

THE DEFENSE LOGISTICS AGENCY

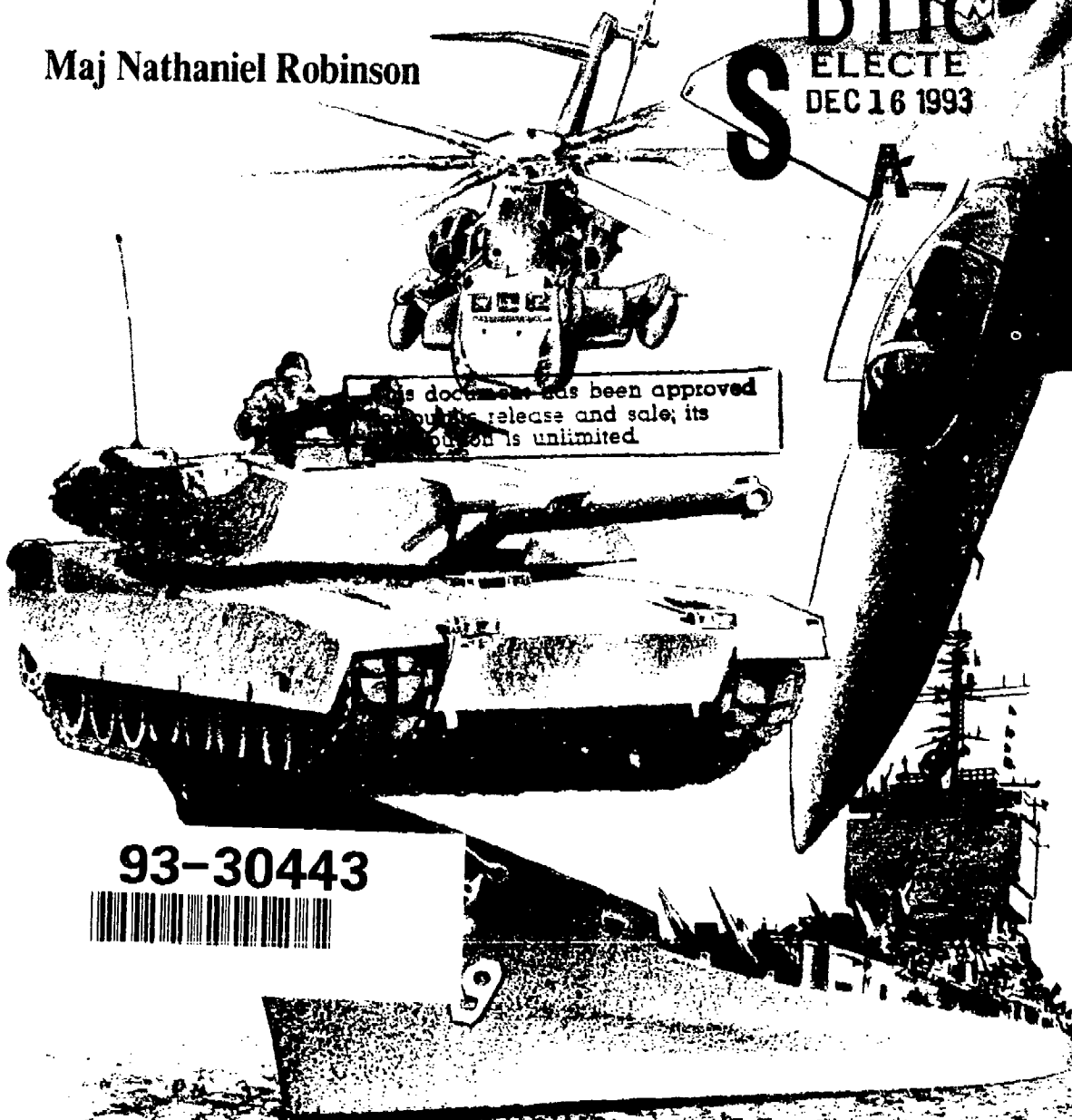
AD-A273 791 2



Providing Logistics Support throughout
the Department of Defense

Maj Nathaniel Robinson

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE		3. REPORT TYPE AND DATES COVERED
4. TITLE AND SUBTITLE THE DEFENSE LOGISTICS AGENCY Providing Logistics Support throughout the DOD			5. FUNDING NUMBERS N/A	
6. AUTHOR(S) MAJ NATHANIEL ROBINSON, USAF				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) CADRE/PT MAXWELL AFB AL 36112-5532			8. PERFORMING ORGANIZATION REPORT NUMBER AU-ARI-92-4	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) SAME as #7			10. SPONSORING / MONITORING AGENCY REPORT NUMBER N/A	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT PUBLIC RELEASE			12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 words)				
14. SUBJECT TERMS			15. NUMBER OF PAGES	
			16. PRICE CODE No charge	
17. SECURITY CLASSIFICATION OF REPORT UNCLAS	18. SECURITY CLASSIFICATION OF THIS PAGE UNCKAS	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLAS	20. LIMITATION OF ABSTRACT NONE	



Research Report No. AU-ARI-92-4

The Defense Logistics Agency
Providing Logistics Support throughout the
Department of Defense

by

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ARI Command-Sponsored Research Fellow
Defense Logistics Agency

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NTIS	CRA&I ☒
DTIC	TAB ☐
Unannounced ☐	
Justification	
By	
Distribution /	
Availability Codes	
Dist	Avail and / or Special
A-1	



Air University Press
401 Chennault Circle
Maxwell Air Force Base, Alabama 36112-6428

October 1993

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Contents

<i>Chapter</i>		<i>Page</i>
	DISCLAIMER	ii
	FOREWORD	xi
	ABOUT THE AUTHOR	xiii
	PREFACE	xv
	INTRODUCTION	xvii
	Notes	xix
1	REVIEW OF THE EVOLUTION AND ORGANIZATION OF THE DEFENSE LOGISTICS AGENCY	1
	Evolution of a Single Manager for General Commodities	1
	Current DLA Mission and Organization	5
	Supply Support	7
	Technical and Logistics Services	9
	Administrative Services for Defense Contracts	12
	Notes	13
2	OVERVIEW OF THE DEFENSE LOGISTICS AGENCY'S WEAPON SYSTEMS SUPPORT PROGRAM	15
	Purpose	16
	Major Players and Their Responsibilities	17
	Functional Principles of WSSP	19
	Key Management and Support Tools	22
	Analysis of Weapon Systems Support	30
	WSSP Support to Selected Aircraft Used in Desert Storm	32
	Notes	38
3	EFFECTS OF REORGANIZATIONAL AND MANAGEMENT INITIATIVES ON THE DEFENSE LOGISTICS AGENCY	41
	President's Blue Ribbon Commission on Defense Management	43
	Goldwater-Nichols DOD Reorganization Act	46
	Defense Management Review	47
	Contract Management	48
	Inventory Management	52
	Inventory Reduction	58

<i>Chapter</i>		<i>Page</i>
	Distribution Processes	65
	DLA and Total Quality Management	66
	Notes	70
4	SUMMARY AND RECOMMENDATIONS	75
	Does DLA Matter?	75
	Sharing Established Systems	80
	Program Improvements	85
	Training	91
	Notes	93
<i>Appendix</i>		
A	Directors and Deputy Directors of the Defense Supply Agency/Defense Logistics Agency	95
B	Examples of DLA-Managed Commodities	99
C	Facts about DLA's Supply Centers	105
D	Facts about DLA's Defense Distribution Regions	115
E	Facts about DLA's Service Centers	121
F	Plans for Enhancing Weapon Systems Management Capabilities in DOD	135
G	Air Force Systems in DLA's Weapon Systems Support Program	141
H	Weapon Systems Support Program Reports	153
I	Weapon Systems Support Program Support Tools	161
J	Sample Monthly and Quarterly Performance Reports and Air Force Distribution	171
K	President Reagan's Executive Order 12526	177
L	Executive Summary of Report of President's Blue Ribbon Commission on Defense Management (Seventeen Defense Management Issues)	183
M	DLA's Data Review, Analysis, and Monitoring Aid	187
N	Defense Personnel Support Center's Support to Operations Desert Storm and Provide Comfort	195

Appendix**Page**

O	General Issue Request/Depot Release Procedural Entries	201
P	Prelogistics Assessment Architecture Scenario	207
	GLOSSARY	211

Illustrations**Figure**

1	General Order Establishing the Defense Supply Agency	4
2	DLA Organizational Interfaces	6
3	Organization of the Defense Logistics Agency	7
4	DLA Supply Centers	8
5	Depot Distribution System for DLA Materiel	10
6	DLA Service Centers	11
7	Organization of the Defense Contract Management Command	12
8	The Role of WSSP/USAF Parts in the Logistics Environment	16
9	Weapon Systems Support Program's Growth: Total Systems through June 1992	18
10	Weapon Systems Support Program's Growth: Total National Stock Numbers through June 1992	18
11	Management Strategy: DLA Weapon Systems Support Program	23
12	DLA Weapon Systems Support Program Organization	24
13	Location of DLA Weapon Systems Support Program Advisers	25
14	Comparative Supply Availability of WSSP versus Non-WSSP Items	29

<i>Figure</i>		<i>Page</i>
15	Fueling the War	34
16	Desert Storm Logistics: Mission Capability Rates	35
17	Defense as a Share of Federal Outlays	43
18	Defense Contract Management Command Districts, Area Operations, and Defense Plant Representative Offices	49
19	Defense Contract Management Command District Organizations and Operations	49
20	Defense Contract Management Command International Operations	50
21	DOD Consumable Item Transfer—DLA Before and After	53
22	DLA Consumable Item Management Office's Interface	55
23	Back Orders Passed/On Hand through 31 January 1992	56
24	Supply Availability: DLA versus CIT Items through 31 January 1992	56
25	CIT Items Weapon-Systems Coded through 31 January 1992	57
26	Total Volume of DLA Receipts and Offers (Customer Returns)	63
27	Air Force Return Receipts: Fiscal Years 1988–1991	63
28	DLA Inventory: FY 1990 and FY 1991	64
29	DLA Inventory: FY 1981 through FY 1997	64
30	DLA Work Force: Fiscal Year 1991 Program	76
31	DLA Activities Worldwide	76
32	DOD Item Management (Total: 5.0 Million)	77
33	DOD Consumable Item Management (Total National Stock Numbers: 4.4 Million)	77
34	Defense Supply Centers' Work Load Summary of Gross Requisitions Received	78

<i>Figure</i>		<i>Page</i>
35	DOD Item Use and Management	78
36	Air Force Materiel Command's Logistics Management System Architecture Summary	80
37	Weapon System Management Information System Overall Objectives	82
38	Weapon System Management Information System Functional Architecture	83
39	Reliability and Maintainability Information System (REMIS) Functions	83
40	Shifting Federal Priorities	84
41	Department of Defense Budget Authority in Billions of Dollars, Excluding the Cost of Operations Desert Shield/Desert Storm	85
42	Defense Logistics Management System Functional Interfaces	88
43	Gateways and Data Bases	89
44	Sample DOD Single Line Item Release/Receipt Document—DD Form 1348-1	89
45	Tasks and Information Requirements of the Item Management Specialist	90
<i>Table</i>		
1	Defense Stock Fund Projected Obligations for Fiscal Year 1991	8
2	Comparison of Air Force Expenditures for DLA-Managed Commodities (Excluding Hardware Items)	9
3	Weapon Systems National Stock Number Stratification by Service (First Quarter Fiscal Year 1992)	17
4	Standard Automated Materiel Management System Weapon Systems Indicator Codes (WSIC)	19
5	Weapon Systems Support Program Management Techniques	20

<i>Table</i>		<i>Page</i>
6	Number of Weapon Systems in Weapon Systems Support Program (February 1992)	20
7	Air Force's Most Critical Weapon Systems and Location of System Program Managers (January 1992)	21
8	Weapon Systems Support Program National Stock Numbers by Essentiality Codes (EC)	22
9	Examples of DLA Adviser WSSP Responsibilities	26
10	Supply Support Request	27
11	Special Program Requirement	27
12	Logistics Assets Support Estimate	28
13	Weapon Item Data Card (Document Identifier Code WS1)	28
14	Standard Automated Materiel Management System Telecommunications (SAMMSTEL) On-Line Remote Access	29
15	Comparative Support Trends of WSSP Items versus Non-WSSP Items	30
16	Weapon Systems in DLA Direct Buy Program	31
17	WSSP Support Trends (Air Force Statistics)	32
18	DLA Support to the Air Force's Most Critical Weapon Systems (Calendar Year 1991)	33
19	DLA Support to Air Force Desert Storm Combat Aircraft (As Cited in Fig. 16)	35
20	DLA Support to Air Force Desert Storm "Other" Aircraft (Not Cited in Fig. 16)	36
21	DLA Desert Storm Statistics	36
22	DLA's Logistical Contributions to Operations Desert Shield and Desert Storm	37
23	WSSP Impact	38
24	Studies and Plans on Defense Organization	42
25	DOD's Slice of the Dollar	44

<i>Table</i>		<i>Page</i>
26	Defense Management Policies and Procedures: Areas for Study	45
27	Products to Be Purchased under the Commodity Oriented Procurement System	51
28	How Big Is It?	52
29	Consumable Item Transfer Schedule and Volume Candidates (000s)	53
30	Business Adjustments (Based on Fiscal Year 1990/Pre-Force Structure Cuts)	54
31	Causes and Definitions of Secondary Item Excess	59
32	Secondary Inventory Sent to Disposal in 1989 and 1990	60
33	DOD Budget Authority by Title (\$ Billions)	60
34	Summary of DOD Inventory Reduction Plan (The 10-Point Plan)	61
35	Summary of DLA's Inventory Reduction Plan	62
36	Provisions of Air Force Logistics Command's Computerized Modernization of Its Logistics Management Systems	65
37	Depot Consolidation List	67
38	Defense Business Operations Fund (Fiscal Year 1992 Sales Program)	79
39	Examples of Items Surged for Operation Desert Storm	81
40	Logistics Management System Modernization Programs	82
41	Size of Air Force Logistics Command (Fiscal Year 1990)	86
42	Approved Integrated Weapon Systems Management Programs (and Their Single Program Managers)	86
43	WSSP Supply Availability of Integrated Weapon Systems Management Programs (Calendar Year 1991 Quarterly Summaries)	87
44	DLA Management Strategy: Training Issues	92

Foreword

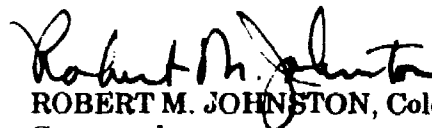
Over 30 years ago, Secretary of Defense Robert S. McNamara created the Defense Logistics Agency (DLA), which is now the sole supplier of almost all Department of Defense (DOD) requirements for consumable items (e.g., hardware, medical supplies, bulk fuels, food, clothing, textiles, etc.). The agency is also responsible for related technical and logistics services, as well as contract administrative services, that are required to support those items.

Since the mid-1980s, DOD policies regarding weapon systems management, total quality management, reorganization, and restructuring have affected DLA and the way it supports its international customer base. The latter includes the US military services, the National Aeronautics and Space Administration, and foreign customers of DOD. Yet, too little is known about DLA's mission, responsibilities, and role in DOD's efforts to provide a strong, flexible defense for our nation.

In this study, Maj Nathaniel Robinson reviews the history of DLA, discusses one of its sustainability-improvement programs (the Weapon Systems Support Program), considers the effect of recent DOD decisions on DLA's efforts to support the military services' weapon systems—especially the ones considered essential to maintaining optimum operational readiness—and offers recommendations for improving logistics support of retail/wholesale logistics operations.

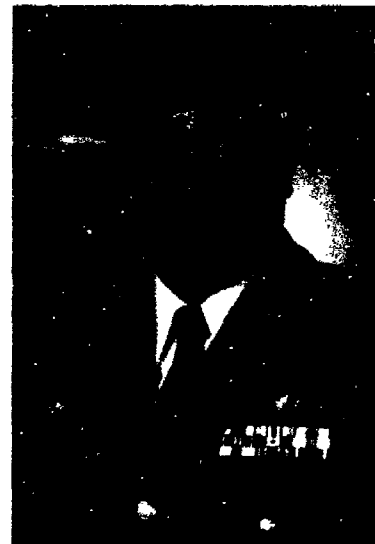
Most significantly, this study provides an information baseline to enhance the DLA customer's familiarity with the agency, reverse the sometimes negative perception of DLA's operation, and increase the flow of information between wholesale/retail supply managers and their customers.

Where appropriate, Major Robinson emphasizes the relationship between DLA and the Air Force. However, today's budgeting and global uncertainties mandate an across-the-board understanding of DLA in order to strengthen joint operations of the future. Thus, this study can apply to all DLA customers throughout DOD. Further, it is part of a continuing effort by DLA to minimize wholesale-related logistical bottlenecks and establish a close partnership with its customers—especially the military services—thereby improving combat effectiveness and operational readiness.



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Maj Nathaniel Robinson is currently chief of the Logistics Division for the Joint Communications Support Element, MacDill Air Force Base (AFB), Florida. He completed this study while he was assigned to Maxwell AFB, Alabama, as the Defense Logistics Agency's research fellow for 1991-92 at the Airpower Research Institute, Air University Center for Aerospace Doctrine, Research, and Education (AUCADRE).

Major Robinson graduated from Voorhees College in Denmark, South Carolina, with an AA degree in library science (1975) and a BS degree in biology (1978). He earned an MS in biology from Atlanta University in 1989. His professional military education includes completion of Squadron Officer School and Air Command and Staff College. A career supply officer, he has varied logistics experience, having earned the contract management officer specialty code via the Additional Duty Career Enhancement Program. He has also completed the supply operations officer course, munitions supply course, contract specialist course, and advanced supply management course.

Major Robinson received his commission through the Air Force's Officer Training School in September 1979 and was subsequently assigned as materiel support officer at Charleston AFB, South Carolina. From August 1981 through August 1984, he served as the munitions accountable supply officer and chief of the Materiel Support Section at Clark Air Base (AB), Republic of the Philippines. Later that year, he moved to Scott AFB, Illinois, as a logistics readiness manager on the Military Airlift Command's operations staff. From March 1986 to March 1987, Major Robinson served as chief of the Management and Systems Branch at Florennes AB, Belgium. Selected for the two-year Air Force Logistics Command's (AFLC) Career Broadening Program, he was assigned to Warner Robins Air Logistics Center (ALC) at Robins AFB, Georgia. After completing the program in February 1989, he remained at Robins as chief of the Special Operations Forces Customer Support Section. From

August 1989 to August 1990, he was chief of the Weapon System Management Information System's special program office and implemented the AFLC classified network architecture at the center—the first ALC in the command to do so. Major Robinson served as the Air Force weapon systems support officer at the Defense Industrial Supply Center in Philadelphia, Pennsylvania, from September 1990 until he reported to AUCADRE in June 1991.

He has one child—Nathaniel, Jr.—who currently resides in South Carolina.

Preface

During my Air Force career, I have been privileged to work in the logistics trenches and provide support to assigned weapon systems, their support equipment, and related resources. Thirteen years of experience with minimizing shortfalls and bottlenecks have often unearthed confusion about dealing with the sometimes unknown effect that consumable items can have on readiness. Although I realized that my concerns about this situation might be due to shortsightedness, my fears were confirmed during a recent tour as the Air Force weapon systems support officer at the Defense Industrial Supply Center (DISC) in Philadelphia, Pennsylvania. I observed that the Air Force and the Defense Logistics Agency (DLA) centers—certainly DISC—would benefit from knowing a bit more about how each other's actions affected both required and rendered support efforts. In other words, improving the exchange of information between the Air Force and DLA would enhance the flow of consumable items from these organizations. Further, management and organizational changes issued by the Department of Defense (DOD) mandated that something be done. Thus, from this milieu was my study conceived, planned, and executed.

I have organized this study for readers at both the wholesale and retail levels of logistics and operations—for example, senior managers interested in major issues and recommendations, people with an interest in consumable items but little to no working knowledge of DLA, logistics personnel knowledgeable about DLA who want to improve the logistical means by which consumable items affect supportability and operational readiness, and so forth. Senior managers should read the introduction, chapter 3 ("Effects of Reorganizational and Management Initiatives on the Defense Logistics Agency"), and chapter 4 ("Summary and Recommendations"). Everyone else should read all four chapters and the appendices, especially if they wish to keep abreast of sweeping DOD changes in logistics.

It is impossible to mention all of the people who aided and encouraged me prior to and during the course of this study. However, I would especially like to thank Brig Gen Denis L. Walsh and Lt Gen Charles McCausland for the opportunity to do this research and for their interest and support. I also want to thank Lt Col Collins Jackson, Vicki Christensen, Cathy A. Kelleher, Patti Harner, Charlie L. Morrison, Michelle Kalski, Melody Langone, Evelyn Faccate, Jan Probst, Randy Weeks, and everyone who rushed needed information to me. My thanks also to Shirley Johnson, Mark Davidson, Robert Bachorek, Pat Martin, Judith Young, Michael Fleenor, Kathy Willyard, Maryanne Clare, and many others who answered my questions or sent material. Additionally, a special word of thanks to two extraordinary people at Headquarters DLA—Danielle Osborn and Arthur Bailey—who unselfishly spent an enormous amount of time and effort to support my many long-distance requirements.

Because of them, I remained aware of the fluid DLA environment and was able to keep this study current.

Several people at the Air University Center for Aerospace Doctrine, Research, and Education were equally helpful. A special thanks to Lt Col Thomas R. Nowak, who consistently outdid himself to ensure that we research fellows had what we needed to conduct our studies. Certainly, my study would have suffered had not Ms Allene Hall, Ms Gladys Poavey, and Sgt Keith Moore assisted me with supplies and equipment. Further, special thanks to Ms Hattie Minter and Dr Doris P. Sartor for their guidance and support, not to mention Dr Sartor's assistance with prepublication details and proofreading. A note of appreciation to my committee chairman, Dr Bynum E. Weathers, who offered me the right combination of guidance and freedom to conduct this study. Most significant, however, is the attention and support I received from my editor, Dr Marvin Bassett. He contributed immeasurably to the structure and readability of this study. I would also like to thank Maj Dan Hobbs, Lt Col James Lightfoot, and Maj Larry Wright—three of my fellow command-sponsored researchers—on whom I could always count for the encouragement I needed to complete this project.

Finally, I must acknowledge the special contributions of my family—notably my son, Nathaniel, who understood why I missed his grand slam and numerous other key events in his budding life. He contributed significantly to the completion of this project. I also thank Yvonne for providing him sound, motherly guidance during my absence. I will remain forever grateful to my family and to my special network of friends for their constant love, support, and encouragement.



NATHANIEL ROBINSON, Maj, USAF
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Introduction

The requirements of logistics are seldom understood. The burdens they impose on the responsible military authorities are rarely appreciated.

—Gen George C. Marshall

The Defense Logistics Agency (DLA) is the largest wholesaler of consumable items in the Department of Defense (DOD). The Air Force logistics community's capabilities and operational readiness—insofar as DLA-managed items are concerned—are directly proportional to its knowledge and use of DLA support programs such as the Weapon Systems Support Program (WSSP). Unfortunately, Air Force logisticians either have no familiarity with these programs or have a negative perception of DLA (e.g., a disdain for the types of items managed, a misconception of its inventory management capability, or an aversion to the long lead times required to obtain desired parts). In these changing times, either of these two situations could have a devastating effect on logistics support and operational readiness. Both situations possibly result from the present minimal exposure of Air Force personnel to DLA in everyday experiences; in settings where most Air Force logisticians receive initial specialty training; or in settings where all Air Force officers, senior noncommissioned officers, and civilians receive professional education and continuing specialty training. Problems could also arise from the present minimal training in or use of DLA programs or systems. Further, the possibility exists that past or current DLA programs may have been viewed as unfeasible, inadequate, or impractical for Air Force applications. Finally, DLA and the Air Force need to improve communication with each other concerning programs and systems as well as planned enhancements to those programs and systems.

The Air Force—like the other services—may realize neither the current importance of DLA nor the significance the agency will achieve during the restructuring of DOD. For example, by 1995 DLA will assume a majority of the logistics functions previously performed by the military services. In 1985 Lt Col David Rutenberg commented on the importance of DLA-managed items:

[They] tend to be masked because of their attendant lack of visibility, but their contributions to daily mission accomplishment are nonetheless critical. For example, a Navy squadron commander keeping track of aircraft supply problems would probably be surprised to learn that 80 percent of the 30,000 parts that go into an F-18 fighter are supplied by DLA.¹

Thus, to avoid catastrophes in the area of supply support, the Air Force logistics community—present and future (including both operators and other nonlogistics personnel who transfer to the logistics community)—must know more about DLA's mission, support programs, and enhancements to its mission and programs. Moreover, both DLA and the Air Force must develop and increase training and awareness

programs which provide for joint foresight, timely feedback, and identification and correction of support deficiencies.

Although communication between the Air Force and DLA has improved somewhat, changing world events and an ever-shrinking defense budget strongly suggest that we must change the way we think about things and do things, especially in the logistics community. For instance,

the services argue that a military department must have all critical parts for its systems under its jurisdiction and that DLA cannot provide the specialized service needed to manage important components of front-line systems. Although responsibility for a large number of consumables was recently transferred on a test basis from the services to DLA, the issue has not been fully resolved. As one of the most persistent "centralization versus decentralization" issues, it may never be put permanently to bed.²

However, to comply with a Defense Management Review (DMR) decision, phase one of a two-phased program tasks the military services to transfer close to 1 million consumable items to DLA (about 465,000 from the Air Force). This megatransfer began in the summer of 1991 and is expected to conclude at the end of 1994. In phase two, the military services and DLA will review 500,000 additional items for possible transfer to DLA. Hence, the "centralization versus decentralization" issue may be closer to resolution than previously thought possible, and the mandate to achieve a resolution to that and other similar issues may have begun.

Unfortunately, acceptance of something different usually requires a change in one's attitude—whether done willingly or through direction or coercion. As DOD restructures itself—specifically, as the Air Force "powers down"³—the dissemination of information which could enhance supportability becomes increasingly important. Spreading the word about DLA and its support programs throughout the Air Force will not be easy—it will take time and new approaches. However, it is necessary and it can be done. Toward that end, this study reviews the history of DLA, discusses one of its sustainability improvement programs—WSSP—and considers the effect of recent DOD decisions on DLA's efforts to support the military services' weapon systems, especially those that are identified as essential to maintaining operational readiness. Where possible and appropriate, the study cites Air Force examples.

Specifically, chapter 1 reviews the evolution, organization, and mission of DLA. Chapter 2 describes the agency's WSSP and provides overviews on program registration, management, and the effect of the program on supply support to the customer. This chapter also analyzes DLA's supply support of Air Force weapon systems in the WSSP and of key weapon systems used during Operation Desert Storm. In addition to discussing the potential impact of an "impure" WSSP on the Air Force's logistical capability, the chapter provides overviews of eight DLA support tools which could enhance the Air Force's logistics supportability. Chapter 3 reviews the effects of reorganizational and management initiatives on DLA. Finally, chapter 4 reemphasizes the importance of DLA to DOD, reflects on the timeliness and utility of this research, and offers recommendations.

Notes

1. Lt Col David Rutenberg, "Wholesale Logistics," in *Equipping and Sustaining Aerospace Forces: From Ideas to Action*, vol. 8, ed. Lt Col David Rutenberg and Maj Thomas Jones (Maxwell AFB, Ala.: Air Command and Staff College, January 1985), 148.

2. Ibid.

3. Joe West, "Power Down: McPeak's Restructuring Would Empower People at Air Force's Lower Echelons," *Air Force Times* 51, no. 52 (5 August 1991): 12-13.

Chapter 1

Review of the Evolution and Organization of the Defense Logistics Agency

Logistics is all of those functions which equip forces for combat and continue to supply them after combat starts. Quite simply—and ideally—logistics consists of delivering the right things in the right number to the right places at the right time.

—Lt Gen Thomas P. Gerrity, USAF, 1962

Despite across-the-board cuts in the federal budget, the Defense Logistics Agency continues to grow; indeed, in terms of functional responsibilities (not personnel), it is the only logistics industry in the government to do so.¹ DLA—formerly the Defense Supply Agency (DSA)—is now in its 30th year. In 1991 the Air Force obtained more than half of its consumables from DLA, including items used in aircraft, missiles, helicopters, communications systems, and so forth. Without those items, such aircraft as the F-15 and F-16, as well as other critical systems, would not be fully mission-capable. Because its operational effectiveness depends on DLA support, the Air Force should take pains to learn more about DLA and its support programs. This chapter discusses the evolution of DLA and its precursors and describes the agency's current mission and organization.

Evolution of a Single Manager for General Commodities

In 1947 Congress passed the National Security Act (NSA). Its purpose was to

deal with the complex management and operational problems arising out of the postwar requirement for world leadership and military coordination . . . with the avowed purpose of molding the Army, Navy, and the newly established Air Force into a single coordinated team in respect to both their combat and supply elements, within the framework of an overall structure entitled "The National Military Establishment."²

The NSA established the foundation for the eventual creation of a single, integrated agency to manage general supplies at the departmental level. DLA's forerunners included the Munitions Board (1947), the Assistant

Secretary for Supply and Logistics (1953), the Quartermaster Corps (1959), and the Defense Supply Agency (1961).

Establishment of a civilian-run supply agency was not easy. By mid-1957 there had been no fewer than 19 attempts.³ Thus, Secretary of Defense Robert S. McNamara's announcement of the establishment and objectives of DSA in August 1961 probably came as a relief to DSA's advocates and a setback to its opponents. According to McNamara,

The President gave me two instructions: one was to develop the optimum force requirements, optimum in relation to the political objectives of our Nation, without any regard to arbitrary budget ceilings; but secondly, having developed those optimum force requirements obtain them, procure them, operate them at the lowest possible cost. That we are seeking to do.⁴

In some quarters, McNamara's announcement resembled

drop[ping] a megaton bomb upon the three military services under him, the impact of which was felt—and heard—at virtually every logistical level across the country. The decision to drop the bomb was an historic one: for the first time since the Defense Department was created fifteen years ago by the National Security Act of 1947, there was set up at the departmental level an integrated and jointly-staffed operating supply organization for the future management of all common supplies and services that were formerly managed and operated at the level of the three military departments.⁵

The Navy and Army felt immediate effects from the creation of DSA. For example, the Navy lost its medical, petroleum, and industrial supply agencies, while the Army lost six technical services—specifically, its subsistence, clothing and textile, and general supply agencies, as well as its engineer, ordnance, and transportation corps.⁶

As the Navy and Army recovered from these losses, the dust seemed to settle, yet cries of "We've been sold down the river" echoed throughout the Pentagon following McNamara's bombshell.⁷ Talk of creating such an agency as DSA had often occurred, and single managerships (e.g., the General Services Administration) existed as early as 1949.⁸ However, the possibility of an entity as powerful as DSA was unprecedented. Some people believed that the secretary first had to build a credible power base, one which allowed him "to act unilaterally—and without having to ask Congress for legislative authority then not obtainable under any circumstances—for the creation of a single supply agency."⁹

Thus, one could view the establishment of DSA as a response which met several key requirements of the time. This included—but was not limited to—changing over from departmental supply and service in a way that did not disrupt or excessively delay normal military supply and service activities. The system also had to be responsive to threats that might occur during the changeover since "there would be no time to change our supply/logistical horses in mid-stream, as we had done in each of our six foreign wars from the Revolution to World War II."¹⁰ Further, one had to acquire "supply manage-

ment direction and control over the services' common supply and logistical areas"¹¹ and ensure that "the services [spoke] the same supply language before supply integration could become a reality."¹² To some people, the latter requirement was crucial because the services had about "[20] different numbering systems and eight different classifications."¹³

The post-World War II view that logistics had become a "component of strategy" versus a "complement of strategy," coupled with a "decline in the independence of the service supply elements"¹⁴ from 1949 to 1961 and the DOD Reorganization Act of 1958, may have made the creation of a single supply agency much more welcome in 1961 than in previous years. Further, the McCormack amendment to the NSA was a key factor, since it provided the secretary a tool to reorganize DOD if he deemed

it [would] be advantageous to the Government in terms of effectiveness, economy, or efficiency. [If that were the case,] he [would] provide for the carrying out of any supply or service actively common to more than one military department by a single agency.¹⁵

DSA was established with a simple handwritten general order (fig. 1), and on 1 October 1961 Lt Gen Andrew T. McNamara became its first director (see appendix A). Initially, he directed a planning group of 100 people and set out to ensure that the agency became a "vital member of the Defense team when it achieved the full potential envisaged by Secretary . . . McNamara."¹⁶ The desired operational jointness was evident, as

loyalties, traditions, prejudices and inhibitions were dropped as men who were strangers one day became trusted associates the next. . . .

