program acquisitions. AFMC was conducting a study to identify the acquisition workforce skill imbalances and the mix of skills needed for its centers to manage acquisition efforts in the future.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-23. Primary Improvements Associated with Acquisition Reform Initiatives Identified by the Air Force Materiel Command Organizations Visited

Improvement Description	Air Force Materiel Command Organizations			
Improvement in processing transactions of $2,500 or less by using credit cards	A	B	C	F
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)		B	C	F

The primary improvements associated with acquisition reform initiatives identified for the AFMC organizations visited as shown in Table L-21 are discussed below.

Improvement in Processing Transactions of $2,500 or Less by Using Credit Cards. Four of the six AFMC organizations commented that the implementation of the credit card program was beneficial in that it offset some of the impact of acquisition workforce reductions and had other beneficial effects such as quicker response time in obtaining goods and services. Specifically, they indicated that the credit card program shifted the workload for small dollar value, less complex, procurement actions, from buyers to card holders in the AFMC operating units. One organization would like to see the purchase limits extended and further reductions in the paperwork associated with the program.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). Three of the six AFMC organizations stated that the simplified acquisition procedures have streamlined purchases because the procedures require fewer people to execute the acquisition and less data analysis is required before contact award. The organizations also commented that sometimes the data that was required to properly execute the simplified acquisition procedures was unavailable.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that the AFMC organizations believed they might experience are in Table L-24. The table correlates those effects with the AFMC organizations visited using the letter designations from Table L-21.

Table L-24. Potential Future Impact of the Acquisition Workforce Reductions for the Air Force Materiel Command Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Air Force Materiel Command Organizations			
Impairment of ability to accomplish mission	B	C		E
Impairment to workforce morale	B	C	D	E
Increased program costs and contracting for support			D	E

Discussion of the primary potential future impacts of the acquisition workforce reductions for the AFMC organizations visited as shown in Table L-21 follows.

Impairment of Ability to Accomplish Mission. Three of the six AFMC organizations stated that an additional reduction in their staffs would make it increasingly difficult to execute their programs. Specifically, the Aeronautical Systems Center stated that staff reductions in the range of 20 to 25 percent would threaten the execution of its programs, while smaller reductions could result in program offices contracting for support to offset staff elimination to meet workforce reduction goals. The Oklahoma City Air Logistics Center (the Center) stated that additional workforce cuts above 5 percent would have a negative impact on customer support and some customer driven projects would have to be postponed or canceled. However, the Center predicted that it would move towards the creation of an acquisition workforce that would be able to execute the programs with fewer people and resources.

Impairment to Workforce Morale. Four of the six AFMC organizations stated that morale will suffer because of limited opportunities for career advancement, increased workload, and increased stress levels.

Increased Program Costs and Contracting for Support. Two of the six AFMC organizations stated that further reduction of authorized positions would result in more contracting for engineering and logistics operations to offset losses in those job series.

Air Force Program Executive Organization

The following discusses the current and potential future impacts on the Air Force Program Executive Organization (the Program Executive) resulting from the reductions in its acquisition workforce and the primary improvements associated with the acquisition reform initiatives. Table L-25 designates a letter for each of the Program Executive organizations visited. Table L-26 shows the primary current effects of the DoD acquisition workforce reductions that the Program Executive organizations indicated that they experienced and correlates those effects with the Program Executive organizations visited. Table L-27 shows the primary improvements associated with the acquisition reform initiatives for the Program Executive organizations visited. Table L-28 shows the primary future effects of DoD acquisition workforce reductions that the Program Executive organizations believed they might experience and correlates those effects with the Program Executive organizations visited using the letter designations from Table L-25. Following the tables are more detailed discussions of the current and potential future impacts and the primary improvements associated with the acquisition reform initiatives.

Table L-25. Letter Designation for Air Force Program Executive Organizations Visited

Air Force Program Executive Organizations	Letter Designation
Air Force Program Executive Office for Fighters and Bombers	A
Air Force Program Executive Office for Weapons	B
B-1 Bomber System Program Office	C
F-16 System Program Office	D
Joint Air-to-Surface Standoff Missile System Program Office	E

Current Impact

Table L-26. Current Impact of the Acquisition Workforce Reductions for the Air Force Program Executive Organizations Visited

Current Impact of Acquisition Workforce Reductions	Air Force Program Executive Organizations		
Insufficient staff to manage requirements	B	D	E

The primary current impact of the acquisition workforce reductions for the Air Force Program Executive organizations visited as shown in Table L-25 are discussed below.

Insufficient Staff to Manage Requirements. Three of the five Program Executive organizations had insufficient staff to manage requirements. Two organizations stated that manpower downsizing has, together with acquisition reform, caused the acquisition workforce to stop doing some things

that were little value added. For example, the F-16 System Program Office stated that it needed to increase its staff by about 40 percent to be fully staffed. The F-16 System Program Office staff was working additional hours without compensation to maintain and manage the operations and functions of the Program Office. The F-16 System Program Office stated that, without compensating the workforce for the overtime, the F-16 Program risks slower response time to taskings, delays in processing contracts, and reduced ability to act proactively.

Primary Improvements Associated with Acquisition Reform Initiatives

Table L-27. Primary Improvement Associated with Acquisition Reform Initiatives Identified by the Air Force Program Executive Organizations Visited

Improvement Description	Air Force Program Executive Organizations
Improved efficiency and economy in contracting through the use of simplified acquisition threshold ($100,000 or less) and reengineered procedures (over $100,000)	B C E

The primary improvement associated with acquisition reform initiatives identified for the Air Force Program Executive organizations visited as shown in Table L-25 is discussed below.