A visitor to the temporary headquarters might encounter an officer in Air Force blue working side by side with a Navy commander, an Army general or a Marine Corps major. Beside them he would see civilians from the Army Quartermaster General's Office, or the Ordnance Corps, the Air Force Logistics Command, the Navy's Bureau of Supplies and Accounts, or headquarters of the Marine Corps.¹⁷

The new DSA commander felt strongly about several issues, such as decentralization of the organization, delegation of authority to field commanders, "more competition in procurement, simplifying the supply system for the military consumer, [and] more rapid standardization." Moreover, he

insisted that the organization must be ever mindful of the impact which DSA and its programs would have upon the Services . . . and [often] assured his customers that "I want only to take off your backs those things which we can supply and thus relieve you of unnecessary burdens which might impede the execution of your combat mission."¹⁸

On 1 January 1962, during a New Year's Day message to assigned personnel, General McNamara stated that

it is not a fortuitous circumstance that the Agency has assumed operational status with the advent of the New Year. I chose this day because it fittingly symbolizes the beginning of a new era in logistics management. Before us lie unlimited opportunities for service in the cause of national security. Our tasks will be enormous

Once upon a time...

It all started 30 years
ago with Army
Lt Gen Andrew T.
McNamara's
handwritten draft
of General Order
Number 1

DAD
Defense Supply Agency

1 October 1961

GO #1

Pursuant to the authority contained in
under the provisions of the
memorandum, Office of the Deputy
Secretary of Defense,
subject: "Establishment of the Defense Supply Agency,"
dated 12 September 1961, the undersigned
hereby
assumes command of the Defense Supply Agency
and duties as Director thereof.

A. T. McNamara
Lieutenant General, USA
Director

This is a photostatic copy of the original handwritten general order establishing the Defense Supply Agency.

Text of draft order

Pursuant to authority contained in memorandum, Office of the Deputy Secretary of Defense, subject: "Establishment of the Defense Supply Agency," dated 12 September 1961, the undersigned hereby assumes command of the Defense Supply Agency and duties as Director thereof.

A. T. McNamara
Lieutenant General, USA
Director

Figure 1. General Order Establishing the Defense Supply Agency. (From *Dimensions*, October 1991, 2)

but they will be effectively performed by the full use of the intelligence, experience, ingenuity and loyalty of our people.

We are, in a very real sense, writing military history. There are no precedents for much of what must be done and will be done. Initiative, courage, and the will to succeed are urgently required in full measure.¹⁹

The agency was now poised to meet its many challenges—under the watchful eyes of the military services, “the DOD, [the] General Accounting Office (GAO), the Bureau of the Budget and the Congress.”²⁰

As of 1 July 1962, DSA included 11 field organizations,²¹ employed 16,500 people, and managed 45 facilities.²² In late 1962, Lt Gen Thomas P. Gerrity, Air Force deputy chief of staff, Systems and Logistics, said that

no one can deny that the [DSA's] job has been and continues to be a very big and difficult one. If we [DSA and Air Force logistics] continue in a true spirit of candor and mutual respect, the role of the [DSA] in the common item support business will provide an even broader basis for expanding service and responsiveness.²³

In 1963 DOD announced savings of more than \$31 million from DSA's practice of providing “continuous and unimpaired support to the Military Departments.”²⁴ In late 1965 the agency assumed responsibility for administering most defense contracts—both those awarded by DSA and by the military services. As of 30 June 1969, DSA's 25 field organizations and over 58,000 personnel had

procured \$5.23 billion in goods and services, processed 23.9 million supply requisitions, centrally procured and managed 1.8 million items, and averaged a supply effectiveness—measured by the percentage of requisitions for stocked items filled from on-hand stocks—of over 90 percent.²⁵

During 1972 and 1973, the agency became international when it assumed responsibility for

defense overseas property disposal operations and worldwide procurement, management, and distribution of coal and bulk petroleum products [1972], and worldwide management of food items for troop feeding and in support of commissaries [1973].²⁶

In 1977, after 16 years of growth and increased responsibilities, DSA changed its name to DLA. Thus, DLA had expanded from a single supply manager to an agency that handled all “logistics functions for a particular commodity”²⁷ across the operational spectrum of DOD logistics.²⁸

Current DLA Mission and Organization

DLA has continued to perform its original tasks—standardizing item management and providing economical support services to DOD. The agency's commitment to worldwide support is reflected in the following mission statement:

to function as an integral element of the DOD logistics system and to provide effective and efficient worldwide logistics support to DOD components as well as to Federal agencies, foreign governments, or international organizations as assigned in peace and war. Our vision at DLA is to continually improve the combat readiness of America's fighting forces by providing soldiers, sailors, airmen, and marines the best value and services when and where needed.²⁰

The agency realizes that it can effectively fulfill its mission requirements only by establishing and maintaining "a close partnership [with] the military services."³⁰

DLA continues to support the military's needs, from the predesign stage of weapon systems acquisition to the retirement of military equipment. Support begins with dissemination of research and cataloging data, extends through production, and concludes with the disposal of materiel which is obsolete, worn out, or no longer needed.³¹

DLA headquarters at Cameron Station in Alexandria, Virginia, includes almost 60,000 civilian and military personnel (provided under joint-staffing policies) who execute the agency's mission, including management responsibility for 340 facilities.³² These facilities range from supply centers and depots employing several thousand people to in-plant residencies and property disposal offices of fewer than 10 people (figs. 2 and 3). Through this network, DLA provides the military services with supply support, technical and logistics services, and administrative services for defense contracts.

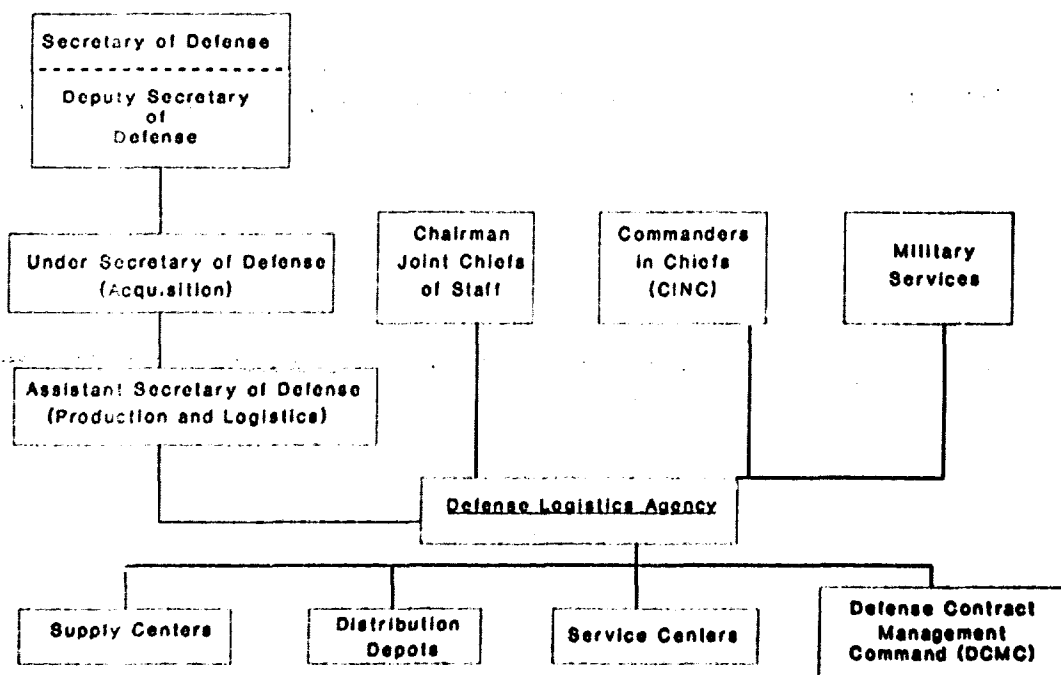


Figure 2. DLA Organizational Interfaces. (From DLA document DL107-2/11/91, draft, 2-3)

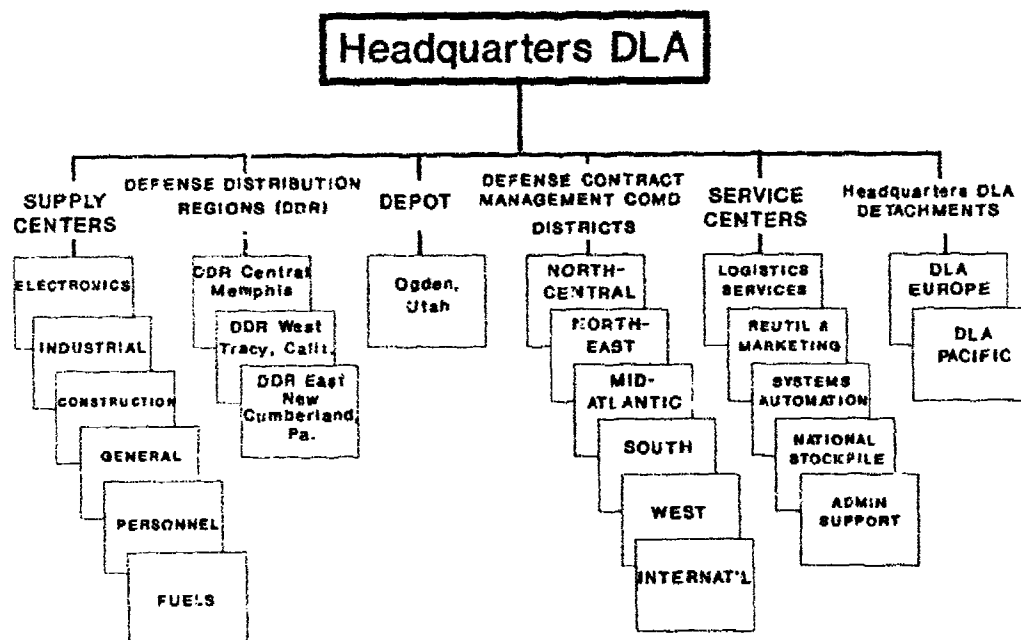


Figure 3. Organization of the Defense Logistics Agency. (From briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991; and Melody Langone, Defense Logistics Agency Command Support Office acting chief, telephone interviews with author, August 1992)

Supply Support

DLA procures and manages a vast number and variety of items used by all the military services and other DOD agencies or authorized customers (appendix B). These commodities include fuel, food, clothing, and medical supplies, as well as general items. In addition, the agency buys and distributes hardware and electronic items used in the maintenance and repair of military aircraft and equipment which supports them.

The military services request supplies and materiel from the appropriate DLA supply center (fig. 4 and appendix C). The center then consolidates those requirements with similar requirements for that item from other customers and procures sufficient quantities of the supplies to meet the projected needs of all users. Each of the six supply centers has three major functional responsibilities: supply operations, contracting and production, and technical operations. Supply operations involve forecasting demands, generating purchase requests, processing requisitions, and controlling the stock. Contracting and production involves procuring supplies and services, managing production and schedules, and monitoring industrial mobilization plans. Technical operations involve responsibility for cataloging operations, technical data, parts control, and value-engineering programs and processes.

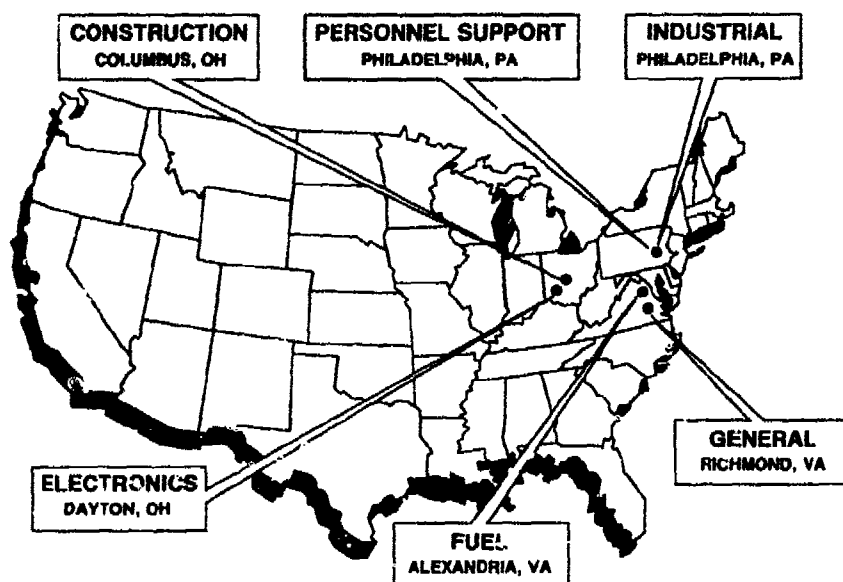


Figure 4. DLA Supply Centers. (From briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

In fiscal year 1991, DLA supply centers managed over 3 million items, processed over 29 million requisitions, made over \$18 billion in sales (over \$984 million of subsistence, clothing, and textiles to the Air Force), and had stock available to satisfy requirements from customers over 86 percent of the time. In the second quarter of the fiscal year, DLA processed more than 4 million Air Force requisitions.³³

The projected obligations of the defense stock fund for that fiscal year totalled \$14 billion (table 1). Forty-two percent of that total was set aside for fuel and 22 percent for subsistence requirements—two areas that we take for granted; yet, more than 64 percent of DLA's budget supports them. In fiscal

Table 1

**Defense Stock Fund Projected Obligations
for Fiscal Year 1991**

Fuel	\$ 5.9 Billion
Spare Parts	2.6 Billion
Subsistence	3.1 Billion
Clothing and Textiles	1.4 Billion
Medical	1.0 Billion
Total	\$14.0 Billion

Source: Briefing, Defense Logistics Agency, subject: Command Overview, Second Quarter, Fiscal Year 1991, June 1991.

year (FY) 1991, the Air Force accounted for 83 percent (\$4.9 billion) of DLA's bulk fuel sales.³⁴ A comparison of expenditures for bulk fuel, subsistence items, clothing and textiles, and medical supplies for FY 1990 to those for FY 1991 (table 2) suggests that Operations Desert Shield and Desert Storm increased sales in two of these categories. That is, the Air Force's purchase of bulk fuels doubled in fiscal year 1991, and expenditures for clothing and textiles increased by 19 percent. However, expenditures for medical items decreased by almost 9 percent, and sales of subsistence items remained about the same. Overall, Air Force expenditures of over \$5.8 billion for commodities in FY 1991 (excluding spare parts) were almost 58 percent more than in FY 1990.

Table 2

**Comparison of Air Force Expenditures for DLA-Managed
Commodities (Excluding Hardware Items)**

Commodity	Expenditures	
	FY 1990	FY 1991
Bulk Fuel	\$2,390,902,000	\$4,851,202,000
Subsistence	545,383,950	546,757,197
Clothing and Textiles	173,476,000	206,427,000
Medical	253,600,000	231,100,000
Totals	\$3,363,361,950	\$5,835,486,197

Sources: Brenda Broadwell, DLA Defense Fuel Supply Center, telephone interview with author, 13 March 1992; and Charles Perry, Steven Brooks, and Richard Adams, DLA Defense Personnel Support Center, telephone interviews with author, 13 and 16 March 1992.

Procured items are stored and distributed through a system—strategically located, based on customer demands—consisting of three regions and many support depots (fig. 5 and appendix D). This network reflects the recent consolidation of 30 military service and DLA depots into a single distribution system under DLA management. Defense Distribution Region West, the prototype of consolidation for the other two regions, combined “five depots of the Army, Navy, Air Force and DLA” and is headquartered at Tracy, California. Region East has headquarters at New Cumberland, Pennsylvania, and Region Central—the newest—at Memphis, Tennessee. During fiscal year 1991, DLA depots stocked over 3 million items worth over \$10 billion; they were stored in 96.4 million feet of space. These depots also received and issued over 23 million items weighing over 2.3 million tons.³⁵

Technical and Logistics Services

Over the years, DLA has administered various programs for DOD, including the Federal Catalog System (FCS), Materiel Utilization Program, Research and Technology Information System, Surplus Property Disposal

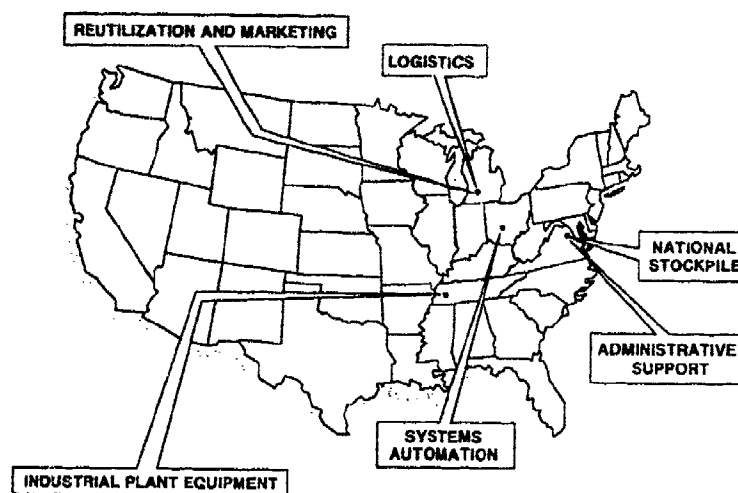


Figure 6. DLA Service Centers. (From briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

recovered over \$31 million in fiscal year 1991, and the Air Force recouped over \$10.1 million for its resource recovery and recycling efforts.⁴⁰ Second, in the last 12 years, the DRMS precious metals recovery program (PMRP)⁴¹ has returned more than \$200 million to the government. Furthermore, these metals are "offered to government contractors at a minimal charge in return for an equal reduction in cost for manufacture of government items using these metals."⁴² In fiscal year 1991 alone, the PMRP returned more than \$13 million.⁴³

Equally significant is the Defense Logistics Services Center (DLSC), which manages the Federal Catalog System. As one of the world's largest data distribution and maintenance operations, FCS "gathers, processes and distributes logistics information for almost six million items of supply. These items range from missiles and space vehicles to washers and screws."⁴⁴ FCS operates through the Defense Logistics Information System (DLIS)—an automated data processing system with the capacity to store

billions of characters of logistics data. This data helps . . . customers design, purchase, stock, store, and issue items of supply. DLIS processes over 30 million catalog and supply data transactions annually.⁴⁵

DLSC also assigns all national stock numbers (NSN)—over 200,000 annually—that are used in the FCS. Having a single agency to assign each item one and only one NSN prevents duplication and "unnecessary manufacture and storage of items."⁴⁶ In 1990 DLSC "produced more than 333.5 million pieces of microfiche [containing logistics data, including lists of NSNs] and distributed them to more than 50,000 users worldwide."⁴⁷

From the mid-1980s, DLSC studied the feasibility of using the compact disk, read-only memory (CD-ROM) system to store FCS publications and

logistics data, which are currently stored on microfiche. In November 1991, a federal logistics (FED LOG) system on CD-ROM was created to store these data. FED LOG thus solves the problem of obtaining microfiche—the supply of which was dwindling—and eliminates the current time-consuming process of cross-referencing several microfiche publications to obtain information. Though still in production (appendix E), FED LOG was available as of 1 June 1992 on a monthly basis.⁴⁸ When completed, FED LOG will provide

the information currently found in [over] 400 publications as well as logistics data specific to the military services. [Currently, a user looks at or handles] more than 1,000 separate pieces of microfiche, and [searches] from two to 20 minutes [for] information needed to order just one part. FED LOG [helps] locate this information in less than one minute and [should have over] 30,000 users by 1994.⁴⁹

Administrative Services for Defense Contracts

DLA provides contract administration services to support the military departments and other DOD components, the National Aeronautics and Space Administration, other designated federal and state agencies, and friendly foreign governments. These services include contract management, preaward surveys, quality assurance, payments to contractors, support to small businesses and labor surplus areas, transportation and packaging assistance, and surveillance of contractor progress to assure timely delivery of material. To streamline contract management in DOD, DLA is now solely responsible for performing all contract administration functions.⁵⁰ In late 1990, the Defense Contract Management Command (DCMC) (fig. 7) was organized and placed under DLA management. The purpose of the command is

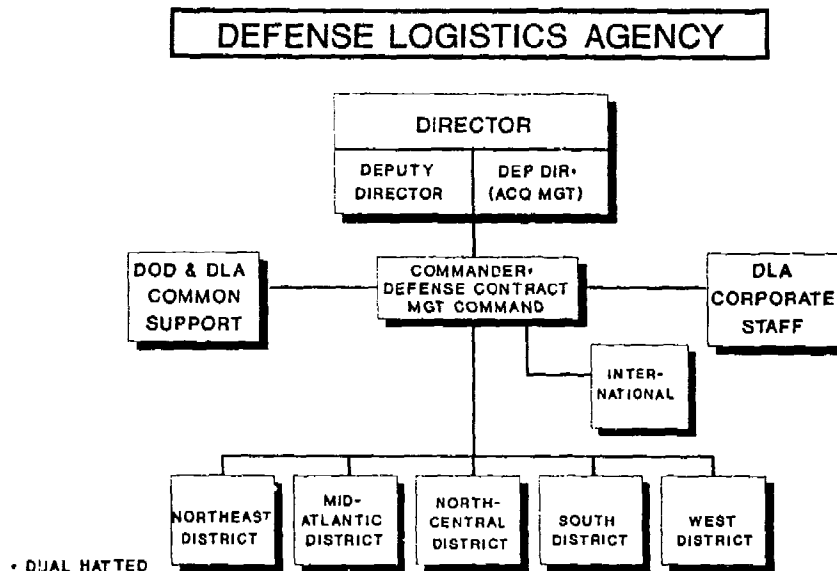


Figure 7. Organization of the Defense Contract Management Command. (From briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

to achieve enhancements in contract administration services (chap. 3 discusses DCMC in detail).

The next chapter examines the DLA Weapon Systems Support Program, one of the many programs DLA uses to enhance support to the military services. Used effectively, WSSP can increase supply support for selected and essential weapon systems, thus enhancing overall logistics supportability to the military services—especially the Air Force.

Notes

1. Defense Industrial Supply Center, *Update* (Philadelphia, Pa.: Office of Public Affairs, December 1991), 1-8; and Command Briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991. In fiscal year 1991, DLA's personnel authorizations were reduced by 1,595, more than 927 of which were in its contract administration services function, even though this function was part of the Defense Contract Management Command and was under its management (see chap. 4, fig. 30).
2. "Sighting for the 'Sixties: Organizational Backbone of Defense Supply," *The Review*, January-February 1962, 110.
3. *Ibid.*, 110-18.
4. *Ibid.*, 109-10.
5. *Ibid.*, 109.
6. *Ibid.*
7. Col John K. Carney, "How Air Force Views the Defense Supply Agency," *The Review*, May-June 1963, 16.
8. "Sighting for the 'Sixties," 114.
9. *Ibid.*, 113.
10. *Ibid.*
11. *Ibid.*, 117.
12. *Ibid.*
13. *Ibid.*
14. *Ibid.*, 113.
15. *Ibid.*
16. "Let's Get Going," *The Review*, July-August 1962, 15.
17. *Ibid.*, 166.
18. *Ibid.*, 169.
19. *Ibid.*, 173.
20. Carney, 17.
21. "Eleven Field Commanders for DSA," *The Review*, July-August 1962, 11-13.
22. Rear Adm Brady M. Cole, deputy director, Defense Logistics Agency, remarks to Office of Installation and Environmental Protection's professional development seminar, Alexandria, Va., 6 August 1991.
23. Carney, 17.
24. "Morris Praises Defense Supply Agency," *The Review*, September-October 1963, 9.
25. Defense Supply Agency, *An Introduction to DSA* (Cameron Station, Alexandria, Va.: Government Printing Office, 1970), 5.
26. DLA document DL107-2/11/91 (draft), 2-1.
27. *Ibid.*
28. William Lazarus and H. R. Kaplan, "An Interview with [Lt Gen Woodrow] Vaughan [DSA director]," *The Review*, November-December 1976, 24.
29. DLA document DL107-2/11/91 (draft), 2-5.
30. *Ibid.*
31. *Ibid.*

32. Cole remarks.
33. Charles Perry, supervisory analyst, Supply Systems, DLA Defense Personnel Support Center, telephone interview with author, 13 March 1992.
34. Brenda Broadwell, chief, Management and Engineering Branch, DLA Defense Fuel Supply Center, telephone interview with author, 13 March 1992.
35. Defense Logistics Agency, *DLA Inventory Reduction Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, April 1991), 3.
36. *An Introduction to DSA*, 2.
37. DLA document DL107-2/11/91 (draft), 2-1.
38. On 29 November 1991, DLA officials approved a plan to restructure DRMS. Once implemented, it will improve resource management and customer service, as well as save taxpayers' money. At a minimum, the plan eliminates regional headquarters; specifies a single headquarters at Battle Creek, Michigan; splits the US into an eastern (Columbus, Ohio) and western (Ogden, Utah) operation; and establishes a new national sales office at Memphis, Tennessee, with subsidiary offices in Europe and the Pacific. Carol J. Simpson, "Et II, DRMS?" *Dimensions*, February 1992, 1-3.
39. "Defense Reutilization and Marketing Service" (pamphlet), June 1991.
40. Philip G. Stewart, public affairs specialist, Defense Reutilization and Marketing Service (DRMS), Defense Logistics Agency, letter, subject: Air Force DRMS Statistics, 16 March 1992.
41. The precious metals recovery program promotes the recovery of silver, gold, and platinum-family metals from excess property. Silver is found in silver-cell batteries, tableware, buttons, desalter kits, insignias, anodes, wire for welding and brazing, missile and electronic parts, turnings, spent photographic fixing solution, film, and dental scrap. Gold is found in badges, insignias, anodes, turnings, buttons and eyeglass frames, powders, salts, foil, leaf, pellets, dental lingual bars, goldware, dental castings, and brazing alloys. Platinum-family metals are found in aircraft spark plugs, magneto and relay contact points, detonator fuses, anodes, cathodes, crucibles, foil, resistor furnace coils, thermocouple wires, dental alloys, jewelry, laboratory ware, and wire. Defense Reutilization and Marketing Service, "DRMS Precious Metals Recovery Program" (brochure), December 1989.
42. "Defense Reutilization and Marketing Service."
43. Stewart letter.
44. "Defense Logistics Services Center Mission and Organization—Fiscal Year 1991" (booklet), 1.
45. Ibid.
46. Ibid.
47. Gail Wassom, "FED LOG: Putting Logistics Data on Compact Disks," *Dimensions*, April 1992, 3.
48. DLSC, "Introducing FED LOG" (booklet), n.d., 2.
49. Wassom, 2, 4.
50. DLA document DL107-2/11/91 (draft), 2-1.

Chapter 2

Overview of the Defense Logistics Agency's Weapon Systems Support Program

For want of a nail, the shoe was lost—for want of a shoe, the horse was lost—for want of a horse, the rider was lost—for want of a rider, the battle was lost.

—Benjamin Franklin

We continue to hear calls for more cuts in an already-diminished defense budget. Some proposals call for reductions as large as “\$80 billion . . . over the next five years.”¹ During this period of financial uncertainty, logisticians—to an even greater extent than other supporters of war-sustaining machinery—must remain concerned about funds to get the right items, in the right number, to the right place, at the right time. Equally important to supplying air power and sustaining war, however, is knowing what the essential items are—especially consumables. As a wholesale manager of nearly 68 percent of all consumables in DOD (projected to increase to 93 percent by September 1994),² DLA remains committed to supplying as many consumables as possible, particularly those identified by the military services as essential to key weapon systems.³ DLA's Weapon Systems Support Program may allow the military services, especially the Air Force logistics community, to breathe a little easier during this period of financial uncertainty and adjustment.

Similar to the Air Force system of inventory management,⁴ DLA's system tries to ensure that enough items are available (preferably on hand or in the pipeline) to meet the demands of its users. Unfortunately, this method is not always sensitive to the operational readiness of weapon systems.⁵ However, the interdependence of certain weapon systems objectives (i.e., application files, levels computation, asset positioning, and so forth—appendix F) can compensate for some of that insensitivity. In DLA, most of the developmental programs—which support these objectives—started in 1985 and are scheduled for completion between 1995 and 1998 (appendix F). Coupled with these programs, WSSP continues to alleviate some of the agency's logistical support problems during the DOD transition to weapon systems management.

The Air Force—most notably, the Air Force Materiel Command (AFMC)—has been responsible for “keeping [its] weapons and support systems continually in a ‘GO’ status at the lowest cost to the U. S. taxpayer.”⁶ As we have seen, DLA was established to provide economically robust support to DOD. Since WSSP has strong potential to be compatible with Air Force and DLA

support programs and to be responsive to the military services' logistics needs, it can also improve efforts by the Air Force and DLA to manage and support essential weapon systems. Thus, this chapter discusses the purpose of WSSP, major players in WSSP and their responsibilities, and WSSP functional principles, as well as key management and support tools that make WSSP efficient and provide customer satisfaction. Further, the chapter analyzes DLA supply support to critical Air Force end items in the WSSP, to aircraft used during Operation Desert Storm, and to these same end items and aircraft after Desert Storm was over.

Purpose

Because DLA manages a broad array of over 3 million items, its performance can easily affect the mission capability of aircraft and other systems. Further, special programs such as WSSP can enhance the agency's support of the military services (fig. 8). Most of the 3 million DLA-managed items have multiple applications (table 3). For example, in the first month of the second quarter of fiscal year 1992, 459,487 Air Force-specific national stock numbers had 1,279,486 applications. Of the 459,487 NSNs, over 66 percent (304,894) were used only on Air Force weapon systems, almost 50 percent (228,574) were used only on one system, and almost 34 percent (154,593) were used by both the Air Force and another military service (e.g., Army, Navy, or Marine Corps) or DOD customer. Similarly, a significant number of the other

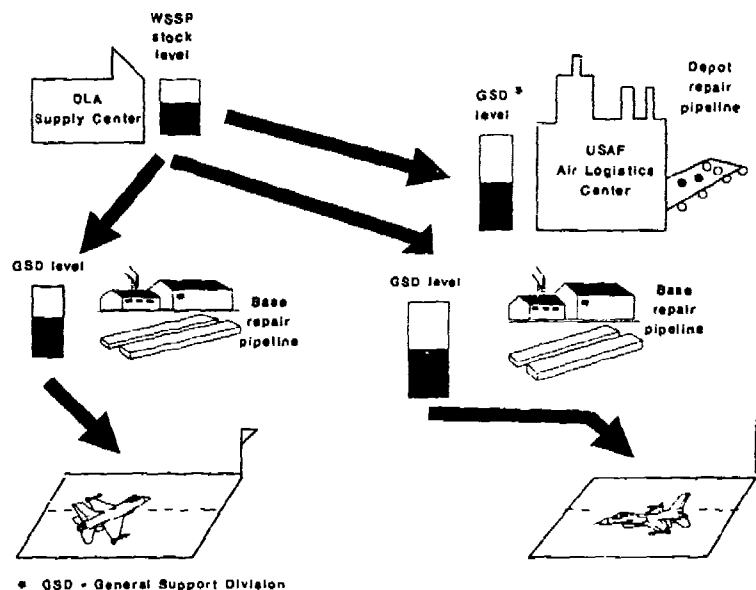


Figure 8. The Role of WSSP/USAF Parts in the Logistics Environment. (From Christopher H. Hanks, "How DLA's Supply Performance Affects Air Force Readiness," Report DL901R1 [Bethesda, Md.: Logistics Management Institute, October 1990], 2-6)

Table 3

**Weapon Systems National Stock Number Stratification
by Service (First Quarter Fiscal Year 1992)**

	<i>Army</i>	<i>Navy</i>	<i>USAF</i>	<i>USMC</i>	<i>Total</i>
Applications	551,327	2,545,543	1,279,486	226,332	4,602,688
NSN Total	281,519	771,263	459,487	101,266	1,613,535
Unique to service	161,859	609,881	304,894	27,006	1,103,640
Used on one system	136,736	375,264	228,574	19,068	759,642
Used by multiple services	119,660	161,382	154,593	74,260	509,895

Source: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, December 1991.

services' NSNs fall into the multiple-use category: Marines Corps (over 73 percent), Army (almost 43 percent), and Navy (almost 21 percent). These figures reflect the fact that as funds for spare parts and systems diminish and as the defense industrial base shrinks or disappears, the military services may be forced to share parts to repair weapon systems once unique to their operations. Since competition among multiple users for a scarce item may affect supportability, it becomes increasingly important to single out those items for special management. This is the province of WSSP.

The current WSSP was established in 1981. Since fiscal year 1983, it has grown from 475 to over 1,222 weapon systems (fig. 9) and from over 748,000 NSNs to over 1,312,936 (fig. 10). Since its inception, WSSP has been influenced by many factors (e.g., DLA efforts to publicize the program, usage by the military services, and so forth). Most influential, however, were the DOD Secondary Item Weapon System Management (SIWSM) initiative (1985) and the DLA and Air Force SIWSM implementation plans (1986), which identify 13 weapon system management capabilities (see appendix F). DLA and the Air Force have continued to reorient their inventory management processes to accommodate increased weapon system management and support. WSSP's main objective is to use intensive management techniques on items identified by the military services as essential to key weapon systems. It is also important that WSSP maintain the integrity of its data base to ensure that limited resources—including both funds and people—are optimally used in managing such items. Since 1969, for example, DLA has used WSSP processes to manage systems like the "Army's Chaparral/Vulcan Air Defense System and seven Air Force jet aircraft, which included the C-5 [Galaxy]."⁷

Major Players and Their Responsibilities

WSSP's success depends on the participation of three principal players: the military services, Headquarters DLA supply operations (Headquarters DLA-O), and the defense supply centers (DSC) weapon systems support branches. Each service nominates items for inclusion in WSSP, identifying

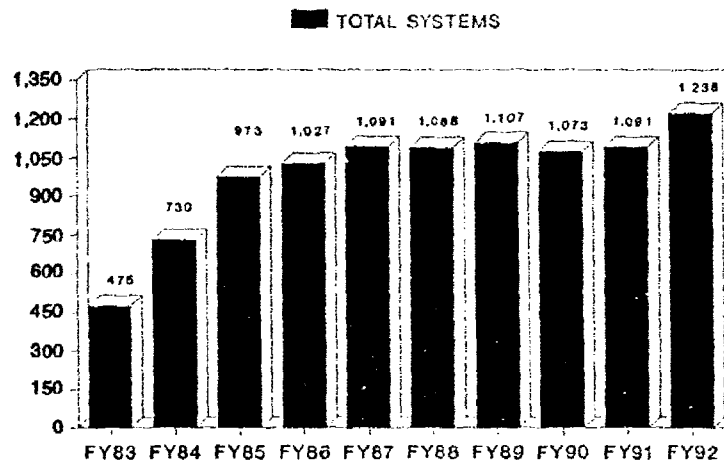


Figure 9. Weapon Systems Support Program's Growth: Total Systems through June 1992. (From briefing, Defense Logistics Agency, subject: Weapon Systems Support Program Workshop, 2-3 March 1992; and Danielle Osborn, DLA Weapon System Support Branch management support specialist, telephone interviews with author, 10, 17 August 1992)

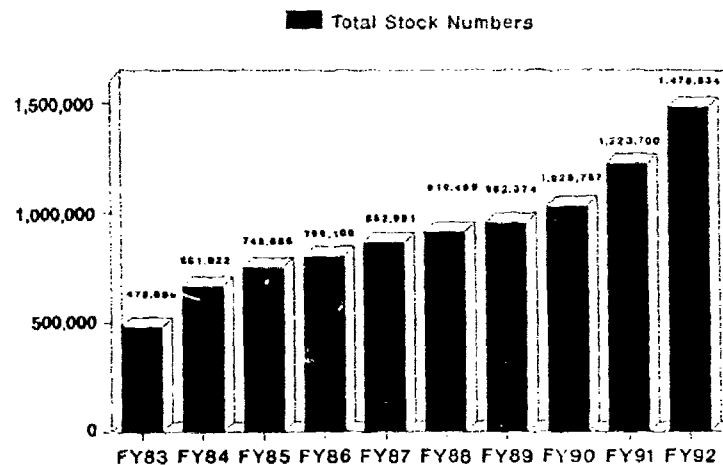


Figure 10. Weapon Systems Support Program's Growth: Total National Stock Numbers through June 1992. (From briefing, Defense Logistics Agency, subject: Weapon Systems Support Program Workshop, 2-3 March 1992; and Danielle Osborn, DLA Weapon Systems Support Branch management support specialist, telephone interviews with author, 10, 17 August 1992)

their essentiality and criticality. The services also submit detailed data, such as specific applications of the particular weapon system and other items that comprise the system. Further, they conduct periodic checks of previously submitted data. Headquarters DLA-O manages the overall WSSP and is responsible for policy, procedures, and guidance. After approving item nominations from the services, Headquarters DLA-O enters the appropriate information in the weapon systems data base (WSDB), which includes

program management data, number of affected systems, related level of criticality for those systems, nomenclatures, and so forth. In addition to surveilling the availability of parts and support for registered weapon systems, WSSP monitors at the DSCs provide analytical data to local management; to Headquarters DLA-O; and to system, program, or inventory managers of the military services. This information reduces the possibility of some items being out of stock and helps gauge overall support to the systems registered in WSSP.⁸

Functional Principles of WSSP

WSSP manages items according to their criticality and essentiality to a system, the former determined by the military service's major command (MAJCOM) and the latter by the service's program manager for the particular weapon system. The service selects NSNs, identifies the criticality of systems needing intensive management support, assesses the applicability of selected NSNs to the affected systems, and provides essentiality codes for these NSNs. The criticality spectrum ranges from least to most critical, and the essentiality spectrum from nonessential to essential (tables 4 and 5). The criticality of the systems, coupled with the essentiality codes of the NSNs, determines the level of intensive management and WSSP support. Once WSSP has this information, both DLA and the military services must work together to improve availability of the items. All four military services have

Table 4

Standard Automated Materiel Management System Weapon Systems Indicator Codes (WSIC)

<i>Weapon System Criticality</i>	<i>Item's Essentiality Code</i>	<i>WSIC</i>
Most Critical	EC 1	F
Most Critical	EC 5	G
Most Critical	EC 6	H
Most Critical	EC 7	J
Most Critical	EC 3	K
Critical	EC 1	L
Critical	EC 5	M
Critical	EC 6	P
Critical	EC 7	R
Critical	EC 3	S
Least Critical	EC 1	T
Least Critical	EC 5	W
Least Critical	EC 6	X
Least Critical	EC 7	Y
Least Critical	EC 3	Z

Source: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, October 1991.

notified DLA about systems that require intensive management (table 6). In October 1991, the Air Force increased its number of systems in WSSP from 226 to 350 (29 percent of the total systems in WSSP)—most of those being communications or communications support systems. As of February 1992, almost 10 percent (34) of the Air Force's WSSP entrants were most critical (table 7), 17 percent critical, and almost 73 percent least critical (the category which absorbed the majority of the increases) (appendix G).

As of January 1992, over 1.2 million items were registered in the WSSP at the four hardware DSCs and the Defense Personnel Support Center (DPSC)

Table 5

**Weapon Systems Support Program
Management Techniques**

- Categorize weapon systems level
 - Most critical (level A)
 - Critical (level B)
 - Least critical (level C)
- Utilize military-service-assigned item essentiality code
 - Essential to operation of system (code 1)
 - Degrades system operation (codes 5, 6, 7)
 - Not essential to operation (code 3)

Source: 1992 Headquarters Defense Logistics Agency, Weapon Systems Support Program Workshop, 2-3 March 1992.

Table 6

**Number of Weapon Systems in Weapon Systems
Support Program (February 1992)**

	SYSTEMS/LEVEL			
	A	B	C	TOTAL
ARMY	15	32	339	386
NAVY	21	80	139	240
USAF	34	61	255	350
USMC	19	58	169	246
TOTAL	89	231	902	1,222

Source: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, February 1992.

Table 7

**Air Force's Most Critical Weapon Systems and
Location of System Program Managers (January 1992)**

<i>Weapon System</i>	<i>ALC Location of System Program Managers*</i>
Minuteman Missile (LGM-30)	Ogden
B-52 Stratofortress Aircraft	Oklahoma City
C-135 Stratolifter Aircraft	Oklahoma City
F-111 Aircraft	Sacramento
C-5 Galaxy Aircraft	San Antonio
F-15 Eagle Aircraft	Warner Robins
E-3A AWACS Aircraft	Oklahoma City
F-16 Aircraft	Ogden
Air Launched Cruise Missile (AGM-86B)	Oklahoma City
Defense Support Program	Sacramento
B-1B Aircraft	Oklahoma City
MH-60G Pave Hawk Helicopter	Warner Robins
MX Peacekeeper Missile	Ogden
SOF Aircraft (AC-130A, AC-130H, MC-130H, EC-130E, HC-130)	Warner Robins
TF-33-PW-102 Engine (C-135E, EC-135/HK/P Aircraft)	Oklahoma City
TF-33-P-3/5/9 Engine (C/EC-135, B-52H Aircraft)	Oklahoma City
J57 Engine, All Models (C-135, EC-135, B-52 Aircraft)	Oklahoma City
F108 <CFM-56> Engine (KC-135R Aircraft)	Oklahoma City
TF-33-100 Engine (E-3A/B/C Aircraft)	Oklahoma City
TF-30-100 Engine (F-111F Aircraft)	Oklahoma City
TF-30-P-3/4/7/9 Engine (F-111A/D/E Aircraft)	Oklahoma City
T-56-A-9 Engine (AC-130A/D Aircraft)	San Antonio
T-56-A-7/15 Engine (C-130B/E/H/N/P Aircraft)	San Antonio
GE-T-700 Engine (UH-60A Aircraft)	San Antonio
T-64-GE-3/7 Engine (H-53B/C/H, HH-53B Helicopter)	Oklahoma City
TF-39-GE-1 Engine (C-5A Aircraft)	San Antonio
F-100-PW-100 Engine (F-15A/B/C/D Aircraft)	San Antonio
F-100-PW-200 Engine (F-16A/B/C/D Aircraft)	San Antonio
F-110-GE-100/129 Engine (F-16C/D Aircraft)	Oklahoma City
F-101-GE-100 Engine (3-1B Aircraft)	Oklahoma City
F-100-PW-220 Engine (F-15C/D/E Aircraft)	San Antonio
SOF HH-53H Pave Low Helicopter	Warner Robins
E-4B Airborne Command Post	Oklahoma City
F-100-PW-229 Engine (F-15E, F-16C/D Aircraft)	San Antonio

TOTAL MOST CRITICAL (Level A) SYSTEMS: 34

*Locations of Air Logistics Centers:

Ogden Air Logistics Center	Hill AFB, Utah
Oklahoma City Air Logistics Center	Tinker AFB, Okla.
Sacramento Air Logistics Center	McClellan AFB, Calif.
San Antonio Air Logistics Center	Kelly AFB, Tex.
Warner Robins Air Logistics Center	Robins AFB, Ga.

Source: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, January 1992.

(table 8).⁹ During fiscal year 1991, Headquarters DLA-O tasked these centers to maintain a supply availability of at least 90 percent for items at critical levels A and B and essentiality code 1.¹⁰ This involved 420,524 items in January 1992. During this same period, the Air Force's 399,646 NSNs

Table 8

**Weapon Systems Support Program
National Stock Numbers by Essentiality Codes (EC)**

	<i>EC 1</i>	<i>EC 5,6,7</i>	<i>EC 3/Blank</i>	<i>Total</i>
Defense Construction Supply Center	67,638	67,249	107,890	242,777
Defense Electronic Supply Center	150,600	128,031	109,813	388,444
Defense General Supply Center	49,185	45,930	76,203	171,318
Defense Industrial Supply Center	153,101	133,004	208,886	494,991
Defense Personnel Support Center	N/A	N/A	N/A	2,063
Total	420,524	374,214	502,792	1,299,593

Source: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, January 1992.

registered in the overall WSSP comprised 30 percent of the total items in the program.

The 124 systems that the Air Force added in October 1991 (mentioned previously) still do not have stock numbers or demands recorded against them (as of June 1992). An additional 17 weapon systems have fewer than 100 stock numbers recorded, and several of these systems have fewer than 10 recorded stock numbers and demands. Once the program to transfer weapon systems support data for communications and space items is functional,¹¹ the Air Force's piece of the pie may very well fluctuate according to the dynamics of stock number and demand data loads. As a major program participant, the Air Force can benefit from using WSSP and even more by offering enhancements to the program in the form of certain management and support tools.

Key Management and Support Tools

Both the weapon systems data base and the manpower network are essential ingredients to effective management of WSSP (fig. 11). The WSDB can avert logistics shortfalls through long-term system improvements, while the manpower network can immediately identify and resolve support deficiencies by virtue of its direct human involvement. The WSDB resides within DLA's Standard Automated Materiel Management System (SAMMS) requirements subsystem. It involves computer processors, storage devices, terminals, printers, software, and so forth, whereas the Headquarters DLA-O staff, the

NETWORK + DATA BASE

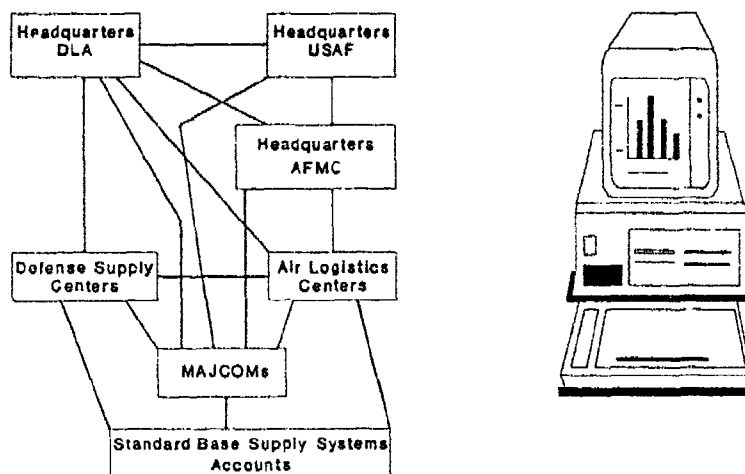


Figure 11. Management Strategy: DLA Weapon Systems Support Program. (From Headquarters Defense Logistics Agency, Weapon Systems Support Branch, October 1991)

DSCs, and the military services' MAJCOM or inventory control point representatives comprise WSSP's manpower network (fig. 12). As part of this network, personnel from DLA's Weapon Systems Support Branch work on-site with logistics representatives of the four services (fig. 13). These DLA personnel participate in local planning, production and initial support, and postproduction support for the WSSP; enhance communications between the services and DLA; and assist with providing WSSP-related training and instructions (table 9).

Twenty detailed reports (appendix H) are available for hands-on analysis of the military services' items in WSSP. These reports range from data on registered items to advance warnings on items close to being out of stock. Some agencies that view the reports as reactive to support problems use the capabilities of the standard query language (SQL) (see appendix H) to create and tailor unique management reports to minimize or prevent logistics support problems. For example, WSSP monitors at the Defense Electronics Supply Center use SQL and dBase III programs to determine which NSNs are most likely to affect supply availability to Group A (most critical) and Group B (critical) systems. After monitors identify these NSNs, they send them to the appropriate item managers for review and action.¹²

Five major support tools (appendix I) also enhance support for items in WSSP: (1) supply support request (SSR) (table 10), (2) special program requirement (SPR) (table 11), (3) logistics assets support estimate (LASE) (table 12), (4) weapon systems item data card (table 13), and (5) access to systems in DLA's corporate network (i.e., SAMMS telecommunications, table 14). Both timing and availability of funds drive the effectiveness of SSRs and SPRs. For

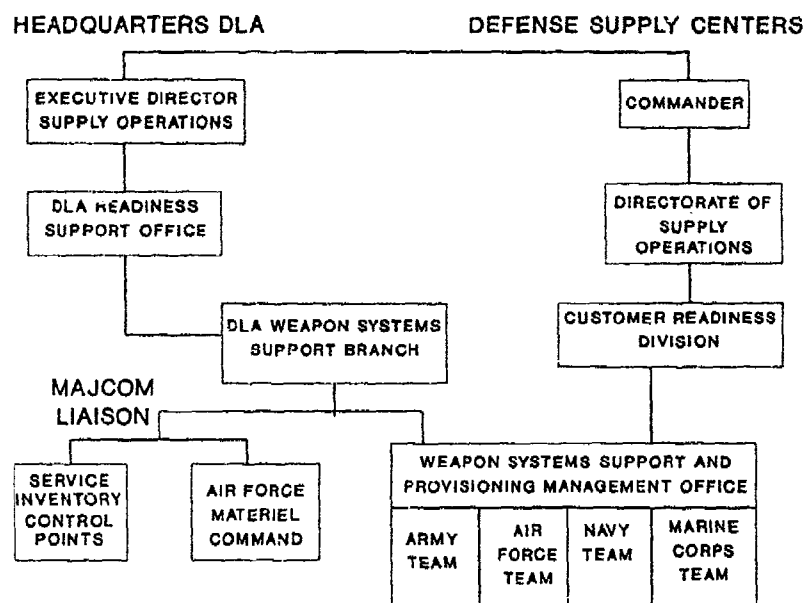


Figure 12. DLA Weapon Systems Support Program Organization. (From briefing, Defense Logistics Agency, subject: Weapon Systems Support Program Workshop, 2-3 March 1992; and Danielle Osborn, DLA Weapon Systems Support Branch management support specialist, telephone interview with author, 10 August 1992)

example, the submitting organization may know of a maintenance support requirement, yet may not be able to fund that requirement unless the complementary maintenance action occurs within a certain time window (e.g., 90 days). This situation may hamper DLA support if the particular item is known to have administrative and production lead times that exceed the requester's need date. Such is the case with many DLA-managed items, possibly due to item specifications mandated by the military services and to an ever-shrinking source of suppliers.¹³ Limited funding usually affects both the requester's timely ordering and eventual requisitioning of items as well as DLA's procurement of them; however, items coded "essential" in WSSP are usually better supported than those that are either not coded as such (fig. 14) or not registered in the program (table 15).

In addition to using these management reports and support tools, the military services can further enhance support of their requirements—especially of essential WSSP items—through requirements forecasting, the emergency supply operations center (ESOC), and the Direct Buy Program (DBP). The requirements forecasting process allows a customer to identify items which may be needed in a quantity either not supported by previous demands or in large numbers over a long period of time. This process differs from the SPR process in that it involves repeated requests for the items. The past track record of obtaining items through SPR and requirements forecasting—

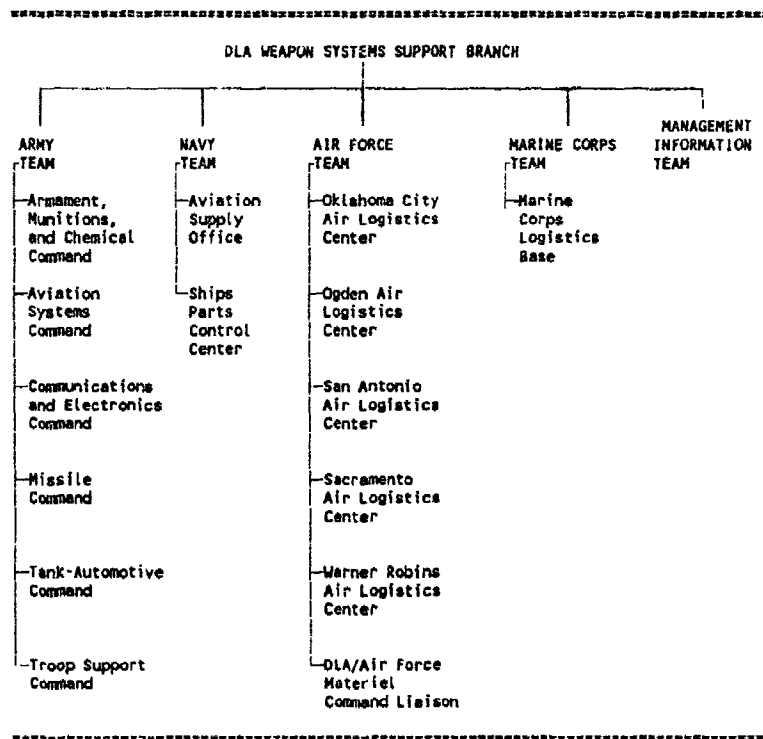


Figure 13. Location of DLA Weapon Systems Support Program Advisers. (From Headquarters Defense Logistics Agency, Weapon Systems Support Branch, 10 August 1992)

compared to actual requests for or use of those items—is poor.¹⁴ Since already-limited funds may be spent procuring items the military services do not order in a timely manner, the user must ensure that a forecast is really required (i.e., no other method will suffice), that it is accurate (i.e., in forecasted quantity), and that the item will be ordered (i.e., by submitting funded requisitions for the forecasted quantity).

The ESOC may be helpful when the user experiences significant delays after ordering an essential item, despite having followed the correct DOD military requisitioning procedures. In some cases, ESOC personnel may have access to interservice or intraagency sources as well as vendors who can expedite partial or complete delivery of certain items. However, one should not use ESOC to bypass the normal requisitioning channels. Doing so would hinder ESOC's efforts to supply essential items that are already affecting the services' operational readiness. Used properly, ESOC can help get the essential item to the user who needs it the most.

As a last resort, the user may turn to the DBP to obtain items needed to preserve a weapon system's mission capability (MICAP; a system is mission capable if it can perform at least one of its primary functions). Under the provisions of DBP, the original equipment manufacturer (OEM) (e.g., McDonnell Douglas, manufacturer of the F-15 aircraft) agrees to support

Table 9

Examples of DLA Adviser WSSP Responsibilities

Planning

Acquisition and logistics milestones
Contractor data requirements listing technical data calls
Integrated logistics support plans
DLA budget and resource estimates
DLA internal planning
Spares acquisition integrated with production for DLA
Nondevelopmental item logistics support

Production and Initial Support

Logistics support analysis review
Provisioning guidance conferences
Provisioning process
Technical data availability
Initial retail level support
Supportability assessments
Design change notices

Postproduction Support

Change in system and program density
Change in system location (redistribution)
Increase or decrease in depot repair
Modifications
Readiness reviews—DLA support assessments
Weapon systems item reconciliations
Supply availability versus operational availability

General DLA Issues

Communication link between DLA and military services

- Identifies responsible offices
- Acts as clearinghouse and follow-up contact
- Obtains critical information from service contacts

Training and instructional medium

- Shows how DLA operates
- Provides tools to increase DLA response to service's requests or needs

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program (WSSP) Workshop, 2-3 March 1992.

Table 10

Supply Support Request

Document or group of documents submitted by users of consumable items in order to obtain supply support

- For part-numbered items
 - Generates NSN assignment request
 - Establishes requirements
 - Relates item to a weapon system
- For NSNs already coded as stocked
 - Considers additive quantity
 - Adds submitter as user of the item
 - Relates item to a weapon system
- For NSNs coded as nonstocked
 - May upgrade to stocked and established requirements
 - Adds submitter as user of the item
 - Relates item to a weapon system

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

Table 11

Special Program Requirement

- Provides the means for customers to advise DLA of nonrepetitive requirements which cannot be forecasted based on demand data
- Acceptance criteria
 - Automated criteria
 - $\leq \$50$ or
 - $\geq \$50 \leq$ four months system demand and support data is after production lead time unless assets are on hand
 - Off-line criteria (bypass)
 - Headquarters DLA-/service-negotiated
 - Customer service project-coded or reject
 - SPR will reject if quantity is $\leq 10\%$ of item's quarterly demand
 - Rejects result in request for a funded requisition

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

Table 12

Logistics Assets Support Estimate

-
- Computer-to-computer process
 - Uses automated digital network (AUTODIN)
 - Routed through defense automated addressing system (DAAS)
 - Excellent method for advanced planning
-

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

reasonable and urgent requests for MICAP items, usually from the OEM's production line. The stipulations for using this program are straightforward: the item's weapon system must be in the DBP (table 16), the request must satisfy a validated MICAP requirement, and the system manager must notify the DSC that manages the required item. The DSC representative then orders the item from the contractor.

Abuses of the DBP may be logistically disastrous if they have the effect of preventing OEM resources from supporting a larger contract for the same item. For example, if the system manager of an aircraft engine makes repeated DBP requests to General Electric for a nacelle bearing, this may unduly tax or even exhaust the capability of the company's production line to meet current or future requests for nacelle bearings or related end items. Thus, support for DOD users of that bearing will suffer.

As a joint effort between the military services and DLA, WSSP can succeed only when all participants encourage sound provisioning, adequate technical data, accurate requirements forecasting, and more efficient lines of communications. Equally important is the assistance of system managers (SM) and program managers (PM) in maintaining the integrity of the weapon sys-

Table 13

**Weapon Item Data Card
(Document Identifier Code WS1)**

-
- Prepared by military service weapon systems managers/inventory control points/activities
 - Identifies items required to support designated weapon systems
 - Initiated through the provisioning supply support request when an item has weapon systems application
 - Establishes, adds, changes, or deletes a national stock number and/or data element in the weapon systems file
-

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

Table 14

**Standard Automated Materiel Management System
Telecommunications (SAMMSTEL) On-Line Remote Access**

- Asset visibility
- Supply supportability
- Stock availability

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

tems data base. Detractors from WSDB integrity include, but are not limited to, SMs or PMs who do not ensure that essentiality codes are accurate and do not update the WSDB by adding or deleting items. For example, in April 1990 DLA identified 40,187 items in WSSP that were coded against the B-1 aircraft. More than 20,843 of them were unique to the B-1. Yet, over 81 percent (16,955) of those unique items were not ordered during calendar years 1988 and 1989.¹⁵ Although certain circumstances might account for the absence of orders, one would think that a considerable number of these consumables would be ordered frequently for the B-1—unless they were no longer required due to design changes in the weapon system's configuration. This type of disparity or neglect can cause undue competition for decreasing dollars, misdirect personnel resources, reduce overall materiel availability, and minimize the program's effectiveness. Likewise, DLA can contribute to the WSDB's overall integrity by ensuring easier access to the data base, providing

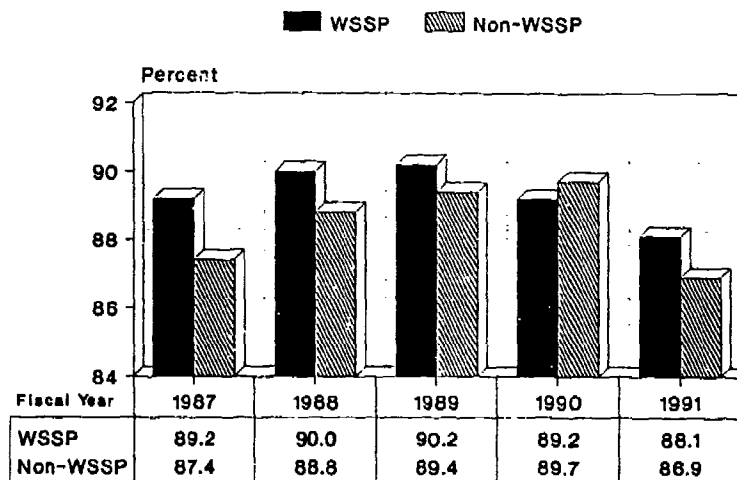


Figure 14. Comparative Supply Availability of WSSP versus Non-WSSP Items. (From Defense Industrial Supply Center, Air Force Weapon Systems Support Team statistics, May 1991)

Table 15

**Comparative Support Trends of WSSP Items
versus Non-WSSP Items**

	1987	1988	Fiscal Year 1989	1990	1991
WSSP Demands	9,151,119	8,774,738	9,534,839	9,903,873	9,915,960
Non-WSSP Demands	9,218,131	8,643,689	8,893,908	8,505,505	8,204,153
Percentage of WSSP Demands	49.8%	50.4%	51.7%	53.6%	54.7%
WSSP Supply Availability	89.2%	90.0%	90.2%	89.2%	88.1%
Non-WSSP Supply Availability	87.4%	88.8%	89.4%	89.7%	86.9%

Sources: Headquarters Defense Logistics Agency, Weapon Systems Support Branch, September 1991; and Danielle Osborn, DLA Weapon Systems Support Branch management support specialist, telephone interview with author, 31 July 1992.

real-time data, and minimizing rejected entries, all the while maintaining the system's security.

In addition to improving the visibility of and the support to selected items for essential weapon systems, WSSP increases DLA involvement with the services—particularly the dialogue on key logistics support issues. The program's potential impact also moves DOD closer to its goal of improving the management of weapon systems and enhancing the operational readiness of the military services.

Analysis of Weapon Systems Support

DLA measures its WSSP supply support performance to the military services by recording supply availability data for items requested by the services.¹⁶ Headquarters DLA-O produces monthly reports containing data on supply availability, stock numbers, and net demands. In addition to providing cumulative data for all of the above, DLA-O's quarterly reports reflect the average time that an item in support of a weapon system is on back order and the time that it takes an inventory control point to release that item. These reports, summarized by service, are distributed to the headquarters, staff, and support agencies for each of the military services (see appendix J for Air Force distribution and a sample page from each report).

Used effectively, these reports can help identify potential shortfalls for a particular item as well as indicate the level of competition for an item. For example, the performance report of December 1991 (appendix J) showed that the Minuteman missile (LGM-30)—a system the Air Force has identified as "most critical"—had recorded uses of 19,562 stock numbers. Of that number, 18,831 items were in stock. Further, the report shows 23,615 demands for those 19,562 stock numbers, 94.1 percent of which were filled by DLA. Since

Table 16

Weapon Systems in DLA Direct Buy Program

<i>Weapon System</i>	<i>Entry Date</i>	<i>System Manager</i>	<i>Contractor</i>
F-15	Feb 81	WR-ALC	MAC Air
E-3A	Jan 82	OC-ALC	Boeing Aircraft
F-16	Nov 82	OO-ALC	General Dynamics
F-18	Oct 83	ASO	Northrop/MAC Air
AE-6/EA-6B/ E-2C/F-14	Dec 83	ASO	Grumman Aero
SH-60B	May 85	ASO	Sikorsky
B1-B	Jul 85	OC-ALC	Rockwell, North American, Eaton, Boeing, AIL, and GE
SH-2F	Feb 86	ASO	Kaman Aero
CH-53E/MH-53E	Feb 86	ASO	Sikorsky
UH-60A	Mar 86	AVSCOM	Sikorsky/MAC Air
AH-64	Mar 86	AVSCOM	GE/MAC Air/MM
MLRS	Aug 86	MICOM	LTV Aerospace
AV-8B	Oct 86	ASO	MAC Air
F-110 Engine	Aug 87	OC-ALC	GE Supply
C-2A (R)	Jul 88	ASO	Grumman Aero
SH-60F/H/J/HH	May 89	ASO	Sikorsky
OH-58D	Jul 89	AVSCOM	Bell
F-100 Engine	Feb 90	SA-ALC	Pratt & Whitney
AH-1W	Mar 90	ASO	Bell
SINCGARS-V	Mar 90	CECOM	ITT
C-130	Mar 91	WR-ALC	Lockheed
C-17	Proposed	SA-ALC	Douglas Aircraft

Legend:

ASO—US Navy Aviation Supply Office
 AVSCOM—US Army Aviation Support Command
 CECOM—US Army Communications and Electronics Command
 MICOM—US Army Missile Command
 OC-ALC—Oklahoma City Air Logistics Center
 OO-ALC—Ogden Air Logistics Center
 SA-ALC—San Antonio Air Logistics Center
 WR-ALC—Warner Robins Air Logistics Center

Sources: Robert Bachorek, Defense Industrial Supply Center, Weapon Systems Support and Provisioning Branch (DISC-OPW), management support specialist, telephone interviews with author, July 1992; and DISC-OPW "Direct Buy Program" data sheet, July 1992.

demands were only about 20 percent higher than the stock on hand, this is not a nightmarish example. Yet, the Minuteman system manager may want to consider the other users of or applications for the items in stock because if requirements from other users increase, logistics support to the missile system could diminish. The manager also may want to identify the 731 items that were out of stock and determine their criticality to the Minuteman pro-

gram. Clearly, these reports can be useful in planning for short- or long-term program management efforts—especially in areas of logistics support.