Improved Efficiency and Economy In Contracting Through the Use of Simplified Acquisition Threshold ($100,000 or less) and Reengineered Procedures (over $100,000). Three of the five Program Executive organizations stated that the simplified acquisition procedures were a helpful initiative during the workforce downsizing. For example, the Joint Air-to-Surface Standoff Missile System Program Office (the System Program Office) stated that commercial buying practices had a significant impact on the way it did business by providing a commercial business framework that required fewer workers to conduct required acquisition activities. The System Program Office also stated that it eliminated duplicating contractor efforts in the areas of configuration control, overseeing the contractors' design processes, and doing process evaluations. The System Program Office's overall manpower reductions were beneficial in that they caused the acquisition workforce to become more efficient without sacrificing product quality or adding risk.

Potential Future Impact

The primary potential future effects of DoD acquisition workforce reductions that the Program Executive organizations believed they might experience are listed in Table L-28. The table correlates those effects with the Air Force Program Executive organizations letter designations from Table L-25.

Table L-28. Potential Future Impact of the Acquisition Workforce Reductions for the Air Force Program Executive Organizations Visited

Potential Future Impact of Acquisition Workforce Reductions	Air Force Program Executive Organizations				
Impairment to workforce morale	A		C	D	
Increased program costs and contracting for support				D	
Inability to hire and retain employees		B		D	E

The primary potential future impacts of the acquisition workforce reductions for the Air Force Program Executive organizations as shown in Table L-25 are discussed below.

Impairment to Workforce Morale. Three of the five Program Executive organizations stated that morale may suffer because of limited opportunities for career advancement, increased workload, and increased stress levels.

Increased Program Costs and Contracting for Support. One of the five Program Executive organizations stated that further reductions of authorized positions may result in increased cost of its weapon system.

Inability to Hire and Retain Employees. Three of the five Program Executive organizations stated that the inability to hire and retain young employees is an immediate problem that will only get worse in the future. The problem is not due to reductions made to the acquisition workforce, but due to the attrition and associated hiring freezes used to manage the workforce reductions. For example, the Air Force Program Executive Office for Weapons stated that it has seen more people leaving government service, especially military, for higher paying and more stable civilian jobs with more opportunities.

Appendix M. Report Distribution

Office of the Secretary of Defense

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  Deputy Under Secretary of Defense (Acquisition Reform)
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Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics Comments

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

18 FEB 2000

MEMORANDUM FOR INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE
(ATTN: DIRECTOR, ACQUISITION MANAGEMENT)

SUBJECT: Audit Report on the DoD Acquisition Workforce Reduction Trends and Impacts (Project No.9AE-5021)

Thank you for the opportunity to comment on the draft audit report. The report represents a very comprehensive and impressive effort. Your team has documented a number of impacts of downsizing the workforce in acquisition organizations as reported by the field. These impacts are matters of concern, particularly as these organizations continue to reduce their workforce. Reforms over the past several years have resulted in many improvements to acquisition processes, which as your report notes, have helped to offset the impact of reductions. Additionally, current Reform initiatives in the areas of contract closeout, competitive sourcing, priced based acquisitions, and inspection and acceptance will also address some of the concerns reported by the field. Integral to our strategic planning now is the formulation of appropriate indicators of the effects of change. While I do concur with the report as a whole, I cannot concur with certain specific statements that I believe are incorrect. Specific comments on those statements are attached.

Your analysis, in conjunction with the Section 912(c) Future Acquisition and Technology Workforce Study, should prove most helpful in managing the future workforce to ensure we have a high-quality, well-trained workforce for the 21st Century. As you have cited in your report, we are refining the Packard Commission methodology and are proceeding toward full implementation of this uniform definition for the DoD acquisition and technology workforce. We are committed to this consistent and uniform approach.

Stan Z. Soloway
Deputy Under Secretary of Defense
(Acquisition Reform)

Attachement:
As stated

Final Report Reference

Comments to IG Report Project No. 9AE-5021

Deleted

1) Page 15, Price Fighter Program: The report stated the following: "As a result of those reforms, the Program Office had to use alternative pricing methods, such as cost analysis, like item pricing, or parametric analysis, which are inferior to cost pricing data."

Comment: Disagree that these alternative pricing methods are inferior as they are widely accepted commercial and government business practices that facilitates a priced based rather than a cost based approach in determining a fair and reasonable price. These methods, in lieu of obtaining cost and pricing data, are intended to motivate contractors to lower prices and reduce the administrative costs to the contractor and government in acquiring goods and services. Depending upon the circumstances, these methods are more appropriate methods of pricing.

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2) Pg.20: Increased Program Costs resulting from Contracting for Technical Support versus Using In-House Technical Support

Comment: An area not addressed in the report is the level of expertise acquired from the increase in contracting for technical support which was not previously available through in-house technical support. The rapid pace of the changing technology of our products may be a cause for the increase in our contracting for technical services rather than just workforce reductions.

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3) Pg.21: Reduced Scrutiny and Timeliness in reviewing Acquisition Actions: Comments in this part of the report involve the quality of products based on the reduction of inspections by the Government.

Comment: Reduction in Government oversight should not cause the contractor to reduce inspections or to provide poor quality products. With all Reform initiatives an underlining tenet is acquiring quality products and services. The Department has taken action to facilitate this through the increased use of past performance in our contractor selections.

Audit Team Members

The Acquisition Management Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report.

Thomas F. Gimble
Patricia A. Brannin
John E. Meling
Jack D. Snider
John J. Dzik
Neal J. Gause
Susan J. Lippolis
Louis F. Schleuger
William F. Bazemore
Sean A. Davis
Helen Bae
Frank Downey
Kevin B. Palmer
Kimberly L. Prioleau
Lusk F. Penn
Lam Ba Nguyen
Krista S. Gordon
Michelle A. Gauci
Cynthia B. Stull