Since fiscal year 1988, DLA's supply availability for Air Force WSSP items has averaged over 89.4 percent (table 17). For example, in fiscal year 1991 the Air Force had 2,433,459 total demands for 442,108 NSNs for 226 weapon systems. DLA satisfied 2,175,512 of those requests (i.e., almost nine out of every 10 Air Force requirements). In the fourth quarter of calendar year 1991, DLA supply availability for the 34 most critical Air Force weapon systems averaged over 92.6 percent (table 18).

Table 17

WSSP Support Trends (Air Force Statistics)

	1988	1989	Fiscal Year 1990	1991	1992*
Number of Systems	196	203	213	226	350
Number of NSNs	348,042	372,072	403,685	442,108	507,959
Total Demands	2,268,719	2,453,379	2,751,858	2,433,459	1,467,920
Supply Availability	89.8%	90.8%	89.1%	88.6%	88.9%

*Through 30 June 1992

Source: Danielle Osborn, Defense Logistics Agency, Weapon Systems Support Branch, management support specialist, telephone interviews with author, July and August 1992.

WSSP Support to Selected Aircraft Used in Desert Storm

In September 1989, Lt Gen Charles McCausland, director of DLA, issued the agency's new *Basic Emergency Plan*, which had been completely restructured to better meet DLA's increased responsibilities. In the foreword, General McCausland challenged the agency to support efforts to keep the plan alive and useful: "We must ensure the agency can respond to the requirements and support the Armed Forces and our Nation regardless of the emergency situation we face."¹⁷ On 2 August 1990—less than 11 months later—the agency got an opportunity to meet the director's challenge when Iraq invaded Kuwait.

Almost immediately after President Bush announced the involvement of the US military, DLA was at the center of the effort to support the deployment to the Middle East and, later, the war. David C. Morrison noted that during the first two months of Desert Storm, "most of the supplies being shuttled to Saudi Arabia—from bread to boots, from nerve gas antidote to jet fuel—flowed from the DLA's vast store of three million individual stock items."¹⁸

Table 18

**DLA Support to the Air Force's Most Critical
Weapon Systems (Calendar Year 1991)**

Weapon System	Quarterly Net Demands				Quarterly Supply Availability			
	1st	2d	3d	4th	1st	2d	3d	4th
Minuteman LGM-30 Missile	119,570	97,591	93,098	83,574	92.7	93.7	94.2	93.7
B-52 Aircraft	177,085	136,361	127,082	112,658	90.2	91.7	92.8	92.8
C-135 Aircraft	207,294	191,038	177,537	159,533	89.8	91.7	92.4	92.2
F-111 Aircraft	193,898	159,865	143,822	129,035	89.7	91.4	92.4	92.7
C-5 Aircraft	187,783	154,980	143,719	132,122	89.5	90.4	91.2	91.2
F-15 Aircraft	214,044	176,989	166,715	150,848	89.1	89.0	90.4	90.4
E-3A AWACS	193,886	104,700	97,946	86,789	91.5	92.3	93.2	92.9
F-16 Aircraft	193,061	158,345	152,219	134,012	89.1	90.1	91.2	91.0
Air Launched Cruise Missile	49,380	42,177	39,377	34,132	91.2	91.9	91.9	92.7
Defense Support Program	52,251	42,898	40,928	36,258	94.0	94.5	94.5	93.6
B-1B Aircraft	108,629	90,307	85,906	75,787	91.3	91.8	92.5	92.8
MH-60G Pave Hawk Helicopter	33,082	29,495	26,927	24,263	92.2	91.3	93.1	94.6
MDK Peacemaker Missile	79,164	66,227	63,174	55,179	93.3	93.2	93.7	94.4
SOF Aircraft (AC-130A, HC-130, AC-130H, MC-130H, EC-130E)	135,039	109,982	105,001	95,176	89.4	90.5	91.7	91.8
TF33-PW-102 Aircraft Engine (C-135E, EC-135H/K/P)	38,235	31,101	28,521	24,748	91.4	91.3	93.1	93.3
TF33-P-3/5/9 Aircraft Engine (C/EC-135, B-52H)	41,030	32,516	29,301	25,307	92.6	91.9	93.5	93.7
All J57 Model Aircraft Engine (C-135, EC-135, B-52)	59,676	46,313	41,994	36,261	92.6	92.5	93.4	94.0
F108 (CFM-56) Aircraft Engine (KC-135R)	3,839	3,674	3,242	2,926	94.2	91.8	96.1	96.8
TF33-100 Aircraft Engine (E-3A/B/C)	15,267	11,615	10,195	8,646	92.0	94.1	96.4	94.1
TF30-100 Aircraft Engine (F-111F)	21,289	17,645	16,204	14,337	94.9	91.2	93.0	93.8
TF30-P-3/4/7/9 Aircraft Engine (F-111A/D/E)	32,094	26,164	23,700	20,883	93.6	92.0	92.8	93.4
T56-A-9 Aircraft Engine (AC-130A/D)	27,116	23,659	21,690	19,700	89.7	91.5	95.5	93.1
T56-A-7/15 Aircraft Engine (C-130B/E/H/M/P)	59,352	47,421	43,540	39,246	91.0	91.6	93.2	93.6
GE T-700 Aircraft Engine (UH-60A)	2	3	1	2	100.0	100.0	100.0	100.0
T64-GE-9/7 Helicopter Engine (H-53B/C/H, HH-53B)	13,816	10,940	9,918	8,562	89.6	90.0	94.1	94.6
TF39-GE-1 Aircraft Engine (C-5A)	35,786	28,195	25,676	23,775	90.1	89.8	91.6	91.3
F100-PW-100 Aircraft Engine (F-15A/B/C/D)	35,137	29,078	27,138	24,397	88.2	86.7	87.2	88.1
F100-PW-200 Aircraft Engine (F-16A/B/C/D)	30,922	27,026	25,773	23,906	92.7	92.8	93.9	90.8
F110-GE-100/129 Aircraft Engine (F-16C/D)	16,976	15,222	13,210	12,188	94.9	95.9	89.8	86.7
F101-GE-100 Aircraft Engine (B-1)	13,870	12,152	10,747	9,495	93.8	94.1	94.0	93.3
F100-PW-220 Aircraft Engine (F-15C/D/E)	11,849	10,320	9,486	8,615	90.4	88.8	89.1	86.9
SOF HH53H PAVE LOW Helicopter	51,808	36,987	36,540	33,046	89.5	92.3	93.2	93.8
E-4B Airborne Command Post	10,261	8,976	7,899	6,825	89.1	88.8	92.9	95.2
F100-PW-229 Aircraft Engine (F-15E, F-16C/D)	10,452	9,144	8,589	7,759	92.1	91.4	91.7	88.4

TOTAL "A" SYSTEMS: 34

Sources: Defense Logistics Agency, Weapon Systems Support Program quarterly performance reports, January through December 1991.

Initially, the Defense Personnel Support Center in Philadelphia appeared to be the most active of DLA's centers. For example, within 45 days of the invasion, it had shipped over "\$401.4 million worth of items."¹⁹ Throughout the war, DLA-managed items (e.g., fuel, food, clothing, and medicine—fig. 15) supported the military services' personnel, equipment, and weapon systems. All of the refueling, airlift, and fighter aircraft employed during Desert Storm met or exceeded their peacetime MICAP rates (fig. 16), even though they flew more sorties per day.²⁰ For the duration of the war, the availability of WSSP supplies for those aircraft did not fall below 87.6 percent (table 19). Further, WSSP provided a better-than-average support of 87.2 percent to other attack, bomber, fighter, reconnaissance, and special-duty aircraft used during the same period (table 20).

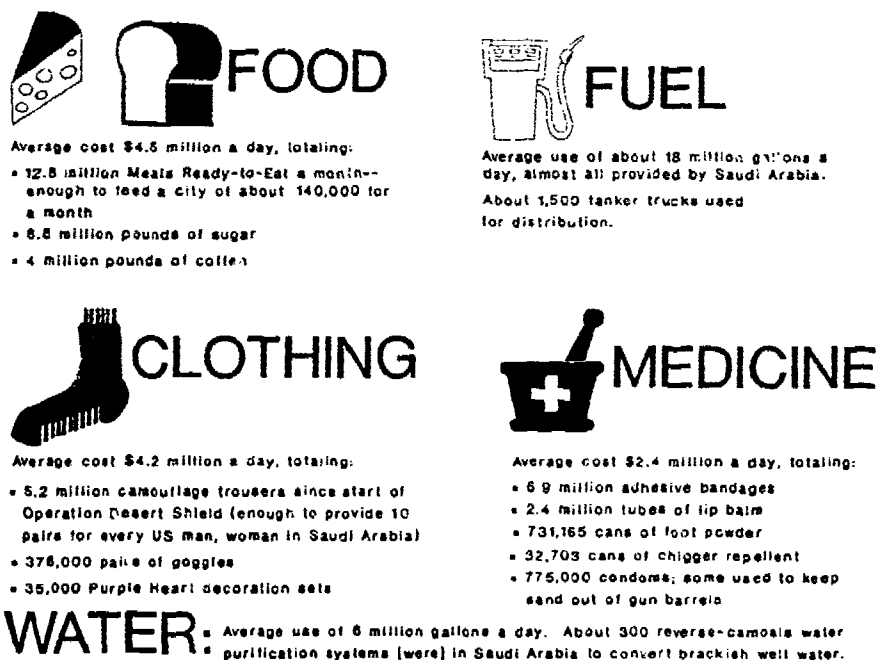


Figure 15. Fueling the War. (From Paul Hoversten, "Logistics Crucial at the Front," *USA Today*, 18 February 1991, 4A)

From August 1990 to March 1991, five of DLA's centers provided specific support in strong fashion, thereby contributing to a "logistics miracle"²¹ instead of what easily could have become "another logistical nightmare."²² By 29 March 1991, DLA's supply and personnel support centers had processed over 2,158,696 requisitions with a cumulative value of over \$3.4 billion (table 21) and had assisted in providing "enough supplies to run a city larger than Boston or Seattle"²³ (table 22). For these efforts, Secretary of Defense Dick Cheney presented DLA its first combat streamer in a ceremony which also

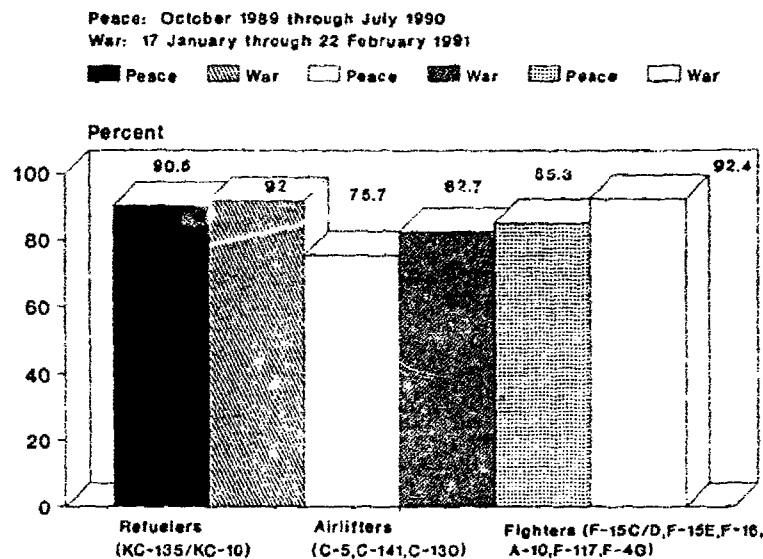


Figure 16. Desert Storm Logistics: Mission Capability Rates. (From Colleen A. Nash, "Desert Storm Logistics," *Air Force Magazine*, May 1991, 16-17)

Table 19

DLA Support to Air Force Desert Storm Combat
Aircraft (As Cited in Fig. 16)

Aircraft	National Stock Number			Net Demands			Supply Availability (%)		
	JAN91	FEB91	MAR91	JAN91	FEB91	MAR91	JAN91	FEB91	MAR91
KC-135	34,106	34,260	34,525	86,974	59,016	71,304	90.2	88.4	90.4
KC-10	—	—	—	—	—	—	—	—	—
C-5	29,412	29,576	29,751	66,943	62,850	57,990	89.2	89.9	89.4
C-141	18,352	18,426	18,592	67,476	64,404	58,056	88.9	89.8	89.6
C-130	27,381	27,577	27,783	89,514	85,564	74,277	89.8	90.4	90.6
F-15C/D/E	38,614	38,796	39,172	76,278	73,818	63,948	87.6	88.6	88.2
F-16	35,143	35,295	35,380	68,075	66,781	58,225	89.1	89.3	88.8
A-10	13,945	14,003	14,104	60,059	57,595	49,469	89.1	89.3	90.1
F-117	—	—	—	—	—	—	—	—	—
F-4G	24,267	24,307	24,325	87,465	82,675	70,673	92.4	89.8	89.4

— Aircraft are contractor-supported; thus, related statistics not available in DLA Weapon Systems Support Program.

Sources: Aircraft type taken from Colleen A. Nash, "Desert Storm Logistics," *Air Force Magazine*, May 1991, 16-17; and data extracted from Headquarters Defense Logistics Agency, Weapon Systems Support Program monthly performance reports, January through March 1991.

"marked the first time a secretary of defense had visited DLA headquarters in the agency's 30-year history."²⁴

As the military faces domestic and global uncertainties and challenges, the efficiency of programs such as WSSP will become increasingly important—both to the provider (DLA) and the users (the military services). The impact of an effective WSSP ranges from providing advanced warning of supply sup-

port problems that could affect essential weapon systems to developing the best management tools to make the program work (table 23).

Table 20

**DLA Support to Air Force Desert Storm "Other"
Aircraft (Not Cited in Fig. 16)**

Aircraft	National Stock Number			Net Demands			Supply Availability (%)		
	JAN91	FEB91	MAR91	JAN91	FEB91	MAR91	JAN91	FEB91	MAR91
OV-10A	2,864	2,872	2,875	23,591	22,536	18,728	88.6	88.8	89.9
AC-130H	13,209	13,372	13,465	48,586	46,496	39,957	89.2	89.4	89.7
F-111F	25,818	25,807	26,150	70,477	66,307	56,872	89.3	89.7	90.1
B-52G	13,487	13,598	13,702	65,122	61,468	50,495	89.8	90.1	90.7
MH-60G	2,046	2,120	2,371	11,400	10,993	10,699	90.6	93.9	92.1
MH-53J	1,948	1,956	1,974	18,500	18,233	15,075	88.2	89.3	91.2
E-3A	20,963	21,095	21,031	48,060	45,977	39,649	90.9	91.9	91.7
E-4B	457	456	461	3,570	3,416	3,275	89.7	87.2	87.2

*WSSP data not broken out; includes AC-130AH, MC-130H, EC-130E, and HC-130.

Sources: Aircraft type taken from "The Aircraft of Desert Shield and Desert Storm," in *Desert Shield, Desert Storm Background* (Washington, D.C.: Air Force Internal Information Directorate, Air Force News Center, 1991), 11; and data extracted from Headquarters Defense Logistics Agency, Weapon Systems Support Program monthly performance reports, January through March 1991.

Table 21

DLA Desert Storm Statistics

	NSNs	Cumulative Requisitions (#)	Cumulative Requisitions (\$-Million)	Number of Back Orders	Supply Availability
DESC	57,078	253,594	61.9	10,532	89.3
DISC	102,571	595,500	108.8	34,059	87.8
DCSC	72,494	494,476	289.9	28,211	85.1
DGSC	43,203	318,451	388.7	19,063	84.4
DPSC					
Medical	18,163	210,457	556.9	2,034	82.2
Subsistence	619	28,824	1,027.0	0	100.0
Clothing and Textiles	7,427	257,391	1,004.9	39,765	65.0
TOTALS:	301,555	2,158,696	3,438.1	133,664	

Data as of 29 March 1991.

Legend:

- DESC - Defense Electronics Supply Center
- DISC - Defense Industrial Supply Center
- DCSC - Defense Construction Supply Center
- DGSC - Defense General Supply Center
- DPSC - Defense Personnel Support Center

Sources: Briefing, Defense Industrial Supply Center Weapon Systems Support and Provisioning Branch, Air Force Weapon Systems Support Program Team, subject: Operations Desert Shield/Desert Storm Support, May 1991.

Table 22

DLA's Logistical Contributions to Operations Desert Shield and Desert Storm

"Enough supplies to run a major American city. The agency's many logistical accomplishments in support of Operations Desert Shield and Desert Storm include:

- filling requirements for more than 225 million meals;
- increasing production from 2.4 million meals, ready-to-eat, per month to 28 million per month;
- shipping more than 900,000 sets of desert camouflage uniforms;
- shipping more than 300,000 chemical suits to add to those already issued to U.S. forces;
- outfitting, in less than five days, two medical ships, with 400 line items worth \$1.2 million per ship;
- preparing and shipping 29 Deployable Medical Systems, adding 228 modernization modules valued at \$9 million and \$29.3 million worth of other supplies and equipment;
- issuing more than 5.6 million fence posts, 1.5 million rolls of concertina and barbed wire and 84 million sandbags;
- awarding more than 100 petroleum supply and related service contracts to commercial suppliers and also negotiating with host nations to provide another 45 million barrels of petroleum;
- handling 6.8 million requisitions for items in DLA weapon systems support program (availability for such items exceeded 87.6 percent);
- procuring and shipping more than \$38 million worth of packaged petroleum products;
- establishing a Defense Reutilization and Marketing Office in Saudi Arabia and accepting turn-ins beginning in November 1990;
- generating 1,450 shipments of donated material valued at more than \$74 million;
- responding to more than 1.7 million requisitions valued at more than \$3.2 billion; and
- shipping: more than 500,000 tons of supplies; \$1,097 million worth of rations; \$891.8 million in clothing; \$559.5 million in medical supplies; \$189.7 million in repair parts; and \$470.7 million in general supply items."

Source: "A Logistics Miracle," *Dimensions*, January 1992, 2-3.

Unlike the war with Iraq, the next conflict may not allow for a soundly prepared logistics base, truly selective stocks, an upper hand in weapons superiority, or a capable and supportive coalition of partners. We could very well be without the horseshoes, the horses, and the riders. As we have seen, an efficiently run WSSP can have considerable impact on support to the military services during peacetime and war. Such efficiency is especially important to the Air Force, since

strange as it may seem, the Air Force, except in the air, is the least mobile of all the services. A squadron [of aircraft] can reach its destination in a few hours, but its establishment, depots, fuel, spare parts, and workshops take many weeks, and even months to develop.²⁵

Table 23

WSSP Impact

-
- Advanced warning systems
 - Purchase requests prioritization
 - Stockage policy
 - Levels
 - Storage locations
 - Retention
 - Management tools and listings
-

Source: Briefing, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, subject: DLA Weapon Systems Support Program Workshop, 2-3 March 1992.

Notes

1. William Matthews, "Deeper Defense Cuts No Cure for Budget Woes, JCS Vice Says," *Air Force Times* 52, no. 22 (6 January 1992): 3.
2. Earl Nichols, "Roots: How the Defense Logistics Agency (DLA) Began and How It Grew," *Dimensions*, October 1991, 4.
3. James J. Grady, Jr., deputy executive director, Supply Operations Directorate, Defense Logistics Agency, letter, subject: Weapons Coding of Items Involved in the Consumable Item Transfer, 30 July 1991.
4. Deputy Chief of Staff, Logistics and Engineering, *United States Air Force Plan to Implement Weapon Systems Management* (Washington, D.C.: Directorate of Maintenance and Supply, March 1986), 1.
5. Defense Logistics Agency, *Secondary Item Weapon System Management Implementation Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, 31 January 1986), 1.
6. "Air Force Logistics," *The Review*, May-June 1965, 29.
7. Defense Supply Agency, *An Introduction to DSA* (Cameron Station, Alexandria, Va.: Government Printing Office, 1970), 6.
8. Defense Logistics Agency Manual 4140.2, vol. 2, "Supply Operations Manual, Defense Supply Center, Supply Operating Procedures, Weapon System Support Program," draft, 26 July 1991, II-1-51 to II-1-54.
9. The fuel, clothing, medicine, and food provided by the Defense Fuel Supply Center and the Defense Personnel Support Center are considered nonhardware items.
10. Minutes of the 1991 Defense Logistics Agency Weapon Systems Support Program Workshop, 11 March 1991, 2.
11. Memorandum, Kathryn Willyard, DLA Weapon Systems Support Program adviser, Sacramento Air Logistics Center, to author, subject: Response to Review of Research Project, 6 August 1992.
12. Maryanne L. Clare, DLA Weapon Systems Support Program adviser, Ogden Air Logistics Center, to author, letter, subject: Response to Review of Research Project, 28 July 1992.
13. DLA has developed a program—the Commodity-Oriented Procurement System—to minimize the lead times on certain items (see chap. 3).
14. *Report [of the US General Accounting Office] to Congressional Requesters: Air Force Logistics—Improved Redistribution of Retail Inventories Needed*, 101st Cong., 3d sess., July 1991, 20-22.
15. Lt Col Robert C. Coffin, USAF, chief, Operations Research and Economic Analysis Management Support Office, Defense Logistics Agency, to DLA Weapon Systems Support Office, letter, subject: Demand Analysis for Items Unique to B-1 Aircraft Consultation (DLA-KX-C00152), 25 April 1990.

16. Supply availability is the number of items supplied divided by the number of items requested, expressed as a percentage.
17. Defense Logistics Agency, *Basic Emergency Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, 12 July 1989), i.
18. David C. Morrison, "Baptism by Fire," *National Journal*, 29 September 1990, 2320.
19. Ibid.
20. Colleen A. Nash, "Desert Storm Logistics," *Air Force Magazine* 74, no. 5 (May 1991): 16-17.
21. "A Logistics Miracle: Cheney Presents Joint Meritorious Unit Award to DLA for Operation Desert Storm Support," *Dimensions*, January 1992, 1-3.
22. Tom Shoop, "Another Logistical Nightmare," *Government Executive* 23, no. 1 (January 1991): 38-39.
23. "A Logistics Miracle," 2.
24. Ibid., 1.
25. Lt Col David C. Rutenberg and Jane S. Allen, eds., *The Logistics of Waging War: American Logistics 1774-1985, Emphasizing the Development of Airpower* (Gunter Air Force Station, Ala.: Air Force Logistics Management Center, 1986), 83.

Chapter 3

Effects of Reorganizational and Management Initiatives on the Defense Logistics Agency

During combat, if something is broken there is a tendency to throw it aside because more is coming. In the future, we must understand that lots more may not be coming.

—Maj Gen Joseph K. Spiers

Since DLA was established in 1961, various parties have questioned the need for such an agency.¹ As recently as January 1992, DLA's efficiency has been criticized, and the agency was the subject of an unflattering report on television's "60 Minutes" news program that dealt with an excess of items in the DOD inventory. Nevertheless, for 30 years DLA has successfully standardized, procured, managed, and distributed DOD consumables throughout its varied customer base, namely the military services. Particularly notable are DLA's efforts in the area of standardization, which "exists primarily to support each military application with the most reliable and efficient single item instead of similar and less efficient ones."² Although DOD-wide standardization remains subordinate to joint logistics support efforts among the military services, DLA, and industry, it is a major contributing factor in our combat effectiveness and our military victories.³ Standardization of the management of consumables used throughout DOD "gladden[s] the heart of the taxpayer through economics, and boost[s] the morale of the soldier by giving him extra reliability in the tools he must use."⁴ Undoubtedly, DLA's success in this original area of responsibility has expanded its role in the standardization of other DOD functions.

Since 1944 there have been numerous studies of DOD's organization (table 24). Just as reorganizational initiatives led to the establishment of DLA in 1961, so have they continued to affect the agency. Since the mid-1980s, sweeping changes aimed at getting the most efficiency from DOD by enhancing its management practices have been proposed. The sources of these proposals were the president's Blue Ribbon Commission on Defense Management (the Packard Commission, 1986), the Goldwater-Nichols DOD Reorganization Act (1986), the Report on Defense Management Review (1989), and DOD's Total Quality Management program (1988). This chapter discusses some of the methods that DLA is using to implement the changes called for by these initiatives in an effort to enhance its accountability and efficiency.

Table 24

Studies and Plans on Defense Organization

Apr 1944	Woodrum Hearings—McNamey Plan
Apr 1945	Special Joint Chiefs of Staff Committee Report on Reorganization of National Defense
Sep 1945	Eberstadt Committee Report
Oct 1945	Collins Plan
Apr 1946	Thomas Bill
Jan 1947	Army-Navy Compromise Plan (Norstad-Sherman Plan)
Feb 1947	President Truman's National Security Act of 1947
Nov 1948	Eberstadt Committee (of the Hoover Commission) Report
Feb 1949	Commission on Organization of the Executive Branch of the Government (Hoover Commission) Report
Mar 1949	Tydings Bill
Apr 1953	Rockefeller Committee Report
Apr 1953	President Eisenhower's Reorganization Plan
Jun 1953	Hoffman Plan
Jan 1958	Wheeler Committee Report (prepared at the request of the Joint Chiefs of Staff)
Apr 1958	President Eisenhower's Reorganization Plan
Dec 1960	Symington Study on Reorganization of the Department of Defense (prepared for President-elect Kennedy)
Jul 1970	Blue Ribbon Defense Panel (Fitzhugh) Report
Jun 1978	Ignatius Report on Defense Reorganization
Jul 1978	Steadman Committee Report on National Military Command Structure
Feb 1979	Defense Resource Management (Rice) Report
Sep 1979	National Security Policy Integration (Odeen) Report
Dec 1981	Joint Planning and Execution Steering Committee Report
Feb 1982	Two separate reports of the chairman (of the JCS) Special Study Group
Feb 1982	General Jones's Reorganization Proposal
Apr 1982	General Meyer's Reform Proposal
Aug 1983	House Armed Services Committee Reorganization Proposal for the JCS
1983	Krulak (US Strategic Institute) Study
1983	Byron (National War College Strategic Studies) Study
Apr 1984	Senate Armed Services Committee Study on the JCS and DOD
Sep 1984	Hudson Institute Committee Report on Civilian-Military Relationships
Nov 1984	DOD Review of JCS Reorganization Proposals
Feb 1985	Georgetown University Center for Strategic and International Studies Report
Oct 1985	Senate Armed Services Committee Staff Report on Defense Organization
Nov 1985	Moses (National Defense University National Security Essay) Study
Jun 1986	The President's Blue Ribbon Commission on Defense Management (Packard Commission)

Source: Lt Comdr James K. Gruetzner, USN, and Maj William Caldwell, USA, "DOD Reorganization," US Naval Institute Proceedings, May 1987, 143.

President's Blue Ribbon Commission on Defense Management

After the end of World War II, America was often thought of as the big boy on the block; however, maintaining this status required considerable expenditures throughout DOD. As a result, public frustrations mounted—especially after our befuddled efforts in Vietnam and eventual withdrawal from that conflict. Complicating the matter was the public's knowledge that the Pentagon had access to more than \$3.4 trillion since 1973—over \$2.55 trillion of that amount during the 1980s.⁵ Further, over \$1.5 trillion was spent on defense during the five years that preceded the demise of the Soviet Union.⁶

Peacetime often engenders doubt among the taxpaying public with regard to DOD spending. The most prevalent attitude seems to be that the US military endorses wastefulness. For example, the public often thinks of DOD “as a place where their tax money is squandered on such things as \$600 toilet seats.”⁷ Some people were even convinced that “46 percent of the total federal budget [went] to military spending . . . nuclear weapons [making] up the largest share.”⁸

Statistics, however, do not support such attitudes (table 25). DOD spending in 1950 for example, was 4.4 percent of the gross national product (GNP), 27.5 percent of federal outlays, and 17.9 percent of net public spending.⁹ In fiscal year 1992, DOD spent 4.7 percent of the GNP; however, this amount equalled only 19.6 percent of federal outlays and 11.7 percent of net public spending. Further, a comparison of defense spending to federal outlays from FY 1950 to FY 1997 (fig. 17) shows that, although defense spending after World War II shot upward to 57 percent of federal outlays, it decreased during the Korean

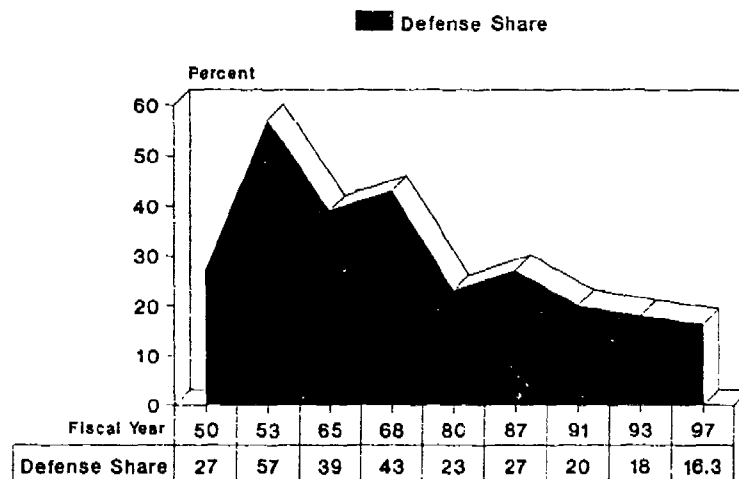


Figure 17. Defense as a Share of Federal Outlays. (From Eric Rosenberg and Tony Capaccio, “After the Cold War, Cold Production Lines,” *Defense Week*, 3 February 1992, 19)

Table 25

DOD's Slice of the Dollar

Fiscal Year	DEFENSE OUTLAYS AS A PERCENT OF		
	Gross National Product	Federal Outlays	Net Public Spending*
1950	4.4	27.5	17.9
1955	9.1	51.5	34.5
1960	8.2	45.0	28.8
1965	8.8	38.8	23.8
1970	7.8	39.4	23.6
1975	5.6	25.5	15.1
1980	5.0	22.5	13.8
1981	5.2	23.0	14.4
1982	5.8	24.5	15.5
1983	6.2	25.4	16.1
1984	6.0	25.9	16.3
1985	6.2	25.9	16.4
1986	6.3	26.8	16.6
1987	6.2	27.3	16.5
1988	5.9	26.5	16.0
1989	5.7	25.6	15.5
1990	5.4	23.2	14.1
1991	4.9	20.4	12.0
1992	4.7	19.6	11.7

*Federal, state, and local net spending excluding government enterprises (such as the US Postal Service and public utilities) except for any support these activities receive from tax funds.

Sources: "Money," *Defense* 87, September/October 1991, 19.

and Vietnam conflicts and during the military buildup of the Reagan administration. Given the decline of funds for defense, DOD knew that reviews of its efficiency were in order and that corrective actions were necessary.

On 15 July 1985, President Ronald Reagan initiated efforts to enhance overall defense management by issuing Executive Order 12526 (appendix K), which established his Blue Ribbon Commission on Defense Management. Headed by former Deputy Secretary of Defense David Packard, this commission was tasked to study budget, procurement, organization, legislative oversight, and operational arrangements throughout DOD.¹⁰ The commission specifically reviewed and considered eight areas involving defense management and organization (table 26).

From August 1985 through June 1986, the commission met with former US presidents, defense secretaries, and assistants to the president for national security affairs. Additionally, the commission heard a broad range of presentations from former key defense personnel, such as

chairmen of the Joint Chiefs of Staff [JCS], service secretaries and service chiefs, combatant and logistics commanders, other military leaders, high-ranking civilian officials of the OSD [Office of the Secretary of Defense], military departments, [and] major defense research centers.¹¹

From 18 January to 1 February 1986, the commission conducted telephone interviews of 1,500 members of the general public, seeking their responses to 17 defense management issues such as military organization and the defense

Table 26

**Defense Management Policies and Procedures:
Areas for Study**

1. Review the adequacy of the defense acquisition process, including the defense industrial base, current law governing federal and Department of Defense procurement activities, departmental directives and management procedures, and the execution of acquisition responsibilities with the military departments.
2. Review the adequacy of the current authority and control of the secretary of defense in the oversight of the military departments, and the efficiency of the decision-making apparatus of the Office of the Secretary of Defense.
3. Review the responsibilities of the Organization of the Joint Chiefs of Staff in providing for joint military advice and force development within a resource-constrained environment.
4. Review the adequacy of the unified and specified command system in providing for the effective planning for and use of military forces.
5. Consider the value and continued role of intervening layers of command on the direction and control of military forces in peace and in war.
6. Review the procedures for developing and fielding military systems incorporating new technologies in a timely fashion.
7. Study and make recommendations concerning congressional oversight and investigative procedures relating to the Department of Defense.
8. Recommend how to improve the effectiveness and stability of resources allocation for defense, including the legislative process.

Source: House, *A Quest for Excellence: Final Report of the President's Blue Ribbon Commission on Defense Management to the President, 99th Cong., 2d sess., June 1986, 27-28.*

budget. Of most concern to the commission was the public's perception that most defense dollars are spent on nuclear weapons (item 17, appendix L).¹² From 28 February through 30 June 1986, the commission submitted reports on initial findings, defense acquisition, national defense planning and budgeting, and conduct and accountability. The commission's final report of 30 June 1986 became a blueprint for achieving overall enhancements to defense management, specifically recommending actions to substantially improve "national security planning and budgeting, military organization and command, acquisition organization and procedures, and government-industry accountability."¹³

The commission's recommended enhancements significantly affected all of DOD, including DLA. The commission's report persuaded DOD to stop talking about reorganizing and take some action.¹⁴ Thus, both DOD and DLA now had the impetus to convince the taxpayers that their money was being spent wisely.¹⁵

Goldwater-Nichols DOD Reorganization Act

Sponsored by Rep Bill Nichols and Sen Barry Goldwater, the DOD Reorganization Act was signed into law on 1 October 1986. The act sought to enhance the responsiveness of the combatant commands; direct defense agencies with combat support roles (e.g., DLA) to focus on the wartime requirements of their customers; reform personnel management for joint officers; and reorganize military departments to "increase civilian control and to eliminate duplication and staff layering."¹⁶

The Goldwater-Nichols Act immediately and significantly affected DLA. For example, DLA was designated a combat support agency (CSA). This designation meant that the JCS would frequently determine DLA's "responsiveness and readiness . . . to support the operating forces [during] a war or a threat to national security" and that DLA would participate in joint exercises to test and evaluate its logistics capabilities. The act also directed the Office of the Secretary of Defense to "study the functions and organizational structure of DLA to determine the most effective, economical, and efficient means of providing required services" to its customers. Results of the OSD study showed that CSAs, including DLA, must "provide operational expertise, know what the forces need, understand tactics and doctrine, and be able to determine when and why some requirements are more or less important."¹⁷

The act also required more officers to gain significant hands-on joint experience. Thus, Army, Navy, Marine Corps, and Air Force officers could work together to integrate national strategic and contingency planning. As a major logistics organization in DOD, DLA received an overall increase in its critical and joint-duty billets. For example, based on fiscal year 1992 staffing, more than 423 majors, lieutenant colonels, and colonels are authorized to serve three-year tours in joint logistics billets within DLA. This authorization represents 51 percent of the logistics joint-duty assignments in DOD.¹⁸ To ensure that joint-duty or non-joint-duty experience gained at DLA is not lost, Gen Charles McCausland—the former director—discouraged extensions of non-critical military personnel. His rationale was that after serving a tour in DLA and returning to their respective services, officers will "create [more] effective communications channels between DLA and its customers."¹⁹ This benefits the officer, the parent service, and DLA. Further, the increased number of joint positions in DLA and the fact that joint duty is now a requirement for selection to flag and general officer ranks give the military services an opportunity to "translate [their] requirements [for DLA-managed items] into operational capability both in [DLA] and the combatant commands."²⁰ The benefits of such an arrangement increase with the quality of the officer sent to DLA and the experiences gained from serving in a joint billet or a tour in a joint environment.

The Goldwater-Nichols Act also helped DLA's mission evolve from functional concerns (e.g., inventory management, contract administration, etc.) to operational concerns (e.g., enhancement of material readiness and sus-

tainability of the military services and the unified and specified commands).²¹ DLA's interaction with the JCS, the commanders of the unified and specified commands, and the service chiefs can benefit from the much-needed communication between DLA and the military services, especially the Air Force. To maintain this communication, DLA—whose director reports to the joint staff director for logistics—has a "peacetime responsibility to support DOD components and other agencies and [has] specific wartime responsibilities to the JCS chairman and the unified and specified commands."²² These obligations involve mobilization planning, which requires an industrial base that is responsive to national emergencies, as well as participation in exercises and support of contingencies. As a CSA, DLA would interact more frequently with the JCS and the component commanders of the unified and specified commands and thus facilitate a smooth transition from peacetime to contingency to wartime. As evidenced by Operations Urgent Fury (Grenada), Just Cause (Panama), Desert Shield, and Desert Storm, DLA's constant interaction with key DOD players made the agency fully responsive to theater and operational requirements in those conflicts. Achieving such results without a degradation in overall logistics support is what the founders of the agency²³ and today's OSD desire from DLA and other members of the DOD team.

Defense Management Review

Further implementation of reorganization recommendations, especially from the Packard Commission and the Goldwater-Nichols Act, resulted in Secretary of Defense Dick Cheney's Defense Management Review (DMR) report to the president in July 1989.²⁴ This report emphasized improving management efficiencies in DOD by "cutting excess infrastructure, eliminating redundant functions and initiating common business practices."²⁵ These improvements are being underwritten to

centralize policies, procedures, standards and systems while decentralizing their execution and implementation. [This is leading] to major organizational changes that are improving the department's operational effectiveness.²⁶

Compared to other studies on defense management, the DMR was unique in that it was conducted by military personnel instead of an outside panel of experts.²⁷

Further, the same people who participated in the DMR are currently implementing the initiatives. By implementing the DMR, the OSD hopes to fulfill

part of the department's overall effort to streamline and restructure the armed forces to maintain and strengthen America's defense capabilities within the limits of the resources available [and] free resources for more productive use.²⁸

The OSD estimates that implementation of initiatives dealing with corporate information management, finance and accounting systems, research and tech-

nology, intelligence, acquisition, regulatory relief, contract management, depot maintenance, supply system, and commissary management will "save more than \$70 billion by fiscal year 1997."²⁹ This implementation also entails the elimination of 50,000 civilian and 44,000 military positions, a source of considerable savings.³⁰

Of the three sources of reorganizational initiatives, the DMR decisions (DMRD) appear to have had the greatest impact throughout DOD, especially in DLA. This is largely due to the fact that after implementation of the DMRDs, some of the military services' responsibilities, such as inventory management and distribution functions, were assumed by DLA. Four DMRDs in particular—involving contract management, inventory management, inventory reduction, and distribution processes—will alter the way DLA does business with the military services and other major DOD customers.

Contract Management

A DMR-directed study indicated that the consolidation of DOD contract management functions under a single agency would

save over 2,400 workyears, standardize policy and provide uniform and efficient performance of contract management functions, expand joint duty assignments, and provide consistency in training and contribute to the DOD goal of professionalism in the acquisition workforce.³¹

On 6 February 1990, Deputy Secretary of Defense Donald J. Atwood directed that the military services and DLA consolidate their contract administration services (CAS) functions within the existing DLA framework, a move which would be less expensive and more efficient than creating another agency. The transfer of CAS functions from the military services to DLA was completed on 30 June 1990. The first DMR-mandated structural realignment occurred when nine DLA CAS regions, along with the Air Force's Contract Management Division, were consolidated into five districts in the continental United States (CONUS) and one international district. This resulted from combining the military services' plant representative offices and related contract administration services, including contract management, program and technical support, and quality assurance. The consolidation was completed 30 September 1991.³²

The Defense Contract Management Command (DCMC), a subordinate DLA command, was established by DMRD 916 and charged with overseeing the newly consolidated contract management functions.³³ The command's mission is to provide the military services with products and services in an economical and timely fashion.³⁴ Currently, the DCMC's districts in the south, west, northeast, mid-Atlantic, and north central United States, as well as international locations, are responsible for all CAS functions across the DOD acquisition spectrum for the four military services and supported DOD agencies (see figs. 18–20).

A 1991 DMR progress report noted that the establishment of DCMC has already reduced overhead and payroll costs, provided uniform procurement policies, ensured the independence of the contract administration offices and upgraded the quality of our contract administration work force.³⁶

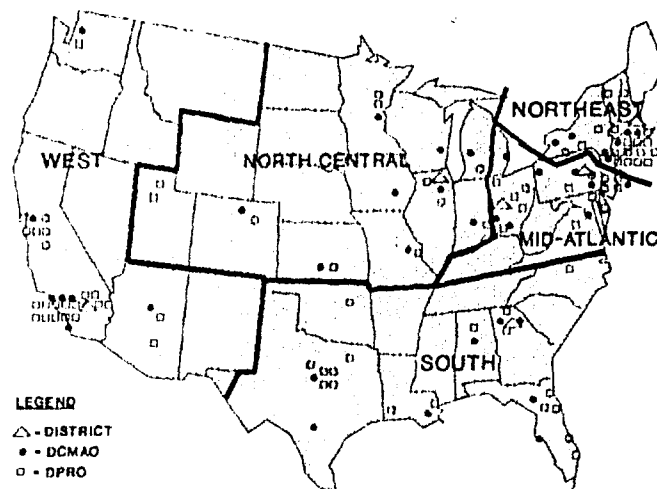


Figure 18. Defense Contract Management Command Districts, Area Operations, and Defense Plant Representative Offices. (From command briefing, Defense Contract Management Command, subject: Command Overview, Second Quarter, Fiscal Year 1991, March 1991; and Michelle Kalski, Defense Contract Management Command administrative assistant, telephone interviews with author, August 1992)

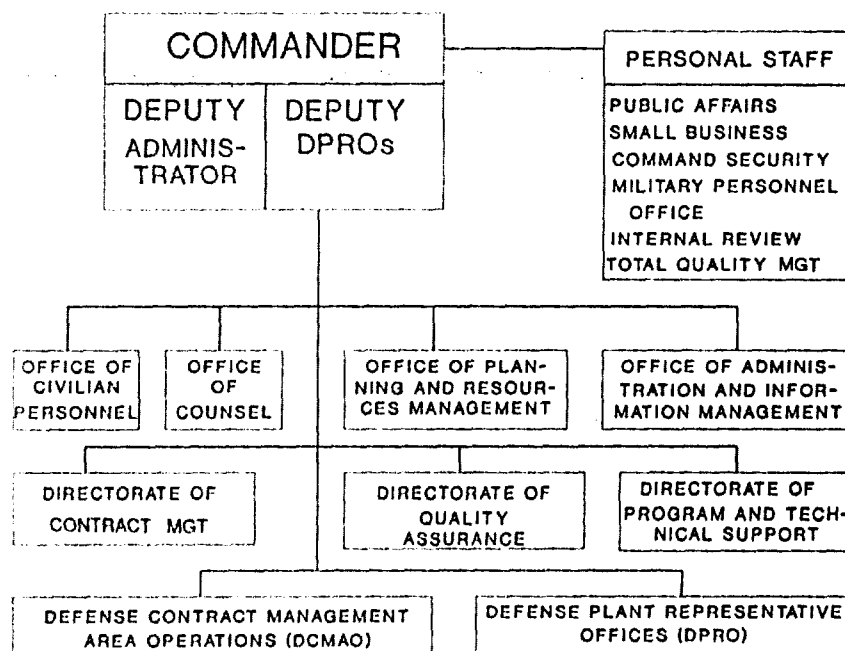


Figure 19. Defense Contract Management Command District Organizations and Operations. (From command briefing, Defense Contract Management Command, subject: Command Overview, Second Quarter, Fiscal Year 1991, March 1991; and Arthur Bailey, Headquarters Defense Logistics Agency Public Affairs Office, information packet, 20 February 1992)

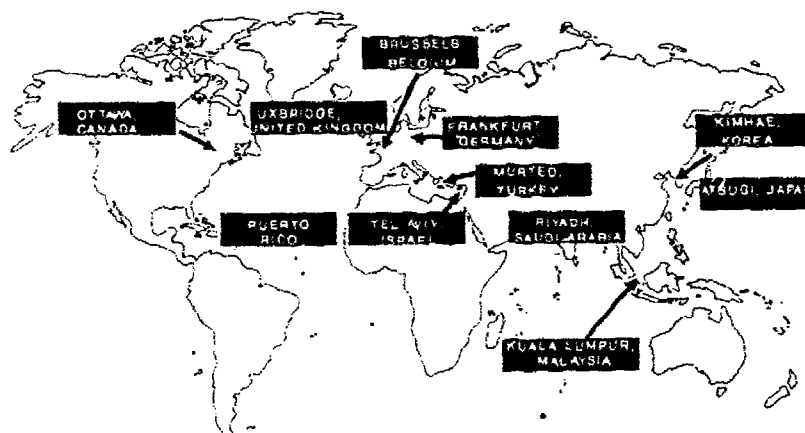


Figure 20. Defense Contract Management Command International Operations. (From command briefing, Defense Contract Management Command, subject: Command Overview, Second Quarter, Fiscal Year 1991, March 1991)

As of 30 September 1991, DCMC's 20,250 personnel, including those assigned to the eight international offices, administered over 500,000 contracts totaling over \$750 billion to 30,000 contractors.³⁶

One example of the benefits of CAS centralization is DLA's implementation of the Commodity Oriented Procurement System (COPS). The major objective of COPS is to

move many DLA hardware (industrial, electronics, construction, and general) procurements to simple ordering actions from established long-term Indefinite Delivery Type Contracts.

The COPS approach will allow DLA's suppliers to broaden their military market, reduce their costs, eliminate multiple proposals, lock in contracts which will generate sales over a several year period, and position firms receiving contracts for the future in defense procurement.³⁷

Such an initiative may reduce the lead times of some DLA items³⁸ and thereby increase the agency's responsiveness to satisfying "just-in-time ordering." This complements DOD's competitive efforts in the repair and manufacturing business.³⁹ Further, COPS allows items to be purchased on indefinite delivery contracts and permits the supplier to bid for a group of items rather than bidding separately for several components. The Defense Industrial Supply Center (DISC), DOD's major procurement agent for industrial items, has identified over 32 federal supply classes to use in its COPS (table 27). During fiscal year 1990, items in these classes represented a procurement value of over \$425 million—at this DSC alone.

Anyone familiar with DOD contracting realizes that a major complaint of suppliers lies in the small monetary value of certain DOD contracts, especially for general and industrial hardware items. However, administrative

Table 27

**Products to Be Purchased under
the Commodity Oriented Procurement System**

<i>Commodities (Federal Supply Class)</i>	<i>*FY 90 Procurement Value</i>	<i>*FY 90 Orders</i>	<i>Typical Items</i>
Aircraft Engine Components (2810, 2835, 2840)	\$21,580,386	709	blades, vanes, shafts
Aircraft Electric and Fuel System Components (2915, 2925, 2995)	11,065,783	418	spark igniters, adapters, tubes, valves
Bearing, Plain and Antifriction (3110, 3120, 3130)	55,917,005	12,029	annular ball, roller, needle, cylindrical, sleeves, bushings
Chain, Wire Rope, Cordage, and Fittings (4010, 4020, 4030)	21,188,065	2,612	welded chain, steel rope, nylon cord, twine, yarn clips, hooks
Screws, Bolts, and Studs (5305, 5306, 5307)	61,015,627	22,163	machine, cap screws, hex head bolts, threaded studs
Nuts and Washers (5310)	34,503,124	12,044	self-locking, hexagon nuts, flat, key, lock washers
Nails, Keys, Pins, and Rivets (5315, 5320)	29,747,721	9,714	brads, tacks, cotter pins, blind, solid rivets
Fastening Devices (5325)	6,589,172	2,031	grommets, panel, eyelets
Packing and Gasket Material (5330)	42,651,073	23,756	rubber sheets, seals, retainers, metallic, rubber gaskets
Miscellaneous Hardware (5340)	53,925,572	18,455	casters, clamps, mounts, padlocks, anodes
Springs (5360)	4,090,774	4,686	torsion, leaf, door
Rings, Shims, and Spacers (5365)	12,759,378	10,062	sleeves, connecting rings
Electrical Wire and Cable (6145)	29,148,926	2,676	magnetic wire, coaxial, shipboard, telephone, radio cable
Ferrous Metals (9505, 9510, 9215, 9520)	19,659,423	1,397	wire, bars, rods, plate strip, structural shapes
Nonferrous Metals (9525, 9530, 9535, 9540)	22,809,489	1,962	wire, bars, rods, forgings foil, sheet, strip, plate

*DISC plans to review grouping opportunities in commodities based on customer importance. The FY 90 procurement dollar amounts and the numbers of awards represent DISC's total activity in these classes, not the obligations and purchases for COPS items only. The extent of COPS procurements in each commodity is impossible to forecast at this point prior to actual review.

Source: Defense Industrial Supply Center. "Commodity Oriented Procurement System" (brochure), n.d.

control of all DOD contracts and the COPS initiative may put DLA and its supply centers in a better position to offer their suppliers more business, as well as negotiate terms for production and quality that would benefit the military services and other DOD customers. DLA has good reason to be optimistic about the prospect of increased supply supportability; yet, only the next several years will tell if consolidation of CAS functions has truly benefitted all concerned.

Inventory Management

Designed to save resource dollars and achieve management efficiency, DMRD 926 directed the consolidation of inventory control points throughout DOD.⁴⁰ Part of this decision required the military services to transfer close to 1 million consumable items to DLA in phase one, with the possibility of transferring additional items in phase two. As a wholesaler, the agency must expand its management responsibilities to include procurement, storage, and distribution functions for the additional items being transferred. The military services, however, will "retain responsibility for engineering design, use determinations, consideration of safety factors, and determinations of basic war reserve levels."⁴¹ This system of dual management makes it imperative that the services provide DLA with timely, accurate information about any changes in engineering and usage level. Incorporation of this data into DLA's inventory management systems and processes would increase the probability of the right items being available when the user requires them.

DLA is not new to the business of consumable item transfer (CIT), having received over 395,000 items from the services from 1982 to 1990 (table 28). Indeed, more than 35,000 items were transferred from May 1990 through April 1991 alone. However, the quantity of items involved (931,000 in phase one and a possible 500,000 in phase two) and the limited time allotted for the transfer (three years—table 29) distinguish the DMR-mandated CIT from the others. The number of items to be transferred from each service is as follows:

Table 28

How Big Is It?

<i>EVENT</i>	<i>Number of NSNs (thousands)</i>	<i>TIME</i>
1982 CIT (all services, see note)	200	7 months
1984 Service Item Transfer (all services)	39	2 years
1986 "Normal Business" (all services)	56	3 years
1990 Revitalized SIT (Army and Navy)	100 (Projected)	2 years
1991 CIT (Army, Navy, Air Force)	980	3 years

Legend:

CIT: Consumable Item Transfer
SIT: Secondary Item Transfer

Note: This transfer consisted of items which had typically little or no demand for them.

Sources: Command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991; and Col John D. Carpenter, USA, Defense Logistics Agency Consumable Item Management Office, program manager, telephone interviews with author, August 1992.

Table 29

**Consumable Item Transfer
Schedule and Volume Candidates (000s)**

	<i>Army</i>	<i>Navy</i>	<i>AF</i>	<i>USMC</i>	<i>Total</i>
YEAR 1	66	102	178	2	346
YEAR 2	73	92	177	—	342
YEAR 3	60	70	113	—	243
TOTAL	199	264	466	2	931

Source: Command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991.

Air Force—465,000; Navy—273,000; Army—199,000; and Marine Corps—2,000. The items include everything from electronic components to items which are used on aircraft engines. Because of the variety of items involved, this CIT will affect five of the agency's supply centers: Defense General Supply Center in Richmond, Virginia; Defense Construction Supply Center in Columbus, Ohio; Defense Electronics Supply Center in Dayton, Ohio; and Defense Industrial Supply Center and Defense Personnel Support Center in Philadelphia, Pennsylvania.

Upon completion of the CIT, DLA's management of consumables is expected to increase from 67 percent to 89 percent of the total number available (fig. 21; this will eventually increase to almost 93 percent at the end of the CIT in fiscal year 1993). After phase one of the CIT is completed, the Office of the Secretary of Defense (OSD), the military services, and Defense Logistics Agency will review the remaining 500,000 items to determine which and how

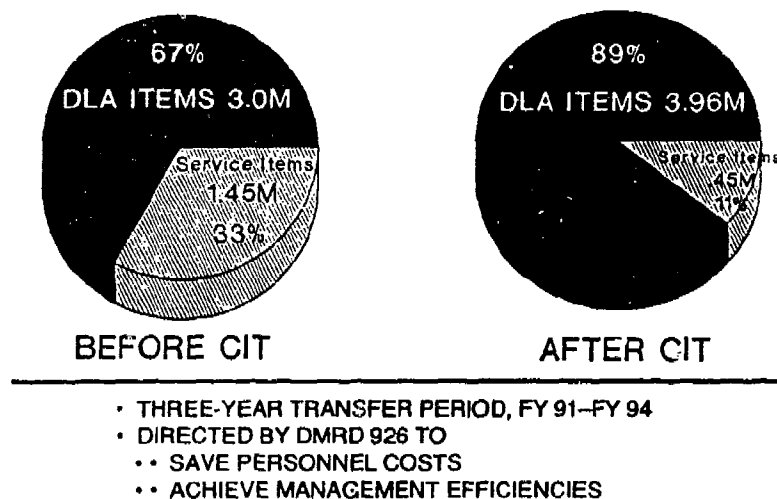


Figure 21. DOD Consumable Item Transfer—DLA Before and After. (From briefing, Headquarters Defense Logistics Agency, subject: Defense Management Review Decision 926—Consumable Item Transfer, 18 March 1991)

many additional items will be transferred to DLA.⁴² Further, to maintain centralized control, DLA will manage all new consumable items entering the DOD inventory—except for items which are classified, of unstable design, and so forth.

One effect of this CIT is that customers will soon notice a new routing identifier (source of supply) from which to requisition those items previously supplied by the military services.⁴³ On the one hand, the effects of this huge transfer are transparent to the customer. On the other hand, an anticipated effect on DLA is that phase one of the CIT will increase sales of general, electronics, industrial, and construction products by almost 75 percent.⁴⁴ This CIT will also enhance DLA's relationship with vendors by centralizing regulatory guidance, forms, regulations, communications, and technical data, as well as policy and procedures.⁴⁵ Other DLA business areas, such as requisitions and procurement activity, will likewise be affected (table 30).

Table 30
Business Adjustments
(Based on Fiscal Year 1990/Pre-Force Structure Cuts)

<i>Indicator</i>	<i>% Change</i>
- NSNs Managed	33
- Active NSNs Managed	27
- Stocked NSNs Managed	48
- Sales (Hardware Centers Only)	75
- Requisitions Processed	20
- Procurement Dollars	67
- Procurement Lines	10

Note: The above business adjustments are increases.

Source: Command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991.

In addition to the large number of items involved in the CIT and the short time allowed for completion, the potential for other problems is present. For example, the items involved are ones that the military services have historically preferred to manage since they are considered crucial to operational readiness. But DLA has taken steps to minimize the possibility of harmful effects on operational supportability. First, a representative from each of the military services was designated a member of the DLA CIT program office. Second, the DLA CIT team visited each of the 14 military inventory control points to collect data and collaborate with current item or program managers. Third, DLA reviewed unique management techniques associated with the items being transferred, hoping to include them in its current inventory management policies and systems. Further, DLA realizes that it must establish, maintain, and constantly refine its relationship with other entities

throughout DOD if the program is to realize its potential for efficiency (fig. 22).

Implementing this CIT poses challenges to both the military services and DLA. These include, but are not limited to, incorporating the program's needs into the current automation and modernization efforts, transferring the technical data, balancing the stock fund to support the CIT (i.e., finding additional funds to support additional procurement), maintaining the items' pretransfer support levels, and maintaining DLA's overall supply supportability performance.⁴⁶ The latter two, whose effects are directly proportional, may prove the most demanding of all.

DLA's overall performance in supporting some of these items in their pretransfer posture depends heavily on the existing pipeline and available resources, such as suppliers and funds for the items. For example, if one of the military services transfers an item to DLA in a poor supportability posture (e.g., by providing an inadequate pipeline, minimal to no sources of supply, little technical data, etc.), then DLA will find it enormously difficult to reverse this situation. Statistics on back orders, supply availability, and weapon system codes (figs. 23, 24, and 25, respectively) further illustrate the effect that inadequate support has on the CIT program.

During the first four months of the CIT (October 1991 through January 1992), DLA received over 104,663 items (see fig. 25). DLA's inability to satisfy requisitions for some of the CIT items generated back orders (see fig. 23), which steadily increased from 3,100 in October 1991 to 11,300 in January

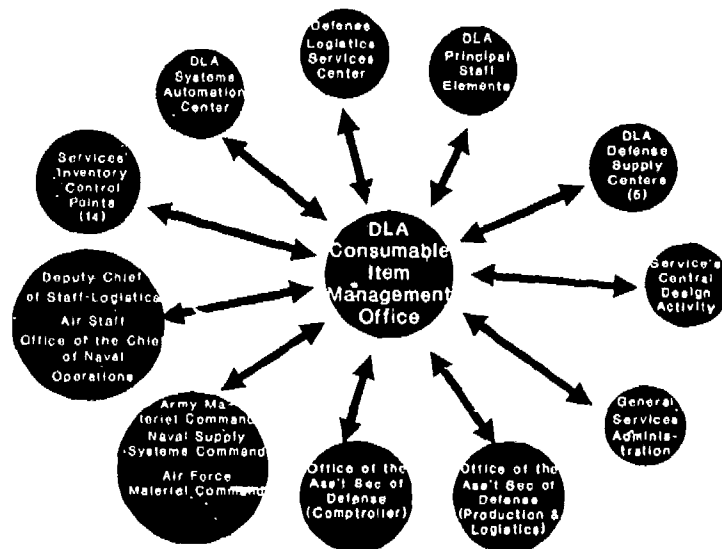


Figure 22. DLA Consumable Item Management Office's Interface. (From briefing, Headquarters Defense Logistics Agency, subject: Defense Management Review Decision 926—Consumable Item Transfer, 18 March 1991)

1992 (see fig. 23). They occurred across the board even though efforts during November 1991 decreased that month's ending back-order total to 6,100 from the month's beginning total of 9,900 (see fig. 23).

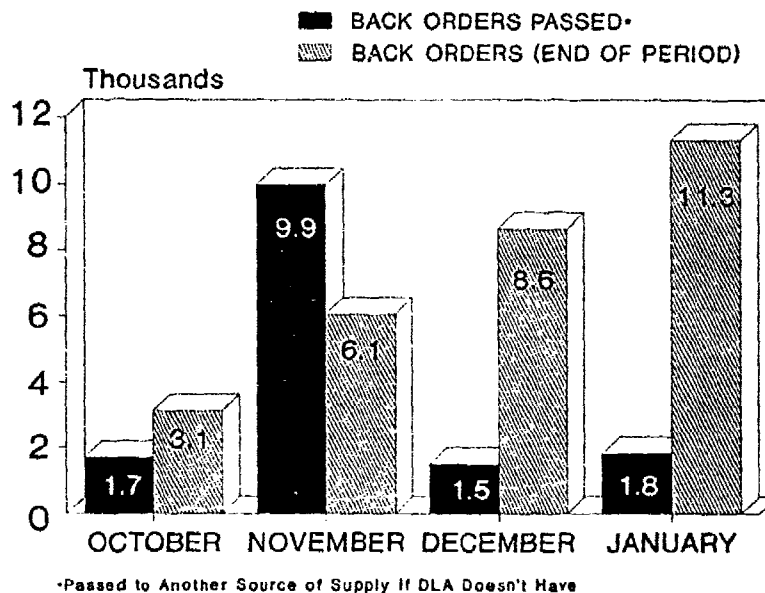


Figure 23. Back Orders Passed/On Hand through 31 January 1992. (From briefing, Headquarters Defense Logistics Agency, subject: Defense Management Review Decision 926—Consumable Item Transfer: In-Process Review, 27 February 1992)

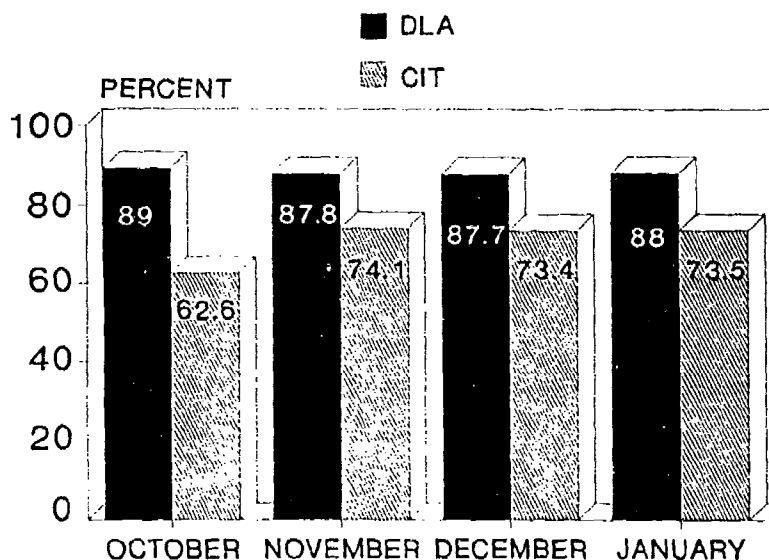


Figure 24. Supply Availability: DLA versus CIT Items through 31 January 1992. (From briefing, Headquarters Defense Logistics Agency, subject: Defense Management Review Decision 926—Consumable Item Transfer: In-Process Review, 27 February 1992)

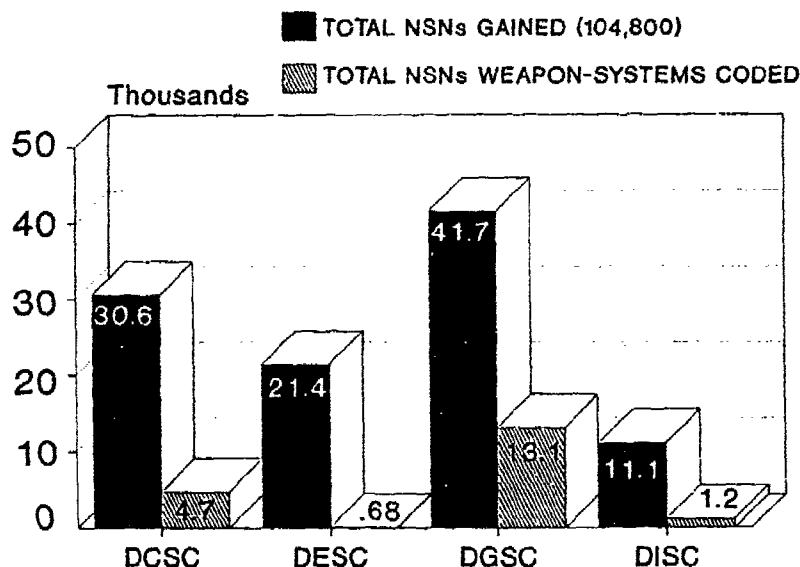


Figure 25. CIT Items Weapon-Systems Coded through 31 January 1992. (From briefing, Headquarters Defense Logistics Agency, subject: Defense Management Review Decision 926—Consumable Item Transfer: In-Process Review, 27 February 1992)

A comparison of statistics on the supply availability of DLA-managed items to statistics on items transferred thus far in the CIT is similarly revealing (see fig. 24). The variance in supply availability ranged from an all-time high of 26.4 percent during the CIT's first month (October 1991) to an average of 14.2 percent over the next three months.

Further, the importance of anticipating and preparing responses to these and similar challenges is heightened when one considers the effect of transferring an item that is critical to a military service without coding it at a level that reflects its importance to a supported weapon system or end item. In such a case—especially if it is exacerbated by an inadequate logistics support posture—support to that weapon system or end item may be degraded for some time—at least until the establishment of an adequate pipeline. Such a scenario could actually occur since current procedures do not automatically generate weapon systems coding data for the items passed from the military services to DLA. For example, less than 20 percent of the 104,663 items transferred from October 1991 to January 1992 were weapon-systems coded (see fig. 25). Yet, these were items that the military services themselves previously managed in order to maintain the operational readiness of their weapon systems.

To avoid compromising the supportability of key weapon systems, the DLA weapon systems support branch requested that military services screen CIT candidates for weapon systems application prior to their transfer. DLA further requested that, upon transfer of management responsibility to DLA, the military services provide a magnetic data tape of items having specific system application. This would help DLA maintain accurate stockage levels and take

adequate procurement actions with regard to those items.⁴⁷ Hopefully, such precautions would help maintain—or perhaps even increase—supportability of key weapon systems throughout DOD.

Yet, one hopes that the emphasis remains on helping customers meet their operational requirements by delivering a quality product to them in a timely manner. Since the American taxpayer pays the bill, DLA must satisfy both the customer and the public; thus, performing this service at a reasonable price is also important. Centralization of the inventory management of consumable items under DLA should facilitate delivery of the right item, at the right time, at a fair cost. Continued joint efforts between DLA and the Air Force will ensure that DMRD 926 attains its goal of streamlining inventory management processes for consumables without minimizing logistics support to key weapon systems.

Inventory Reduction

By fiscal year 1995 to 1996, DOD will be authorized to spend 3.6 percent of the nation's GNP, the lowest figure since 1939 and down from the 6.3 percent it enjoyed in the mid-1980s.⁴⁸ Despite limited funding, the military still must be sure that it can meet our national objectives. Thus, it needs the support of the American people on issues of defense spending. However, the Packard Commission discovered that almost two-thirds of the American public felt that excessive waste occurred in defense spending, noting that "on average, Americans believe that almost half the U.S. defense budget is [now] lost to waste and fraud—more than was lost to waste and fraud in military spending [from 1966 to 1976]."⁴⁹

One matter that the public perceives as wasteful is the number of unused items in the DOD inventory. Problems with the accumulation of secondary items (e.g., spare and repair parts, fuel, construction materials, clothing and textiles, and medical and dental supplies) in the DOD inventory have often existed⁵⁰ and been the subject of investigations and reports.⁵¹ Causes of such accumulations (e.g., declines in demand, return of material, etc.) have been identified (table 31), and the US General Accounting Office has offered solutions (e.g., eliminating item duplication and improving the requirements computation process).⁵² Yet, the DOD inventory of unneeded or inapplicable secondary items⁵³ grew from over \$1.8 billion in FY 1983 to over \$2.9 billion in FY 1988. Those figures represented 29 percent and 35 percent, respectively, of the total assets on hand in those two periods.⁵⁴ Furthermore, a GAO report of July 1991 revealed that the excess inventory continued to grow as the military services "increased the disposal of secondary items from \$3.2 billion in 1989 to about \$5.2 billion in 1990."⁵⁵ More specifically, the Air Force's disposal of secondary items increased from about \$800 million in FY 1989 to about \$1.2 billion in FY 1990 (table 32).

In terms of our current defense budget percentage, that \$5.2 billion disposal action represents almost 2 percent of the proposed fiscal year 1993 defense budget authority. In more graphic terms, this amount exceeds the Air Force's

Table 31

Causes and Definitions of Secondary Item Excess

<i>Causes</i>	<i>Definitions</i>
Assumed inapplicable	Inapplicable assets assumed via logistics reassignment action from another ICP [inventory control point]; no procurement action by current ICP manager.
Provisioned inapplicable	Inapplicable assets result from initial provisioning action; no subsequent procurement action for the item.
Bought inapplicable	Inapplicable assets procured by replenishment action in excess of existing file requirements at the time of the buy but not as a quantity discount or life-of-type buy.
Invalid requirement	Inapplicable assets generated by the existence of an additive file requirement (planned program requirement, special supply request, time-phased maintenance, or modification additive, etc.) which was invalid and not fully exercised as scheduled or an overstated demand-based requirement not consistent with existing demand, lead time, and other management data.
Demand decline	Inapplicable assets generated by reduced requirements associated with a declining demand forecast (not associated with any known system or equipment phaseout or item cataloging changes).
System phaseout	Inapplicable assets generated by reduced requirements associated with the known phaseout of specific equipment or system.
Item obsolete	Inapplicable assets generated by reduced requirements associated with the cataloging (terminal or obsolete) or disestablishment of an individual line item.
Awaiting transfer	Inapplicable assets generated by elimination of requirements pending transfer of item management responsibilities (and assets) to another service or ICP.
Material returns	Inapplicable assets generated by the receipt of field returns or serviceable assets not associated with a known phaseout.
Minimum buy	Inapplicable assets generated by the increase of a recommended buy quantity to meet established minimum buy dollar thresholds.
Quantity discount buy	Inapplicable assets generated by the increase of a recommended buy quantity to achieve an available quantity discount.
Life-of-type buy	Inapplicable assets generated by the increase of a recommended buy quantity to meet life-of-type requirements.
Data error	Inapplicable assets generated by a file error in assets or requirements.
Other	Inapplicable assets related to one of several other undefined factors.
Unknown	Inapplicable assets that cannot be related to a specific factor.

Source: James H. Perry, "Growth in Unneeded Inventories: Contributing Factors," *Logistics Spectrum*, Summer 1991, 20.

Table 32

**Secondary Inventory Sent to Disposal
In 1989 and 1990**

Component	(\$ Billions)	
	1989	1990
Army	\$.6	\$.9 ^a
Navy	1.5	2.8
Air Force	.8	1.2 ^b
Defense Logistics Agency	.3	.3
Total	\$ 3.2	\$ 5.2

^aArmy figures [in both years] include some equipment such as trucks and radios. Also, the 1990 figure includes data from an activity that did not report in 1989.

^bThe Air Force figures [for both years] are estimates.

Sources: Senate, Report [of the US General Accounting Office] to the Chairman, Committee on Government Affairs, U.S. Senate: *Defense Inventory Reports Need Comparable and Comprehensive Data*, 101st Cong., 1st sess., July 1989, 17.

entire fiscal year 1993 budget authorization for military family housing and is more than 80 percent of the amount authorized for military construction (table 33). Certainly, disposal of \$5.2 billion worth of consumables (items expected to be used and thrown away) is significant. We should be even more concerned if the figures for reparable items (those expected to be used, repaired, and reused) are even close to those for consumable items. There is a hint that such is the case in DOD's progress report on its inventory reduction plan which notes that "\$10.4 billion in unneeded assets was sent to disposal in fiscal year 1990. According to a DOD official, the \$10.4 billion included inventory other than secondary items."⁵⁶ From that example, we can estimate that field- or depot-level reparables worth at least as much as the disposed consumables (about \$5.2 billion) may have been sent to disposal.

Table 33

**DOD Budget Authority by Title*
(\$ Billions)**

	1990	1991	1992	1993
Military Personnel	78.6	78.4	78.3	77.1
Operations and Maintenance	87.0	85.3	86.4	84.5
Procurement	81.4	66.5	58.5	54.4
Research, Development, Test and Evaluation	36.5	36.1	36.9	38.3
Military Construction	5.1	5.2	4.9	6.2
Family Housing	3.1	3.3	3.6	4.0
Revolving Funds	—	—	—	2.0
Transfer	—	—	—	—
All Other	- 0.7	1.2	2.3	0.6
GRAND TOTAL	291.0	276.0	270.9	267.1

*Excludes cost of Desert Shield/Desert Storm

Sources: Eric Rosenberg and Tony Capaccio, "After the Cold War, Cold Production Lines," *Defense Week*, 3 February 1992, 19.

DOD's response to this problem was DMRD 987, which aims to reduce the DOD inventory⁵⁷ without decreasing support to the military services.⁵⁸ One feature of this DMRD is DOD's 10-point inventory reduction plan (IRP, table 34) designed to

minimize the number of new items entering the supply system, reduce the number of items currently in the system, reduce quantities of material stocked, pursue commercial alternatives to material stockage, and improve material control and asset visibility.⁵⁹

Table 34

**Summary of DOD Inventory Reduction Plan
(The 10-Point Plan)**

1. Develop accelerated [automated data processing] modernization to respond quickly to changing force structures and operating and contingency scenarios.
2. Establish materiel purchase request and contract termination coordinators at each inventory control point.
3. Set quantitative, time-phased goals to reduce materiel replenishment stockage objectives to minimum essential requirements.
4. Accelerate full implementation of the DOD Secondary Item Weapon System Management Concept and the DOD Provisioning Policy Action Plan.
5. Fully implement systems modernization enhancements to improve on-hand and in-transit asset visibility below wholesale level. Improve materiel returns and redistribution management procedures and ensure timely implementation of the DOD Physical Inventory Control Program Plan.
6. Emphasize item standardization and materiel quality. Eliminate inactive items through the inactive item and parts control programs.
7. Establish objectives for timely disposal of nonessential or inactive materiel.
8. Review materiel stockage and retention objectives at intermediate and consumer levels.
9. Vigorously pursue all practical alternatives to materiel stockage by using commercial items and commercial distribution systems and practices.
10. Institutionalize the above points by establishing a comprehensive program that will achieve long-term reduction of inventories while preserving military readiness.

Source: Defense Logistics Agency, *DLA Inventory Reduction Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, April 1991), 6.

To meet the DOD requirements of inventory reduction for its consumable items, DLA created its own IRP (table 35), which mandates enhancements across the management spectrum. DLA's IRP also addresses 10 functional areas, ranging from force structure changes to the infusion of logistics technology.⁶⁰

If DLA and the military services are to reduce the consumable item inventory, then they must address certain problems that create excesses: response to base closures, organizational realignments, notices/actions of design

Table 35

Summary of DLA's Inventory Reduction Plan

DLA's IRP includes all phases of materiel management from an item's introduction into the supply system to operational requirements through weapon systems phaseout/retirement. Specifically, the IRP includes actions in the following functional areas:

1. Force Structure Changes
 2. Supply Policy Guidance
 3. Provisioning
 4. Cataloging
 5. Requirements Determination
 6. Commercial Items and Practices
 7. Materiel Distribution
 8. Budget Interface/Savings
 9. Logistics Systems Modernization
 10. Logistics Technology Infusion
-

Source: Defense Logistics Agency, *DLA Inventory Reduction Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, April 1991), 7.

change, overstated requirements, erroneous coding of items in WSSP, improper identification and disposal of obsolete items, and lack of asset visibility by retail and wholesale managers. In addition, current DOD retention policies, especially for DLA-managed items (i.e., 20 years for items used on critical weapon systems and 10 years for all other items), must be addressed. Improvements in these and other related areas may reduce the inventory and improve overall weapon systems support.

In each of the years from FY 1988 to FY 1991, the military services returned to DLA an average of 1,225,000 items having an average value of over \$362 million (fig. 26). More particularly, the Air Force returned an average of 267,500 items valued at over \$66 million (fig. 27) each year. Nevertheless, during FY 1990 to FY 1991, DLA managed to reduce its overall inventory from \$14.0 billion to \$10.6 billion and its inactive inventory by almost 50 percent (fig. 28), thanks to such factors as reductions in stockage levels, reevaluation of the inventory, disposals, and so forth. Significantly, DLA's active inventory of \$8.2 billion for fiscal year 1991 is comparable to its pre-1988 levels (fig. 29).

Inventory management processes, especially reconciliations, are often tedious and time consuming. To remedy this situation, the Air Force in the 1980s turned to technology to modernize "its outdated computerized management systems, [14] major systems in all [covering] the four core logistics functions of requirements, acquisition, distribution, and maintenance. [Be-

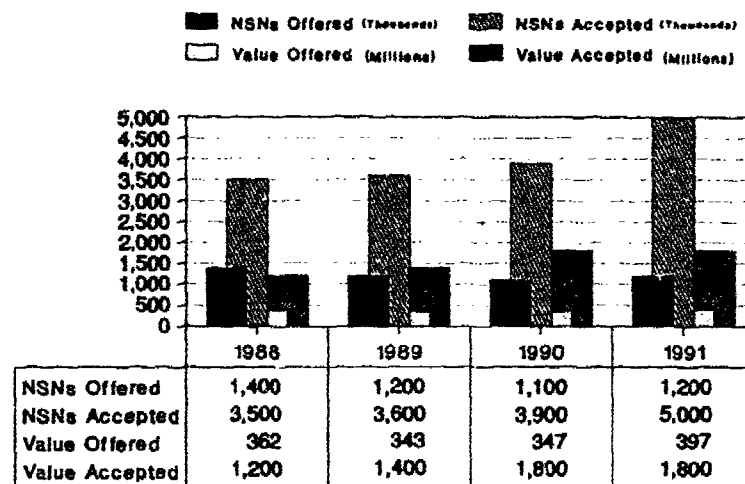


Figure 26. Total Volume of DLA Receipts and Offers (Customer Returns). (From Defense Logistics Agency Headquarters, Supply Management Division, 24 February 1992)

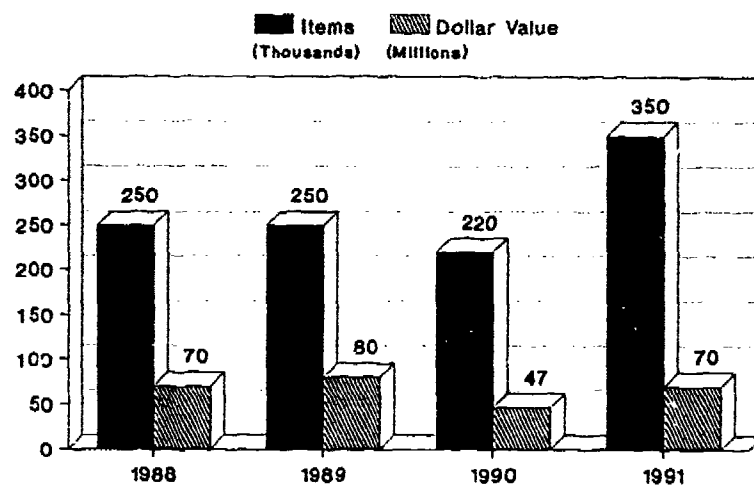


Figure 27. Air Force Return Receipts: Fiscal Years 1988-1991. (From Headquarters Defense Logistics Agency, Supply Management Division, 24 February 1992)

cause it is] data dependent, [Air Force Materiel Command] invested in some hardware and a lot of software⁶¹ designed to provide key functional support (table 36). The continuous adaptation of available technology and the development of new technology will enhance the logistics support (i.e., inventory management) process.

One way that DLA plans to infuse logistics technology into inventory management processes (including reduction efforts) is through its Data Review, Analysis, and Monitoring Aid (DRAMA) system. DRAMA will monitor logistics support data (provided by the prime contractor of each new

weapon system) "as it moves between weapon system contractors, the services, and existing systems like DLA's Standard Automated Materiel Management System."⁶² DRAMA, which will track an item from acquisition to disposal, offers benefits in the areas of item introduction and supply management (appendix M). After it is fully implemented in fiscal year 1994, DRAMA

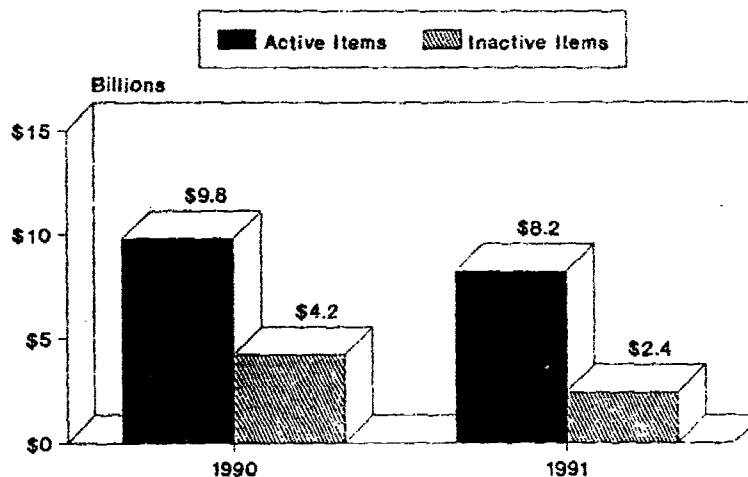
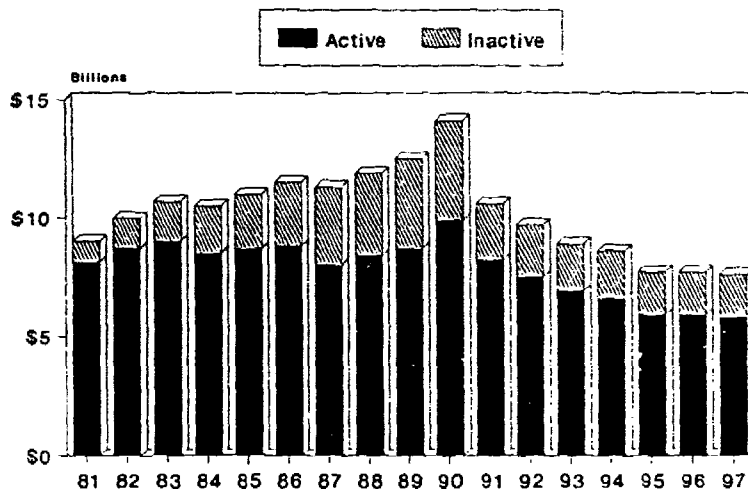


Figure 28. DLA Inventory: FY 1990 and FY 1991. (From Defense Logistics Agency, *Inventory Reduction Plan Progress Report* [Cameron Station, Alexandria, Va.: Defense Logistics Agency, February 1992], 3 [fig. 2])



- (1) Increase in fiscal year 1990 active inventory due to \$1.2 billion increase in fuel prices. Decrease in fiscal year 1991 due to change in method of valuing inventory.
- (2) Inventory reductions in the future are based on projected decline in sales and obligations.

Figure 29. DLA Inventory: FY 1981 through FY 1997. (From Defense Logistics Agency, *Inventory Reduction Plan Progress Report* [Cameron Station, Alexandria, Va.: Defense Logistics Agency, February 1992], 9 [fig. 6])

Table 36

**Provisions of Air Force Logistics Command's
Computerized Modernization of Its
Logistics Management Systems**

-
- Management by weapon systems
 - On-line visibility of resources' availability and locations
 - Automated contracting
 - Flexible responses to new situations requiring combat support
 - Contingency (what if) planning capabilities
-

Source: Gen Charles C. McDonald, USAF, "Technology Innovation in Logistics Support," *Logistics Spectrum*, Fall 1991, 21.

will enhance DLA's requirements determination process, specifically in the areas of provisioning, cataloging, and design changes. It will also make monitoring these changes a little easier and more responsive to their occurrence. As a result, reductions should be realized in the overprocurement and stocking of items that are no longer needed.

Distribution Processes

In April 1990, DMRD 902 directed that all military service and DLA supply depot distribution operations for general supplies be consolidated under DLA.⁶³ This initiative aims to "reduce base and headquarters overhead and systems development costs, significantly improve utilization of existing capacity [and] save \$1.2 billion through [fiscal year] 1997."⁶⁴ As of April 1992, 30 supply depots were being consolidated as planned. The consolidated operation will distribute supplies to the military services, as well as other DOD customers, and will "permit [DOD] to position stock more efficiently, develop a single automated data processing system, consolidate transportation functions and facilities and reduce administrative costs."⁶⁵

The consolidated depot supply system consists of a western, an eastern, and a central region (in the order formed). Defense Distribution Region West (DDR-W), the prototype, was

established in the San Francisco Bay area in June 1990 with the consolidation of DLA's Defense Depot Tracy, Sharpe Army Depot and the distribution functions of the Naval Supply Center [at] Oakland. The distribution functions of the Sacramento Army Depot and the Sacramento Air Logistics Center joined the consolidation in April 1991.⁶⁶

The DDR-W's administrative headquarters is at Stockton, California; however, its primary distribution site—combining the Tracy and Sharpe complexes—is known as the San Joaquin Site. More than 4,300 personnel are assigned to DDR-W and manage an inventory valued at over \$14.2 billion, occupying over 33.6 million square feet of storage in 326 buildings on 1,601

acres of land.⁶⁷ This region supports the US armed forces and DOD customers throughout the world; however, its main areas of responsibility are in seven western states of the contiguous United States, as well as Alaska, Hawaii, Guam, Japan, Korea, Okinawa, and the Philippines.

Established in April 1991, Defense Distribution Region East (DDR-E) involved the

consolidation of the distribution operations of two Pennsylvania depots: the New Cumberland Army Depot and DLA's Defense Depot [at] Mechanicsburg. [Headquartered in] New Cumberland, its primary distribution site will be known as the Susquehanna Site, formed from the two merged Pennsylvania operations.⁶⁸

Once the consolidation is completed, this region will include depots at Columbus, Ohio; Chambersburg, Pennsylvania; Cherry Point, North Carolina; Charleston, South Carolina; Norfolk, Virginia; Richmond, Virginia; Letterkenny, Pennsylvania; and Tobyhanna, Pennsylvania. During an average month, the more than 3,600 assigned personnel in DDR-E receive over 27,000 tons of material, ship out over 30,000 tons, and store almost 859,000 tons. Between the Mechanicsburg and New Cumberland sites, DDR-E receives 50,000 line items⁶⁹ and ships 468,000 line items each month, on the average. Although it supports DOD requirements worldwide, this region is mainly responsible for the 17 states in the eastern US as well as Europe, Central and South America, Iceland, Greenland, Newfoundland, the Middle East, the Mediterranean, and the Azores.

Formed in November 1991, the central region (DDR-C) is headquartered in Memphis, Tennessee. As a part of the country's largest distribution hub, DDR-C "has easy access to 6 railway systems, 5 barge lines, 11 airlines, 44 air cargo carriers, over 200 common motor carriers and 100 terminals offering service to 48 states."⁷⁰ In fiscal year 1991, DDR-C's 2,100 civilian and 16 military personnel represented a payroll of more than \$55 million, procured over \$25 million worth of material, and shipped goods valued at \$20 million.⁷¹ The central region also supports worldwide DOD requirements, but its main areas of responsibility are 24 central and mountain states and part of the Florida panhandle.

Each of the three defense distribution regions is geared to improve depot support throughout DOD. Once the consolidation was completed on 16 March 1992 (table 37), "DLA [began to] manage a single, unified military supply system."⁷²

DLA and Total Quality Management

An interest in making its overall management more efficient by centralizing control and decentralizing execution led DOD to the philosophy of total

Table 37

Depot Consolidation List

DEFENSE DISTRIBUTION REGION EAST

New Cumberland, Pennsylvania

Defense Distribution Depot Charleston, South Carolina
Defense Distribution Depot Cherry Point, North Carolina
Defense Distribution Depot Columbus, Ohio
Defense Distribution Depot Letterkenny, Pennsylvania
Defense Distribution Depot Susquehanna, Pennsylvania
Mechanicsburg Facility
New Cumberland Facility
Defense Distribution Depot Norfolk, Virginia
Defense Distribution Depot Richmond, Virginia
Defense Distribution Depot Tobyhanna, Pennsylvania

DEFENSE DISTRIBUTION REGION CENTRAL

Memphis, Tennessee

Defense Distribution Depot Albany, Georgia
Defense Distribution Depot Anniston, Alabama
Defense Distribution Depot Corpus Christi, Texas
Defense Distribution Depot Jacksonville, Florida
Defense Distribution Depot Memphis, Tennessee
Defense Distribution Depot Oklahoma City, Oklahoma
Defense Distribution Depot Pensacola, Florida
Defense Distribution Depot Red River, Texas
Defense Distribution Depot San Antonio, Texas
Defense Distribution Depot Warner Robins, Georgia

DEFENSE DISTRIBUTION REGION WEST

Stockton, California

Defense Distribution Depot Barstow, California
Defense Distribution Depot McClellan, California
Defense Distribution Depot Oakland, California
Defense Distribution Depot Ogden, Utah
Defense Distribution Depot San Diego, California
Defense Distribution Depot San Joaquin, California
Sharpe Facility
Tracy Facility

Source: "DOD Speeds Up Depot Consolidation," *Dimensions*, April 1992, 1.

quality management (TQM). DLA quickly joined other DOD members to implement TQM. In the agency's TQM Master Plan, issued in January 1989, General McCausland sent a strong message to DLA personnel:

TQM suggests that we must identify and review the processes that affect our lives and continuously strive for improvement. In the biblical sense, it almost sounds religious. In some ways it is. TQM demands commitment, discipline, and continuous improvement starting with the top executives of an organization. . . . Rest assured, TQM has my fullest attention and commitment. I expect it to have yours too.⁷³

During his remarks of November 1990 to a TQM symposium on "Leadership by Example—Implementing TQM within DOD," he said, "At DLA, we are truly believers. We have acted decisively to incorporate TQM principles into every major aspect of our business operations." General McCausland informed attendees of the symposium that the agency wants to "continually improve the readiness of combat forces by enhancing the quality of the supplies and services we provide them." He also outlined the agency's five objectives for realizing that vision:

recruiting and retaining quality people; ensuring customer satisfaction; maximizing our return on investments or reducing costs, fielding information systems that meet customers' needs; and building an effective relationship with industry.

Further, the former director

chartered five quality management boards, each of which is chaired by a senior executive. These boards will develop breakthrough strategies (streamlining proposals) for accomplishing such goals [and will] draw on the expertise of [the] field commanders and managers as well as headquarters staff.⁷⁴

To minimize or prevent parochialism, DLA requested that one or more representatives from the Air Force Institute of Technology or the Defense Systems Management College be members of each board. Additionally, the director receives progress reports on the boards' development of streamlining proposals and their measurement of the strategies' effectiveness.⁷⁵

In a letter of January 1991 to the commanders of DLA primary-level field activities and the heads of the principal staff elements, General McCausland stated that

we have dedicated ourselves to evolving into a total quality environment. [DLA] puts customer needs above personal ease; cuts costs by finding a better way; and involves all employees in our mission. [Our] quality management boards are investigating [five focus areas which] are the road signs on our path to total quality; they are not the destinations in themselves. Our tasks, as leaders, are to provide consistent guidance to the work force, remove barriers to performance, and stay in touch with customer demands.⁷⁶

Having been on both the receiving and the supplying ends of DLA, General McCausland realizes the importance of the timely and accurate flow of information.⁷⁷ He went on to state that

our job is no longer to simply provide a ship's part. It is to provide customer satisfaction, which includes supplying the most dependable part when needed at

the least cost. It also includes other things such as more effective communication and dialogue to assure an understanding of the customer's needs.⁷⁸

The agency was quick to take advantage of its post-DMR expanded mission by seeking jointness and innovation. For example, during the DMR-initiated consolidation of contract management administration, "a task force—with representatives from the Army, Navy, Air Force, and DLA—developed an implementation plan for consolidating operations."⁷⁹

Further, adherence to TQM principles would serve DLA well in achieving its goal of satisfying the customer. In his speech to the TQM 2000 Conference on 25 June 1991, Maj Gen Charles R. Henry, deputy director of acquisition management and commander of DCMC, stated that

last year, 16 million nonconforming parts were accepted for DOD from 1,157 contractor plants through 440,000 material review board actions. Would this be possible if the producers were focused on giving the DOD customer what he asked for: a quality product built to specs [and] delivered [on] schedule?⁸⁰

TQM initiatives continue throughout DLA. For example, in August 1991, the contract management area operations in Dayton, Ohio—which administer more than 12,000 contracts valued at over \$2.7 billion—fully implemented an in-plant quality evaluation program. This new system emphasizes quality assurance before production begins. Under the old system, contract administration offices (CAO) used postproduction inspection and surveillance techniques. Now, however, CAOs expect and look for quality in the manufacturing processes rather than in the finished items. The in-plant quality evaluation program uses "total quality statistical process control methods and appl[ies] the principle of continuous process improvement."⁸¹ Thus, this TQM program is designed to improve products and satisfy DOD customers.

In fiscal year 1990, "more than 84,000 small business representatives, representing [approximately] 40,000 firms [plus] an additional 29,000 persons from small disadvantaged businesses also attended" more than 238 conferences that DLA sponsored nationally.⁸² Furthermore, DLA encourages its personnel to frequently visit or host its suppliers and customers to enhance relationships and bolster support. For example, several supply centers have tasked their supply operations and procurement personnel to make quarterly customer-assistance visits to air logistics centers, inventory control points, and contractor facilities. To increase awareness of the customer's and industry's requirements, the supply centers also have hosted fairs,⁸³ workshops,⁸⁴ and conferences.⁸⁵ For example, the Defense Industrial Supply Center hosted a suppliers' conference in November 1991⁸⁶ and a customer-focus conference in January 1992.⁸⁷ Over 200 of the agency's largest suppliers and 35 of DLA's major customers, from all the military services, attended the respective conferences.

Finally, to increase awareness and help employees understand the importance of their support to weapon systems, DISC has initiated a traveling weapon systems display.⁸⁸ The weapon systems support and provisioning branch selects a different weapon system from one of the four military ser-

vices each month. Consisting of pictures, videotapes, fact sheets, and DISC-managed items, the display is strategically located in the supply center. At designated times during the month, a military service liaison representative is at the display to answer questions and discuss overall weapon systems support for the particular system.

Such efforts to learn more about the customer, to establish and maintain relationships, to seek out concerns, and to bolster employees' knowledge about managed items may prevent or minimize logistics-related problems. These are important steps as DLA faces the relatively lean years of the 1990s. Though the final verdict is not yet in on how TQM initiatives have influenced weapon systems support, one can speculate about their effectiveness. They all improve the way DLA sees the customers, their missions, and their requirements; they also improve the ways DLA supports those customers. As a result, one anticipates that these TQM initiatives will improve the chances of creating better products and services for the customer. This, in turn, will reduce the possibility of compromising the operational readiness and logistics supportability of the military services and other DOD customers. In these times of dwindling resources, such initiatives are of the utmost importance.

We have seen that several reorganizational and management initiatives implemented since 1986 have had the effect of streamlining DLA's management, as well as centralizing control and decentralizing execution. As the number of personnel and the amount of financial resources available to DOD continue to shrink, it is more important than ever to centralize control yet allow people to make their own decisions as they perform assigned or inherited tasks. Further, efforts to consolidate contract administration services, enhance the management of consumables, reduce the DOD inventory, and consolidate depot supply distribution functions have improved efficiency and generated savings. These types of initiatives strengthen DLA's position as a vital link in our nation's defense.

Notes

1. Col John K. Carney, "How Air Force Views the Defense Supply Agency," *The Review*, May-June 1963, 16.
2. Leona Mitchell, "Defense Supply Agency's Role in Standardization," *The Review*, September-October 1963, 153.
3. *Ibid.*, 13.
4. *Ibid.*
5. David C. Morrison, "Baptism by Fire," *National Journal*, 29 September 1990, 2318.
6. "Congressional Foes Promise Further Cuts in 1993 DOD Request," *Defense News*, 3 February 1992, 1-3.
7. "Candid Talk with Director, DLA," *Dimensions*, October-November 1989, 3.
8. House, *A Quest for Excellence: Final Report [of the President's Blue Ribbon Commission on Defense Management] to the President*, 99th Cong., 2d sess., June 1986, 193.
9. *Federal outlays* include funding requests for such departments as Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, State, and Veterans Affairs

as well as the National Aeronautics and Space Administration. These figures exclude comprehensive health reform. *Public spending* involves those programs dedicated to general public support, such as health reforms and so forth.

10. House, *A Quest for Excellence*, 1.
11. *Ibid.*, 190.
12. *Ibid.*, xi.
13. House, *Bill Nichols Department of Defense Reorganization Act of 1986*, 99th Cong., 2d sess., 1986, Report 99-700, 30-31.
14. Lt Comdr James K. Gruetzner, USN, and Maj William Caldwell, USA, "DOD Reorganization," US Naval Institute *Proceedings*, May 1987, 143.
15. "Candid Talk," 3.
16. House, *Bill Nichols*, 20.
17. DLA document DL107-2/11/91, 2-2, 2-3.
18. *Ibid.*, 2-2; and Maj Dwight Beauchamp, USAF, Defense Logistics Agency, chief, Military Manpower Division, telephone interviews with author, August 1991.
19. "Candid Talk," 3. General McCausland retired on 24 June 1992.
20. DLA document DL107-2/11/91, 2-3.
21. A *unified* combatant command has broad, continuing missions and is composed of forces from two or more military departments. It can be geographical in nature (i.e., having responsibility for one geographic area, as is the case with US Pacific Command, US Atlantic Command, US European Command, US Southern Command, and US Central Command) or functional (i.e., not bounded by any single area of operations, as is the case with US Special Operations Command, US Space Command, US Transportation Command, and US Strategic Command—activated 1 June 1992). A *specified* combatant command has broad, continuing missions and is composed of forces from a single military department. With the deactivation of Strategic Air Command on 1 June 1992, Forces Command is the only specified command—it is functional.
22. DLA document DL107-2/11/91, 2-4.
23. "Sighting for the 'Sixties: Organizational Backbone of Defense Supply," *The Review*, January-February 1962, 113.
24. Richard B. Cheney, *Defense Management Report to the President* (Washington, D.C.: Office of the Secretary of Defense, July 1989), 1.
25. "Management Report Changes on Track," *Defense* 91, November-December 1991, 3.
26. "DMR Changes on Track," *Defense Issues* 6, no. 18 (March 1991): 1. This article is based on the executive summary to the Defense Management Review Implementation Progress Report of March 1991.
27. *Ibid.*
28. *Ibid.*
29. *Ibid.*, 3.
30. *Ibid.*
31. Defense Contract Management Command talking paper, n.d., subject: Implementation of Defense Contract Management Command, 1.
32. Maj Gen Charles R. Henry, USA, deputy director, Acquisition Management, Defense Logistics Agency, to commanders of Defense Contract Administration Services regions, letter, subject: Concept of Operations, 15 February 1990.
33. Defense Contract Management Command talking paper, 1; and Charlie L. Morrison, DLA Policy Division chief, telephone interviews with author, September 1991.
34. Maj Gen Charles R. Henry, USA, commander, Defense Contract Management (DCM) Command, Defense Logistics Agency, to DCM district commanders and Headquarters DLA principal staff elements, letter, subject: The Commander's Vision of Success, 13 December 1991.
35. "Management Report Changes on Track," 4.
36. Command briefing, Defense Logistics Agency, subject: Fourth Quarter Overview, 20 December 1991, 11.
37. Defense Logistics Agency, *Inventory Reduction Plan Progress Report* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, February 1992), 7.

38. Joyce Bailey, "Critical Fasteners," *Leading Edge*, February 1992, 18.
39. "Compete for Work," *Leading Edge*, October 1991, 27.
40. Defense Logistics Agency, "Consumable Item Transfer," in *Update* (Cameron Station, Alexandria, Va.: Office of Public Affairs, n.d.) 1-2.
41. Linda Stacy-Nichols, "Let the Consumable Items Transfer Begin," *Dimensions*, August 1991, 2.
42. Message, 221500Z Jan 92, Defense Logistics Agency, Consumable Item Management Office, to DOD agencies, 22 January 1992; and Stacy-Nichols, 4.
43. Stacy-Nichols, 4.
44. "DLA Begins Management of One Million More Consumable Items," Defense Logistics Agency news release, 22 July 1991, 1.
45. *Ibid.*, 2.
46. Briefing, Headquarters DLA, subject: DMRD 926—Consumable Item Transfer, 18 March 1991.
47. James J. Grady, Jr., deputy executive director, Supply Operations Directorate, Defense Logistics Agency, to military services' inventory control points and defense supply centers' weapon systems support program contacts, letter, subject: Weapons Coding of Items Involved in the Consumable Item Transfer, 30 July 1991.
48. "The Department of Defense Fiscal 1992-1993 Budget Request," *Defense Issues* 6, no. 3 (n.d.): 2. The article contains the text of a news briefing by Secretary of Defense Dick Cheney and Deputy Secretary of Defense Donald Atwood, held at the Pentagon on 4 February 1991.
49. House, *A Quest for Excellence*, 190.
50. James H. Perry, "Growth in Unneeded Inventories: Contributing Factors," *Logistics Spectrum*, Summer 1991, 19.
51. Senate, *Report [of the US General Accounting Office] to the Chairman, Committee on Governmental Affairs, U.S. Senate: Defense Inventory Reports Need Comparable and Comprehensive Data*, 102d Cong., 1st sess., July 1991, 1 (hereafter cited as *Defense Inventory Reports*).
52. House, *Report [of the US General Accounting Office] to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives: Air Force Requirements—Requirement Computations for Aircraft Consumable Items Can Be Improved*, 102d Cong., 1st sess., July 1991, 1.
53. Inapplicable secondary items are on-hand or on-order assets that are in excess of the number required by the force-acquisition objective. Existing demand and program data would indicate no near-term need for these assets. Perry, 25.
54. *Ibid.*, 19.
55. *Defense Inventory Reports*, 4.
56. *Ibid.*, 17.
57. "Department of Defense Justification for FY 1992: DMR Initiatives" (Washington, D.C.: Office of the Secretary of Defense, March 1991), 21.
58. *Inventory Reduction Plan*, 3.
59. *Ibid.*, 5.
60. *Ibid.*, 7.
61. Gen Charles C. McDonald, USAF, "Technology Innovation in Logistics Support," *Logistics Spectrum*, Fall 1991, 21. General McDonald retired on 30 June 1992.
62. Kathryn Willyard, DLA Weapon Systems Support Program adviser, Sacramento Air Logistics Center (CA), telephone interviews with author, 30-31 March 1992; and Information Sciences Institute, *Data Review, Analysis, and Monitoring Aid: Description of System Functionality* (Marina del Rey, Calif.: University of Southern California, 31 May 1991), i.
63. *Distribution* is defined as all actions involving the receipt of new procurement, redistributions, and field returns; storage of materiel (including care of that materiel); issue of materiel; consolidation and containerization of materiel; preserving, packaging, packing, and marking; physical inventory; quality control; traffic management; other transportation services; unit materiel fielding and set assembly or disassembly; transshipment; and minor repair. Earl Nichols, "Depot Consolidation Rolling Along," *Dimensions*, May 1991, 1-3.

64. Department of Defense, "Update of Justification Estimates for FY 1991 Defense Management Report Initiatives," (Washington, D.C.: Office of the Secretary of Defense, 16 April 1991), 187.
65. Nichols, 2.
66. Ibid., 3.
67. Defense Distribution Region West fact sheet, n.d.
68. Nichols, 3.
69. A *line item* is an individual requisition for one item—it could be for a bottle of aspirin or a train-car load of steel. Defense Distribution Region East fact sheet, n.d.
70. Defense Distribution Region Central fact sheet, n.d.
71. Ibid.
72. "Looking Forward: A Message from the Director," *Western Region Round-Up* 1, no. 17 (November 1991): 2.
73. Defense Logistics Agency, *Total Quality Management Master Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, January 1989), i.
74. Lt Gen Charles McCausland, director, DLA, remarks to Second National Total Quality Management Symposium and Exhibit, Baltimore, Md., 14 November 1990.
75. Ibid.
76. Lt Gen Charles McCausland, director, Defense Logistics Agency, to commanders of DLA primary-level field activities and heads of principal staff elements, letter, subject: Total Quality Management, 28 January 1991.
77. "Candid Talk," 3.
78. McCausland letter.
79. McCausland remarks.
80. Maj Gen Charles R. Henry, commander, DLA Defense Contract Management Command, remarks to Total Quality Management 2000 Conference, Melbourne, Fla., 25 June 1991.
81. "Taking a Good Idea and Running with It," *Dimensions*, September 1991, 9.
82. F. Clifton Berry, Jr., "Small Business Is Big Business at DLA," *National Defense*, January 1991, 10.
83. "Small Fair—Big Success," *Defense Industrial Supply Center [DISC] Update*, May 1991, 1.
84. "Value Engineering Hosts Customer Workshop," *DISC Update*, June 1991, 1.
85. "Suppliers' Conference Huge Success," *DISC Update*, November 1991, 1–3.
86. Ibid.
87. "Bringing Customers Together," *DISC Update*, January 1992, 1.
88. "Weapon System of the Month," *DISC Update*, February 1992, 5.

Chapter 4

Summary and Recommendations

Logisticians are a sad, embittered race of men, very much in demand in war, who sink resentfully into obscurity in peace.

—Adm Isaac Campbell Kidd

The previous chapters of this study have examined DLA's history and organization, the organization and function of its weapon systems support program, that program's performance during peacetime and during Operation Desert Storm, and the effects of DOD reorganizational and management initiatives on DLA. This chapter reviews DLA's importance to the Department of Defense and recommends that DLA and the Air Force share certain systems, improve selected programs, and make better use of logistics-related training.

Does DLA Matter?

Since its establishment in 1961, DLA has been able to centralize logistics and support functions throughout DOD, thereby eliminating much wasteful duplication. The DLA work force reflects this desire for efficiency, insofar as it is distributed to provide optimum support to the agency's three areas of worldwide responsibility (figs. 30 and 31). That is, in fiscal year 1991 almost 46 percent of DLA personnel were dedicated to supply support, 35 percent to contract administration services, and 15 percent to logistics and technical services. Only 2 percent were assigned to headquarters and only 2 percent to management support activities. To complement the streamlining efforts in DOD, DLA is also reorganizing its headquarters and field activities.

As we have seen, the store of supplies managed by DLA is vast, ranging from clothing and fuel to microchips and construction equipment. The agency provides more than 1,223,700 items to 1,222 mission-essential weapon systems used in the military services.¹ One study notes that DLA's "world's largest" logistics service center processes descriptive and technical information on almost six million military supply items that range from nuts and bolts to space vehicles." Moreover, its contract management command "manages some 500,000 contracts with a face value of \$750 billion and an unliquidated

value estimated at \$250 billion." The study also points out that DLA manages 130,000 pieces of heavy industrial equipment, as well as the national reserve of more than \$9 billion worth of strategic materials.² Until the responsibility was transferred to the director of Acquisition Policy and Program Integration in October 1991, DLA also collected, distributed, and stored scientific and technical reports generated by defense-sponsored research.³

During fiscal year 1991, DLA managed over 60 percent of DOD-managed items (fig. 32) as well as over 68 percent of consumables (fig. 33). Its defense supply centers processed over 27 million requisitions, of which almost 29 percent were from Air Force-supported activities (fig. 34). During this same period, the agency provided more than 1.4 million consumable items to the Air Force—more than 58 percent of the service's requirements for such items (fig.

MILITARY (AUTHORIZATION)		PERCENT OF TOTAL	TOTAL PERSONNEL
ARMY	427	SUPPLY SUPPORT	26,600
MARINE CORPS	27		
NAVY	260		
AIR FORCE	602	CONTRACT ADMIN SERVICES	20,400
	1,316		
CIVILIAN (GROSS WORK YEARS)		SERVICE CENTERS	8,800
US DIRECT HIRE	56,000	HEADQUARTERS	1,000
FOREIGN DIRECT HIRE	159		
FOREIGN INDIRECT HIRE	825	MANAGEMENT SUPPORT ACTIVITIES	1,500
	56,984		
TOTAL PERSONNEL			58,300

Figure 30. DLA Work Force: Fiscal Year 1991 Program. (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)



Figure 31. DLA Activities Worldwide. (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

35). Over 36 percent of DLA's \$12 billion operations budget for fiscal year 1992 is allocated for fuel, and almost 29 percent is slated to support hardware requirements (table 38). Its operations budget for FY 1992 is almost 15 percent of the \$83.9 billion proposed for the Air Force defense budget in FY 1993.⁴ With sales of over \$18 billion in fiscal year 1991, DLA also recouped over \$151 million through its reutilization and marketing office's sales of usable property and scrap.⁵

DLA's support efforts to contingencies often begin before and continue long after US armed forces personnel are deployed, employed, and redeployed. For

OTHER = General Services Administration Items Used by DOD

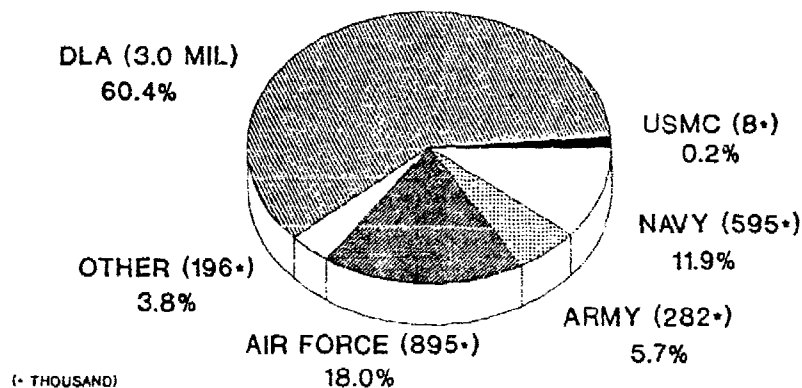


Figure 32. DOD Item Management (Total: 5.0 Million). (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

OTHER = General Services Administration Items Used by DOD

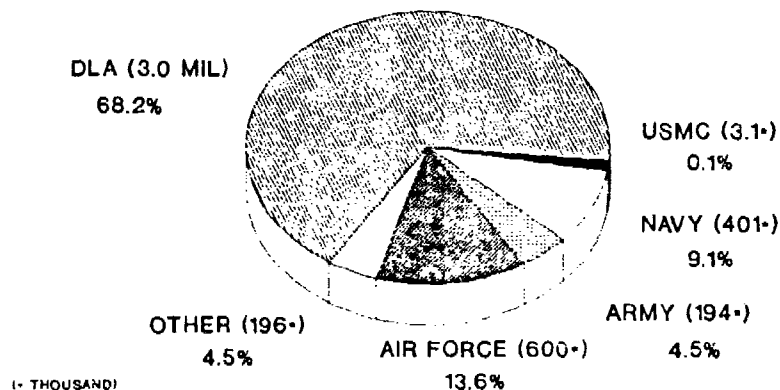


Figure 33. DOD Consumable Item Management (Total National Stock Numbers: 4.4 Million). (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

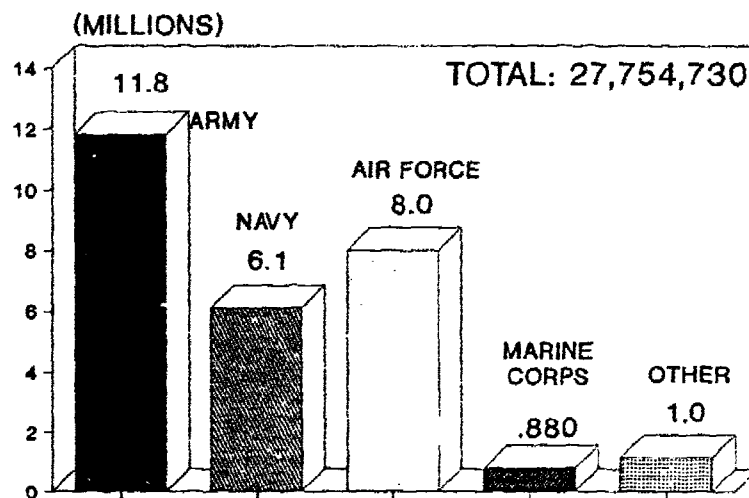


Figure 34. Defense Supply Centers' Work Load Summary of Gross Requisitions Received. (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

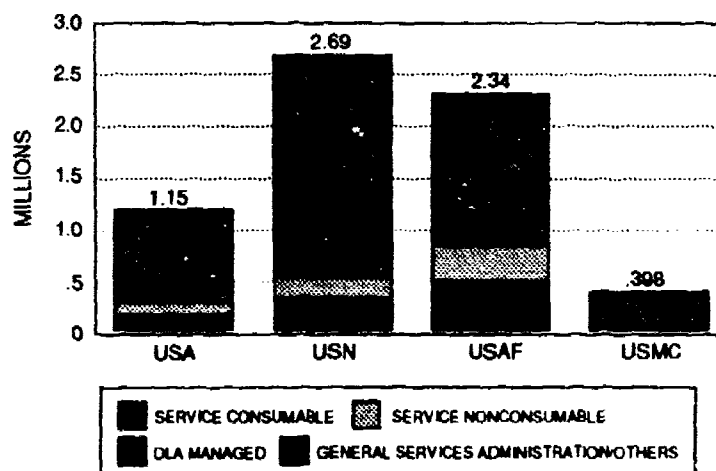


Figure 35. DOD Item Use and Management. (From command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991)

example, after the shooting officially stopped in late March 1991, DLA support to Operation Desert Storm continued and is expected to continue for some time. Upon redeployment, most of the weapon systems used in Operations Desert Shield and Desert Storm will need extensive overhauls, repairs, and other maintenance. To support these anticipated requirements, one

Table 38

**Defense Business Operations Fund
(Fiscal Year 1992 Sales Program)**

Fuel	\$ 4.4 Billion
Hardware	3.5 Billion
Subsistence	2.1 Billion
Clothing and Textiles	1.1 Billion
Medical	1.0 Billion
Other	.1 Billion
Total	\$12.2 Billion

Source: Command briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991.

defense supply center commander tasked his supply operations directorate to "physically canvas" the military services and convey the center's commitment to assist the customer's repair efforts and establish points of contact to receive advance information about estimated support requirements. Such action paves the way to save personnel both effort and money.

Further, DLA was involved in major post-Desert Storm relief work, referred to as Operation Provide Comfort. This US operation was a large-scale land and air humanitarian relief effort that supported Kurdish refugees in northern Iraq, Turkey, and Iran. Since the operation began in April 1991, DLA's Defense Personnel Support Center has "sent over \$68.2 million worth of food, clothing and textiles, and medical supplies to aid the refugees"⁶ (appendix N), with expedited distribution support from the defense depots in Ogden, Utah,⁷ and Columbus, Ohio.⁸

From the Cuban missile crisis to the Desert Shield and Desert Storm operations, the agency has supported the US defense team. This study has shown that, as a result of events from the 1980s and those which have occurred thus far in the 1990s, DLA has assumed major logistics roles previously performed by the military services. The agency has indeed been important to DOD. Over the years, it has enhanced material standardization, eliminated managerial and stockage duplication, and reduced overhead costs—all at a price affordable to the taxpayer. But DLA is not solely responsible for its achievements. Rather, these successes are due to the strong relationship that exists between DLA and US Transportation Command, as well as the active and reserve components of the Air Force, Navy, Marine Corps, Army, and Coast Guard. Understanding DLA—the purpose of this study—may help allay the concerns that reorganization, smaller budgets, and international requirements are producing in Congress, DOD, and—more specifically—in the Air Force logistics community.

Despite DLA's accomplishments, increased responsibility always creates room for improvement. Thus, it is in the spirit of wanting to make a good operation better that the following recommendations are offered.

Sharing Established Systems

After the Gulf War was over, DOD—especially the Air Force—conducted numerous studies to determine what could have been done differently. For example, even though wartime mission-capable rates for US aircraft were better than those in peacetime, our overall logistics support was less than ideal.⁹ Granted, the ability to fill requests for engine parts boosts a particular aircraft's mission capability. However, if the support base (e.g., repair depot or other source of supply) were not aware of the support priority (e.g., level of criticality) assigned to that aircraft, the latter could have suffered from insufficient support if the conflict had escalated or been extended. Moreover, this problem could have been exacerbated had the industrial base been unresponsive to calls for increased production (table 39).¹⁰ This example suggests that something needs to be done to ensure the proper handling of support issues that could affect the outcome of a conflict.

Though support problems related to DLA-managed items appeared minimal during the Gulf War, future problems also might be averted if DLA had access to the Air Force Materiel Command's Weapon System Management Information System (WSMIS) and Reliability and Maintainability Information System (REMIS). WSMIS is part of AFMC's Logistics Management System (LMS) modernization program (table 40), which is designed to enhance the logistics requirements, acquisition, distribution, and maintenance processes. LMS consists of over 500 systems and is structured to accomplish logistics management functions across the board (fig. 36). WSMIS consists of 10 modules (fig. 37) that support requirements, planning, assessment,

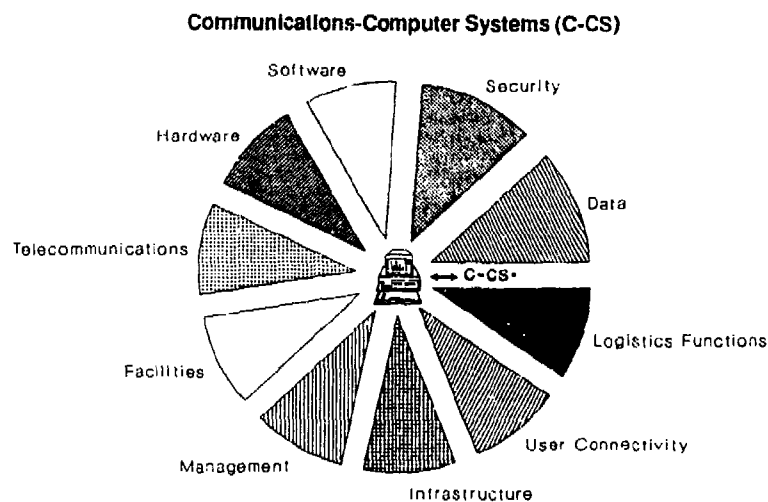


Figure 36. Air Force Materiel Command's Logistics Management System Architecture Summary. (From Air Force Materiel Command, "Logistics Management System" [brochure], 8 November 1991, 76)

Table 39

Examples of Items Surged for Operation Desert Storm

<i>Items/Materials</i>	<i>Quantity</i>	<i>System</i>
Guns	8	F-16
Fire-control sighting	143	AC-130, F-15
Optical sighting equipment	30	F-15
Fire-control designation	83	F-16
Aircraft gun fire control	210	F-15, F-16, C-130
Aircraft bombing fire control	165	F-16
Miscellaneous fire control	15	F-16
Aircraft structural component	122	C-5, C-135
Helicopter rotor blades	11	H-53
Hydraulic, vacuum, deicing	87	C-5, C-135, E-3A, F-15
Air conditioning, heat, pressure equipment	54	C-135, F-4, B-52, E-3, F-111, F-16
Miscellaneous accessories/components	352	KC-135, E-3, C-135
Tires	82	C-130
Gas turbine/jet engines	493	F-15, F-16
Gas turbine/jet components	4,418	F-16
Engine fuel systems, nonaircraft	17	F-16
Engine fuel systems, aircraft	180	F-16
Engine electrical systems, aircraft	388	F-16
Miscellaneous engine accessories	69	F-16
Transmission equipment	4	C-141, B-52
Bearings	1	F-111
Compressors	1	B-52
Power and hand pumps	4	F-16
Plumbing fixtures and accessories	1	C-135
Valves, powered	144	F-16, C-135
Valves, nonpowered	20	F-15, C-135, F-111
Aircraft maintenance and repair equipment	32	C-5
Telephone/telegraph	135	Space and communications
Teletype	40	Space and communications
Radio/TV communications equipment	50	Space and communications
Airborne communications equipment	3	C-130
Radio navigation, airborne	12	H-53
Airborne radar equipment	237	H-60, H-53, E-3, F-15
Night vision equipment	35	E-3, C-130
Electronic countermeasures	276	F-4, F-111, F-15, H-53
Miscellaneous airborne communications equipment	148	E-3, F-15, F-16, C-5
Electron tubes and hardware	26	F-15, communications
Filters and networks	3	KC-130
Antenna, wave guides	282	E-3, F-111, F-16, communications
Cable, cord, communications	5	F-16
Circuit cards	197	F-15, space and communications
Miscellaneous electrical	250	F-15, F-16
Motors	18	C-130, F-16
Electrical control systems	418	C-5
Generators and sets	156	C-5, F-16
Converters, electrical	102	E-3, F-15, communications
Navigational instruments	124	F-16, communications
Auto pilot/airborne gyro	157	F-16, C-5
Measuring instruments	284	C-5
Pressure, temperature measuring equipment	111	F-15
Operational training devices	68	F-16, F-15

Production of these items and materials was accelerated in the quantities shown for the Persian Gulf War.

Source: John T. Correll and Colleen A. Nash, "The Industrial Base at War," *Air Force Magazine*, December 1991, 55.

analysis, and monitoring functions (fig. 38). During the Gulf War, Air Force Logistics Command (AFLC, now AFMC) used WSMIS's Sustainability Assessment Module to identify items which required expedited repair or procurement. If these items had not been properly attended to, a unit's combat capability could very well have been degraded.¹¹ The Air Force uses another

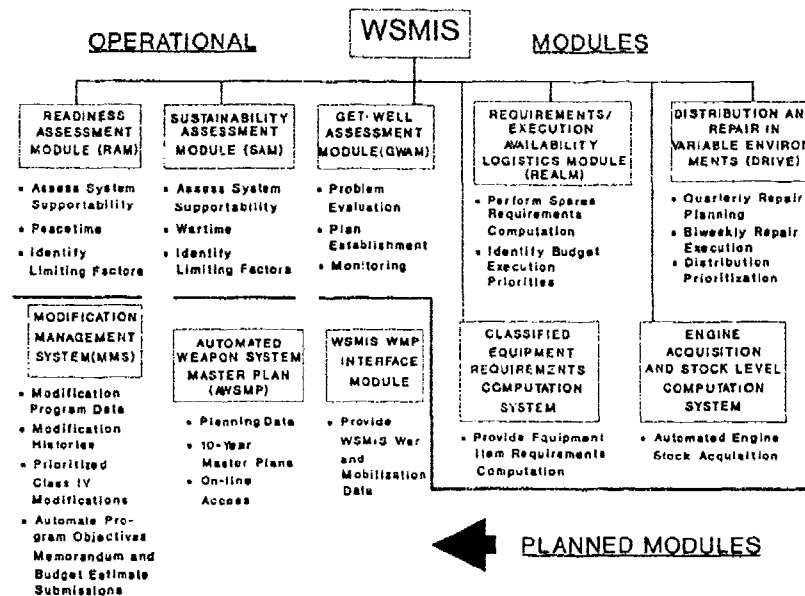


Figure 37. Weapon System Management Information System Overall Objectives. (From Dynamics Research Corporation, "Weapon System Management Information System [WSMIS] Functional Description [Overview]," Version 8.9, Contract No. F33600-90-C-0525 [Andover, Mass.: Dynamics Research Corporation, 13 December 1991], 2-3)

Table 40

Logistics Management System Modernization Programs

- Requirements Data Bank (RDB)
- Contracting Data Management System (CDMS)
- Stock Control and Distribution (SC&D)
- Depot Maintenance Management Information System (DMMIS)
- Weapon System Management Information System (WSMIS)
- Engineering Data Computer Automated Retrieval System (EDCARS)
- Enhanced Transportation Automated Data System (ETADS)
- Intersite Gateway (ISG)
- Local Area Network (LAN)

Source: Air Force Logistics Command, "Logistics Management System" (brochure), 29 October 1990, 19.

LMS-based system, REMIS (fig. 39), to collect, process, and analyze reliability and maintainability (R&M) information. Accurate and timely R&M data, especially for essential end items or weapon systems, increase the readiness

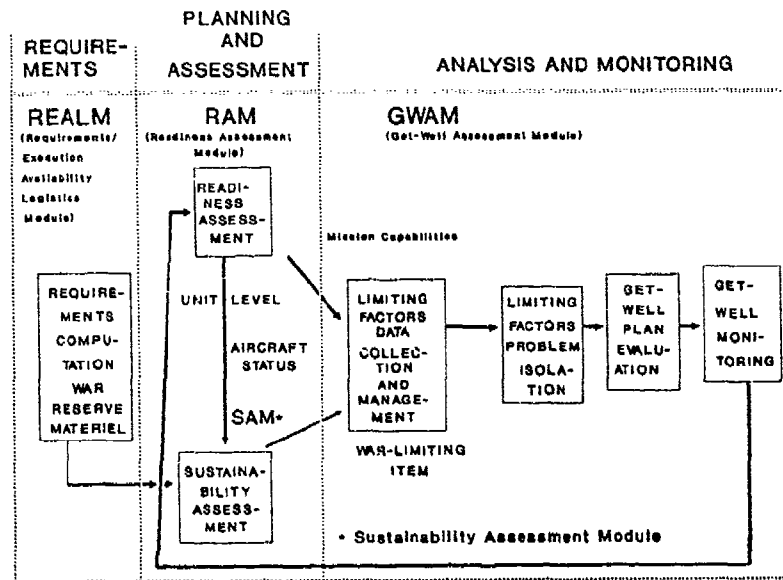


Figure 38. Weapon System Management Information System Functional Architecture. (From Dynamics Research Corporation, "Weapon System Management Information System [WSMIS] Functional Description [Overview]," Version 8.9, Contract No. F33600-90-C-0525 [Andover, Mass.: Dynamics Research Corporation, 13 December 1991], 2-10)

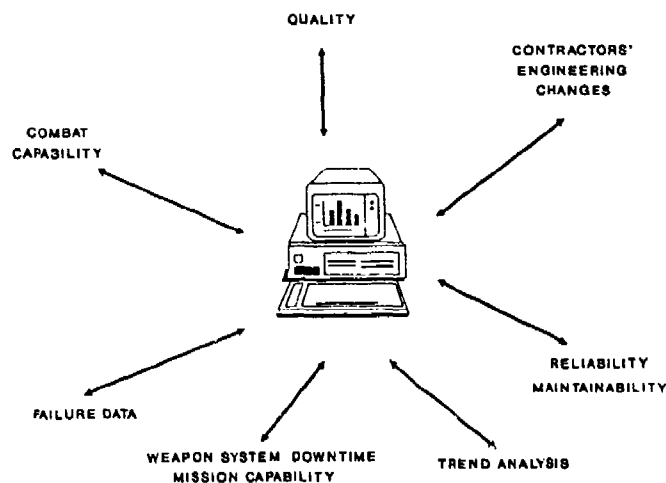


Figure 39. Reliability and Maintainability Information System Functions. (From Air Force Materiel Command, "Logistics Management System" [brochure], 8 November 1991, 61)

and sustainability of every Air Force weapon system. For that reason, more than 1,800 users worldwide will access REMIS.¹² Because DLA will assume management of a large number of items previously managed by the Air Force (see chap. 3), it stands to reason that these two key Air Force information and data systems could help DLA's overall efforts in inventory management and support for the Air Force and other users.

Anticipated cuts in defense spending¹³ (figs. 40 and 41)—especially in the areas of operations and maintenance funds¹⁴—as well as the prospect of reduced support from the industrial base,¹⁵ make the sharing of such information systems especially important if DLA is to continue to support its customers, defend our allies, and protect our way of life by helping fulfill our national objectives. DLA's access to REMIS and the appropriate WSMIS modules (e.g., Sustainability Assessment, Get-Well Assessment, Distribution and Repair in Variable Environments, and Readiness Assessment) or raw data from the systems can help DLA's supply operations directorate formulate meaningful analyses of supportability problems and find solutions.¹⁶ Further, given the potential benefits of this concept of data sharing, perhaps we should consider extending it to programs currently under development or to any future program that might bolster logistics support, sustainability, and operational readiness between DLA and any of the military services.

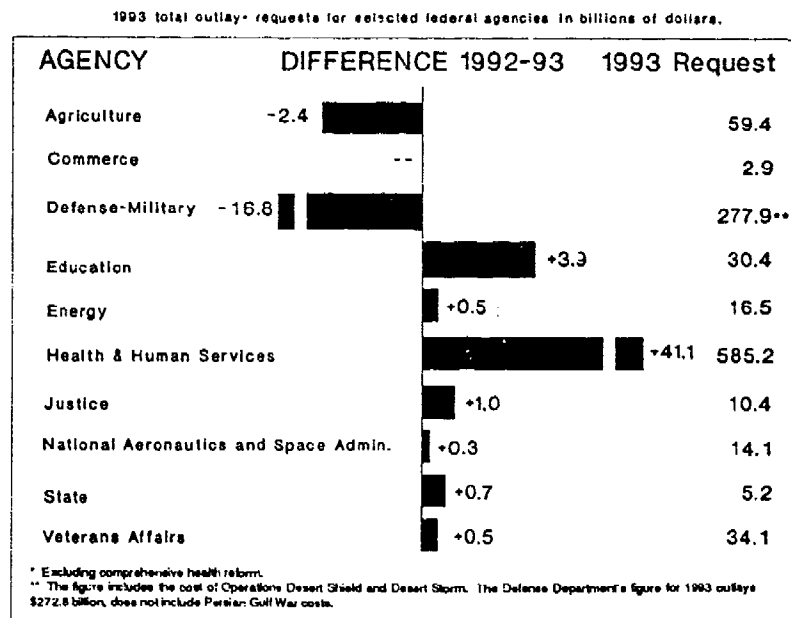


Figure 40. Shifting Federal Priorities. (From fiscal year 1993 federal budget, in Phillip Finnegan, "DOD Request Awaits Trial by Fire," *Defense News*, 3 February 1992, 6)

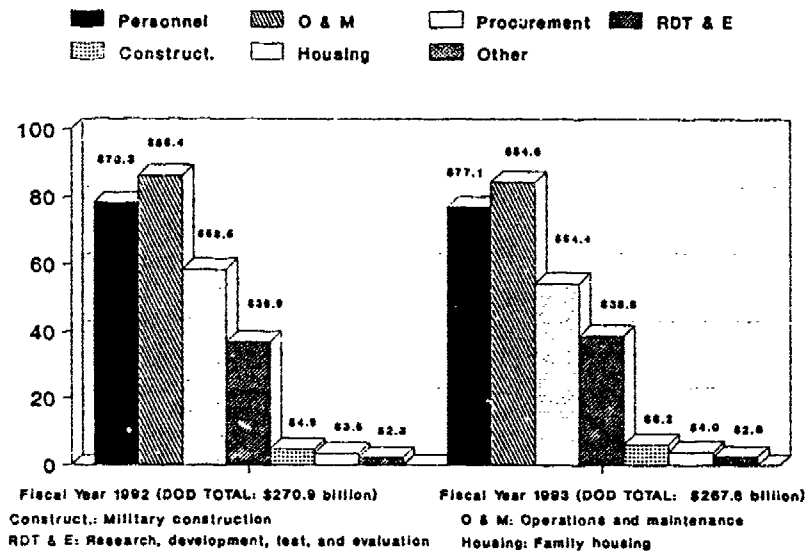


Figure 41. Department of Defense Budget Authority in Billions of Dollars, Excluding the Cost of Operations Desert Shield/Desert Storm. (From Department of Defense, Philip Finnegan, "DOD Request Awaits Trial by Fire," *Defense News*, 3 February 1992, 1)

Program Improvements

If we are to realize the savings mandated by the Defense Management Review, we must pay attention to those programs that hold the most promise for the efficient application of logistics services. One such program is to be found under the auspices of the newly created AFMC.

Activated on 1 July 1992, AFMC is responsible for "about 52 percent of the Air Force's budget [\$43.6 billion], 14 major bases, and [management of] more than 450 programs."¹⁷ Further, about 40 percent of Air Force civilian workers come under the purview of AFMC.¹⁸ AFLC, its predecessor, was the epitome of big business (table 41), and one can expect the same from the new command. AFMC will attempt to establish more efficient, cost-effective, and responsive weapon systems management by adopting the concept of integrated weapon systems management (IWSM), which is designed to manage Air Force weapon systems from acquisition to retirement. IWSM offers an avenue for joint logistics support efforts between DLA and the Air Force insofar as nine of the 21 programs (e.g., aircraft, satellites, life-support systems, etc.) for which AFMC must implement key program tasks (table 42) are already supported by DLA's WSSP (table 43).

The second recommendation of this study concerns a proposed enhancement to OSD's Defense Logistics Management System (DLMS, figs. 42 and 43) that would help it evolve into a "more responsive, flexible, and service-oriented"¹⁹ logistics system which would benefit AFMC and DLA. This enhancement would remove the rigid 80-character limit on the system's

transaction formats for issues, shipments, and so forth (fig. 44 and appendix O). By removing the limitation on the number of available characters in the format, users would have room to record the identification or essentiality

Table 41

**Size of Air Force Logistics Command
(Fiscal Year 1990)**

People	96,709
Capital Assets	\$158.3 Billion
Funds Managed	\$50.3 Billion
Annual Buys	\$9.5 Billion
Items Managed	961,516
Requisitions Processed	2.7 Million
Components Repaired	1,229,708
Aircraft Supported	20,779
Missiles Supported	1,147
Engines	32,944
Logistics Management Information Systems	500+

Source: Air Force Logistics Command, "Logistics Management Systems" (brochure), 29 October 1990, 3.

Table 42

**Approved Integrated Weapon
Systems Management Programs
(and Their Single Program Managers)**

- **Life Support Systems** - Col Mahlon Long, Human Systems Division, Brooks AFB, Tex.
- **F-15** - Brig Gen James Childress, Warner Robins Air Logistics Center, Robins AFB, Ga.
- **Joint Surveillance and Target Attack Radar System** - Col Harry Heimple, Electronic Systems Division, Hanscom AFB, Mass.
- **AGM-65 Maverick Missile** - Ramona Allison, Ogden Air Logistics Center, Hill AFB, Utah.
- **B-1B** - Col Gary Pence, Oklahoma City Air Logistics Center, Tinker AFB, Okla.
- **F-111** - Col Richard Conigliaro, Sacramento Air Logistics Center, McClellan AFB, Calif.
- **FPS-124 Radar** - Col Robert Johnson, Electronic Systems Division, Hanscom AFB, Mass.
- **Low-Altitude Navigation and Targeting Infrared System for Night** - Col Leslie Kenne, Aeronautical Systems Division, Wright-Patterson AFB, Ohio.
- **E-3 Airborne Warning and Control System** - Col Patrick Craig, Electronic Systems Division, Hanscom AFB, Mass.

Source: "One Face," *Leading Edge*, October 1991, 12.

Table 43

**WSSP Supply Availability of Integrated Weapon
Systems Management Programs
(Calendar Year 1991 Quarterly Summaries)**

Programs	Jan-Mar 1991		Apr-Jun 1991		Jul-Sep 1991		Oct-Dec 1991	
	Net Demands	Supply Avail.	Net Demands	Supply Avail.	Net Demands	Supply Avail.	Net Demands	Supply Avail.
Life Support Systems	?	?	?	?	?	?	?	?
F-15 Aircraft	214,044	88.1%	178,588	88.9%	168,715	90.4%	150,648	90.4%
Joint Surveillance and Target Attack Radar System	-	-	-	-	-	-	-	-
AGM-65A Maverick Missile	45,619	93.4%	37,630	93.6%	35,601	93.8%	31,922	94.2%
B-1B Aircraft	108,629	91.3%	90,307	91.8%	85,906	92.5%	75,787	92.8%
F-111 Aircraft	193,656	89.7%	153,865	91.4%	143,822	92.4%	129,035	92.7%
FPS-124 Radar	-	-	-	-	22	95.5%	28	85.7%
Low-Altitude Navigation and Targeting Infrared System for Night	32,987	91.9%	28,284	91.5%	27,772	93.5%	25,133	93.7%
E-3 Airborne Warning and Control System	133,686	91.5%	104,700	92.3%	97,946	93.2%	88,789	92.9%

Legend:

- ? Unclear about composition
- Data unavailable

Source: Defense Logistics Agency, Weapon Systems Support Program quarterly performance reports January through December 1991.

codes of the end item or weapon system for which inventory action (e.g., requisitions, turn-ins, condemnations, etc.) on an item is occurring.

This information would be especially useful to item managers and extremely supportive of their management decisions (e.g., asset balances, storage locations, user priorities, reserve levels, etc.—fig. 45). These decisions become more significant if the item in question supports a critical end item or weapon system. Because of their impact on operational readiness, sound management determinations are increasingly important for WSSP items. Because DLA gives these items special attention, most of them receive well-above-average support, compared to non-WSSP items. Still, a problem arises when the item manager must decide whether to support a low-demand WSSP item that is used in a critical weapon system or a high-demand WSSP item that is used in a less critical system. In an era of reduced funding, the question becomes harder to answer. Under retail conditions, items with dates of last demand greater than 730 days are recommended for disposal; however, for DLA-managed items the date of last demand expands to six years. Further, critical WSSP items are kept in stock for 20 years before they are considered for disposal. Thus, even items in low demand can remain in the program and keep being purchased because the item manager, service liaison, or system program manager has limited knowledge of exactly where the item is used or what it supports. The matter is further complicated when more

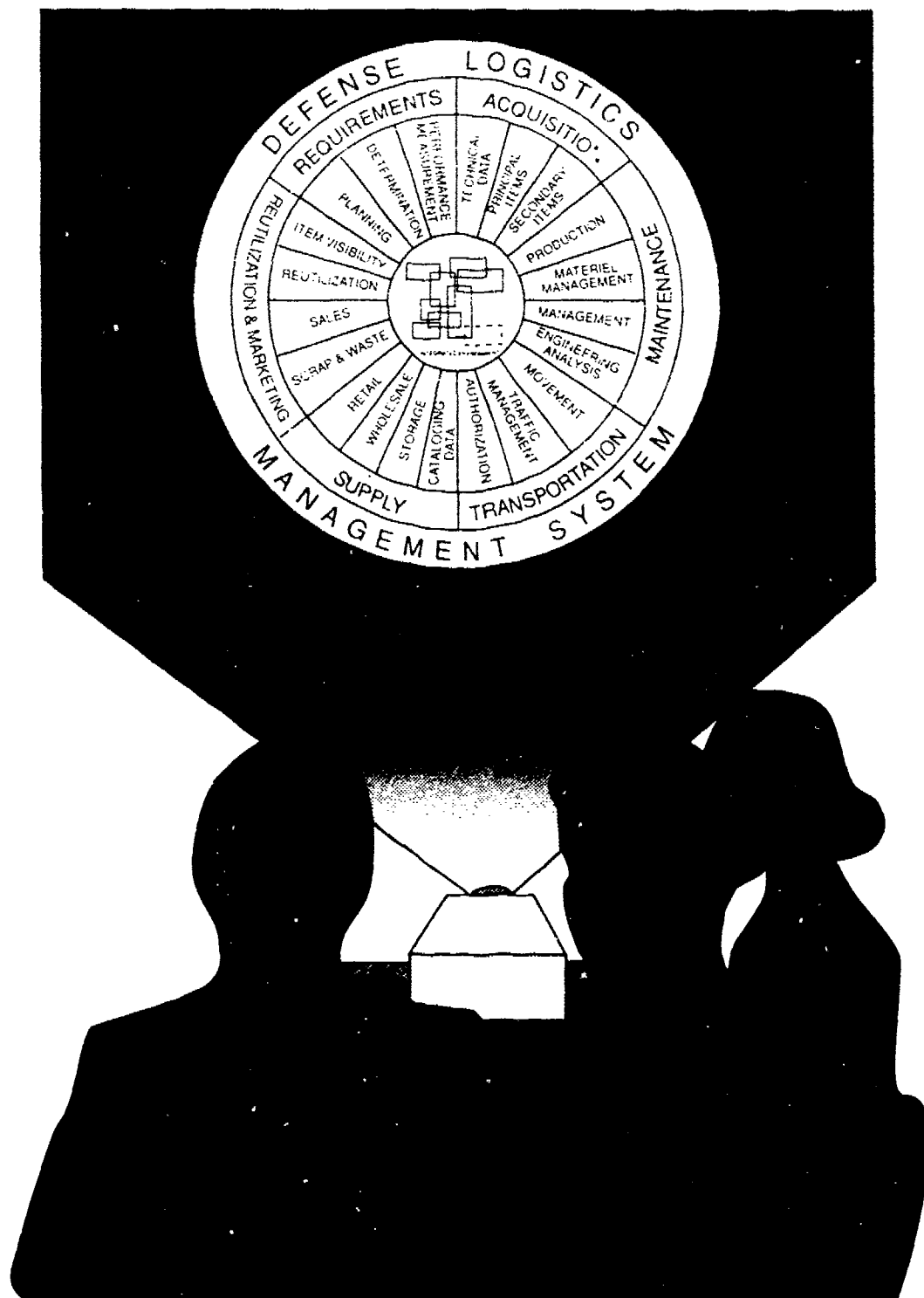


Figure 42. Defense Logistics Management System Functional Interfaces. (From Defense Logistics Standard Systems Division, "Defense Logistics Management System" [brochure], 1991, 7)

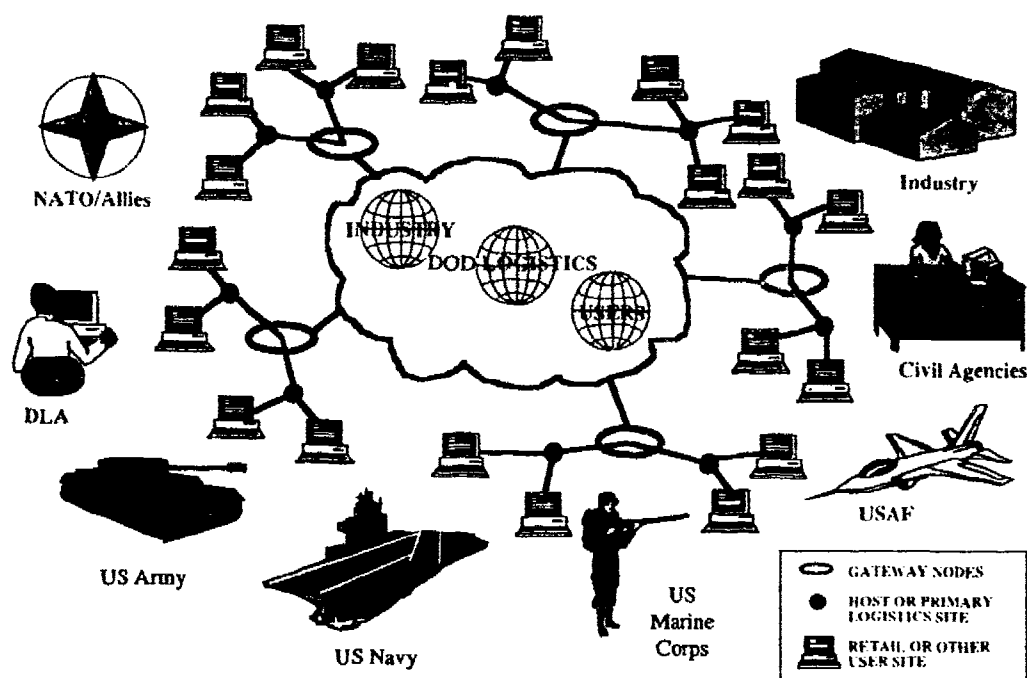


Figure 43. Gateways and Data Bases. (From Defense Logistics Standard Systems Division, "Defense Logistics Management System" [brochure], 1991, 5)

DOC NO		1630000585242		1		FBA302 3212 0957		Y00A35 D		01		02 NAA		FGZ AA		6 666307	
SHIP TO FROM		HILL AFB		FB2029		W/C ABA		*FB6302		*MCAP*		00A35				666307	
SHIP TO FROM		UTAH															
WAREHOUSE LOCATION		G21A		86A		9A		Z		238.00		5.333		011		920	
FREIGHT CLASSIFICATION		J		100						3214		A		SERV W/O QUAL		GY 2	
SUBJECT DATA (FROM ORIGINALLY REQUESTED)		U		ZZSPI0058524280						FBLD				AIR LIFT INVESTMENT ITEM			
ACTION DATE		3213/A		BRAKE, SEGMENTED ROT		APUD		AREA E5		LOGAIR A FLT 2F							
SELECTED BY AND DATE		(Self Explanatory)		BX		238											
PACKED BY AND DATE		3/3214		1		4											
REMARKS		SPWS 42		MGR DK		OFF SHELF										1	
FIRST DESTINATION ADDRESS		(ETA Code)		DATE SHIPPED		and date											
TRANSPORTATION CHARACTERISTICS TO		or Carrier Code		3214/N													
DD FORM 1348-1		1 MAR 74		ICN FBA30232120957													

Figure 44. Sample DOD Single Line Item Release/Receipt Document—DD Form 1348-1. (From AFM 67-1, USAF Supply Manual, vol. 1, Basic Air Force Supply Procedures, 30 April 1990, 6-17)

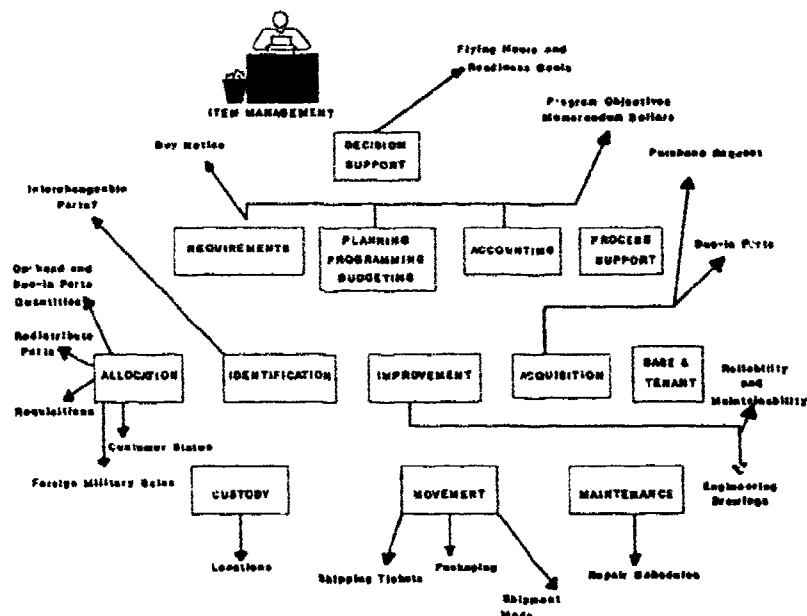


Figure 45. Tasks and Information Requirements of the Item Management Specialist. (From Air Force Materiel Command, "Logistics Management System" [brochure], 8 November 1991, 10)

than one military service or another DOD agency uses such an item (see chap. 2, table 3).

But by changing the data segmentation from an 80-character format to one of variable length, the user can enter weapon systems information that provides the analyst a more accurate picture of who ordered the item and for which system. With this information, the item manager, service liaison officer, and system program manager could make informed decisions on reducing procurement, readjusting specialized support action, and supporting disposal of unnecessary items. Further, they would be in a better position to satisfy congressional demands to improve weapon systems management and reduce the inventory.

Unfortunately, this enhancement to the transaction format is not scheduled to go into effect until fiscal year 1996. In light of the considerable benefits²⁰ that could accrue to both the decision-making and budgeting processes in DLA and the Air Force, however, DOD should consider early implementation of the enhancement. A test program of the expanded format not only would identify and correct problems prior to DOD-wide implementation but would provide enhanced management support to AFMC's 21 programs and ultimately improve overall support to our combat and logistics forces during peacetime, contingencies, national emergencies, and limited or theater conflicts.

Training

Improved training in logistics is also important if we are to preserve our military readiness. This is especially true in an era of constrained resources. As we have seen, DMR initiatives call for the elimination of almost 50,000 civilian and 44,000 military personnel;²¹ further, the House Budget Committee recommends eliminating almost 200,000 active duty jobs through fiscal year 1997. As far as the logistics community is concerned, these proposed reductions mean that it must do more with less. Thus, logisticians in the near future must be especially knowledgeable in their field and especially proficient at meeting the needs of the military services.

After Gen Merrill A. McPeak, Air Force chief of staff, designated 1992 as the "year of training" in the Air Force,²² Gen Charles C. McDonald, former commander of AFLC, announced his search for leaders in logistics—even people with doctoral-level training.²³ Amid talk of merging certain service functions or even the services themselves,²⁴ the logistics executives of the 1990s must combine the roles of businessman, manager, and communicator if military needs are to be well served. It goes without saying that economic factors have narrowed the margin for error in the performance of logisticians, especially those in positions of leadership.²⁵

The need for effective training also exists in the lower strata of an organization—among the people who actually perform the tasks. If, for example, Air Force people are to implement the better business practices mandated by DMR and TQM, then they must have a working knowledge of how DLA support programs can help them do their jobs. For career logisticians, this information would best be presented at locations where they receive initial specialty training and where all other Air Force officers, senior noncommissioned officers, and civilians receive professional education and continuing specialty training. The Air Force should also ensure that people who move into logistics from other career fields are properly trained in the intricacies of this specialty.

Similarly, we would do well to adopt a proposal by the DLA Weapons Systems Support Branch to work with the Air Force in implementing several areas of training—ranging from teaching an introduction to DLA at Air Force supply schools to ensuring that WSSP workshops are available to Air Force MAJCOMs and system program managers (table 44). Further, DLA is offering its personnel rotating assignments,²⁶ chances to hear guest speakers from agencies served by DLA,²⁷ and the opportunity to critique its training and advancement opportunities.²⁸

One may safely declare that the days of Air Force logisticians working around DLA because of the latter's alleged inability to support them are gone forever. On the one hand, the Air Force, especially its logistics community, must use DLA support programs such as WSSP and make suggestions to

Table 44

**DLA Management Strategy
Training Issues**

-
- Introduce DLA at Air Force Supply School
 - Update DLA formal training on DLA WSSP
 - Introduce DLA WSSP training at Air Force Supply School
 - Develop training for system program managers—"How to Use DLA Weapon Systems Support Advisers"
 - Make Logistics Asset Support Estimate [and] Standard Automated Materiel Management System Telecommunications an Air Logistics Center training requirement
 - [Develop] workshop [on] How Major Commands/SPMs Can Use Weapon Systems Support Program
-

Sources: Lt Col Collins M. Jackson, Headquarters Defense Logistics Agency, Weapon Systems Support Branch, chief, Air Force Team, telephone interviews with author, October 1991; and information packet from Colonel Jackson, 2 October 1991.

improve them. On the other hand, DLA must ensure that its programs adequately satisfy the Air Force's logistics support requirements. Finally, DLA and the Air Force could expand the current weapon systems support adviser program. Currently, a DLA representative is assigned to each of the five air logistics centers in an advisory and problem-solving capacity. Yet, Air Force civilians are not assigned in a similar capacity at DLA's defense supply centers. Both DLA and the Air Force could establish joint exchange programs at their centers for midlevel (GS-9 to GS-12) requirements (i.e., supply, contracting, and so forth) personnel. These persons would lose their DLA or Air Force "shields" and work with logistics personnel in the major product (Air Force) or item management (DLA) directorates for either two or three years. They would do more than field questions, resolve problems, or chase the cats-and-dogs issues (though important, these issues usually exist because of inadequacies or misinterpretation of current systems or processes). Rather, they would serve career-broadening tours and, upon return to DLA and the Air Force, would better communicate the other's mission. The pool should be constant and widespread to ensure that the best representatives participate. Such a program would bolster communication and training in DLA and the Air Force, as well as provide an almost seamless logistics operation.

Unless DLA and the Air Force are successful in their efforts to share data and information systems, codevelop programs, and improve joint training, then support to weapon systems will suffer (appendix P). Thus, it is essential that these two entities recognize their dependence on each other and enhance the lines of communication. Budgeting realities require that both DLA and

the Air Force act in concert to support their customers during training, contingency, national emergency, or regional or global conflict. Perhaps both parties will embrace this task more willingly if they realize that people who need consumables—and the spare parts they are used on—are neither Air Force customers nor DLA customers but American customers, and that by serving those people they serve the national interest.²⁹

Notes

1. Briefing, Defense Logistics Agency, subject: Command Overview, Fourth Quarter, Fiscal Year 1991, 20 December 1991.
2. Defense Logistics Agency, *DLA Inventory Reduction Plan* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, April 1991), 3, 4.
3. Arthur Bailey, Defense Logistics Agency Public Affairs Office, telephone interviews with author, 26 March 1992, 1 April 1992.
4. Philip Finnegan, "DOD Request Awaits Trial by Fire: Congressional Foes Promise Further Cuts in 1993 DOD Request," *Defense News*, 3 February 1992, 6.
5. Command Overview briefing.
6. "Defense Personnel Support Center Helped 'Provide Comfort' to Refugees in Largest Military Modern Day Relief Effort," *Provider*, October 1991, 13–14.
7. R. Todd McGee, "Defense Depot Ogden, Utah Aids Kurds," *Dimensions*, June–July 1991, 22.
8. Carla Banks-Williams, "DDCO Mobilizes to Aid Kurds," *Dimensions*, May 1991, 22.
9. "Lessons of War," *Leading Edge*, November 1991, 13.
10. John T. Correll and Colleen A. Nash, "The Industrial Base at War," *Air Force Magazine* 74, no. 12 (December 1991): 52–56.
11. John T. Correll, "Let's Hear It for the Loggies," *Air Force Magazine*, August 1991, 7.
12. Gen Charles C. McDonald, USAF, "Rely on It, Maintain It . . . and Win," *Leading Edge*, October 1991, 4–8.
13. Finnegan, 6; and Rick Maze, "Panel Backs Cutting 200,000 More Active-duty Jobs by 1997," *Air Force Times* 52, no. 31 (9 March 1992): 3.
14. Operations and maintenance funds support an organization's operational (e.g., flying, temporary duty, administration/logistics support, etc.) and maintenance (e.g., repair, modifications, etc.) activities.
15. F. Clifton Berry, Jr., "A Warning from Industry," *Air Force Magazine* 74, no. 7 (July 1991): 64–66.
16. From 4 September 1990 to 13 June 1991, I served as the lead logistics coordination officer for the Air Force weapon systems support team at the Defense Industrial Supply Center (DISC), Philadelphia, Pennsylvania. Prior to departing, I coordinated with the Air Force representative in the DLA Weapon Systems Support Branch, the AFLC-DLA liaison, and a key member of the AFLC systems staff to get access to the Get-Well Assessment Module, Readiness Assessment Module, and the unclassified data from the Sustainability Assessment Module. Members of the Air Force team at DISC and Headquarters DLA were to attend the WSMIS Program Management Reviews (June 1991) and investigate further to determine fund availability and feasibility of requests.
17. John Terino, "Doing Business with the New Air Force Materiel Command," *National Defense* 76, no. 474 (January 1992): 16–19.
18. James Kitfield, "Curtain Up on Materiel Command," *Air Force Magazine* 74, no. 8 (August 1991): 66.
19. Defense Logistics Standard Systems Division, "Defense Logistics Management System" (brochure), 1991.

20. Daniel N. Bien, "Management Tools: Value Added Features for an Automated Logistics Management System," *Logistics Spectrum* 25, no. 1 (Spring 1991): 22.
21. "Management Report Changes: On Track," *Defense 91*, November-December 1991, 5 (this article is based on the executive summary to the Defense Management Review Implementation Progress Report, March 1991); and Maze, 3.
22. Gen Merrill A. ("Tony") McPeak, USAF, "Next Goal to Raise Education, Training Standards," *Air Force Times*, 9 March 1992, 29.
23. Gen Charles C. McDonald, USAF, "Technology Innovation in Logistics Support," *Logistics Spectrum*, Fall 1991, 20.
24. William Matthews, "Nunn: Merge the Services?" *Air Force Times*, 9 March 1992, 6.
25. Paul R. Murphy and Richard F. Poist, "A Comparison of Headhunter and Practitioner Views Regarding Skill Requirements of Senior-Level Logistics Professionals," *Logistics and Transportation Review*, September 1991, 277-93.
26. Patti Harner, "Defense Industrial Supply Center Rotational Assignment Program," *Quality Impressions*, Winter 1991, 2.
27. Maj Arnold J. Westhaus, USA, "DISC Focuses in on Army Aviation Systems Command," *Defense Industrial Supply Center Update*, March 1992, 7.
28. Patricia Miller, "Personnel Survey—Inquiring Minds Want to Know What You Think," *Dimensions*, February 1992, 15.
29. Even though this study has focused on DLA and its logistics support to the Air Force, it may also be of use to the other military services, DOD agencies, and other DOD customers.

APPENDIX A

**Directors and Deputy Directors of the Defense
Supply Agency/Defense Logistics Agency**

Directors

1961-64 Lt Gen Andrew T. McNamara, USA
1964-67 Vice Adm Joseph M. Lyle, Supply Corps, USN
1967-71 Lt Gen Earl C. Hedlund, USAF
1971-75 Lt Gen Wallace H. Robinson, Jr., USMC
1975-78 Lt Gen Woodrow W. Vaughan, USA
1978-81 Lt Gen Gerald J. Post, USAF
1981-84 Vice Adm Eugene A. Grinstead, Supply Corps, USN
1984-86 Lt Gen Donald M. Babers, USA
1986-88 Lt Gen Vincent M. Russo, USA
1988-92 Lt Gen Charles McCausland, USAF
1992- Vice Adm Edward M. Straw, Supply Corps, USN

Deputy Directors

Rear Adm Joseph M. Lyle, Supply Corps, USN
Maj Gen Francis C. Gideon, USAF
Maj Gen Earl C. Hedlund, USAF
Maj Gen Woodrow W. Vaughan, USA
Maj Gen Robert C. Kyser, USA
Maj Gen Thomas H. Scott, Jr., USA
Maj Gen Darrie H. Richards, USA
Rear Adm Paul F. Cosgrove, Supply Corps, USN
Maj Gen John C. Raaen, Jr., USA
Rear Adm Philip Crosby, Supply Corps, USN
Maj Gen Robert C. Gaskill, USA
Maj Gen Emmett W. Bowers, USA
Maj Gen M. Roger Peterson, USAF
Maj Gen Benjamin F. Register, Jr., USA
Rear Adm Bruno A. Pomponio, Supply Corps, USN
Maj Gen Donald P. Litke, USAF
Maj Gen Stanton R. Musser, USAF
Maj Gen H. N. Campbell, USAF
Rear Adm Brady M. Cole, Supply Corps, USN
Maj Gen Lawrence P. Farrell, Jr., USAF

Sources: Defense Logistics Agency, Public Affairs Office, October 1991; "Farrell Named DLA Deputy," *Dimensions*, June 1992, 19; and Thom White, "Admiral Is New Director," *Dimensions*, July 1992, 1.

APPENDIX B

Examples of DLA-Managed Commodities

Fuel and Petroleum Products
(Defense Fuel Supply Center—DFSC)

Gasoline and jet fuel
Fuel oils and coal

Oils and greases
Petrochemicals

Clothing and Textiles
(Defense Personnel Support Center—DPSC)

Individual equipment
Outerwear and underwear
Protective clothing
Rainwear
Textiles, leather, and furs
Notions and apparels

Badges and insignia
Boots and shoes
Flags
Bedding
Tents and tarpaulins

Construction
(Defense Construction Supply Center—DCSC)

Diesel engines and components
Pipes and conduits
Hoses and tubings
Plumbing fixtures
Fuel-burning equipment
Brake and steering components
Fencing, fences, and gates
Vehicular power transmissions
Engine fuel-system components
Vehicular furniture and accessories
Lubrication equipment
Truck and tractor attachments
Plywood and veneer

Engine accessories
Warehouse trucks and self-propelled tractors
Conveyors
Power and hand pumps
Winches, cranes, and derricks
Lumber and millwork
Water purification equipment
Gasoline engines
Vehicular cab and frame components
Electrical system components

Electronics
(Defense Electronics Supply Center—DESC)

Resistors
Capacitors
Filters and networks
Fuses and arrestors
Circuit breakers
Electron tubes and transistors
Semiconductor devices
Synchros and resolvers

Switches
Connectors
Crystals
Relays and solenoids
Coils and transformers
Headsets and handsets
Antennas and waveguides
Audio materiel

Subsistence (DPSC)

Meat, poultry, and fish
Fruits and vegetables
Tobacco products
Coffee, tea, and cocoa
Food oils and fats
Soups and bouillons
Jams, jellies, and preserves

Composite food packages
Dairy foods and eggs
Bakery and cereal products
Nonalcoholic beverages
Sugar, confectionery, nuts, condiments, related products

General (Defense General Supply Center—DGSC)

Air-conditioning equipment
Laundry and dry-cleaning equipment
Shoe-repairing equipment
Industrial sewing machines
Mobile textile repair shops
Materials-handling equipment
Warehouse trucks and tractors
Pallets and skids
Ice chests, coolers, water dispensers, and ice-making machines
Fans, air circulators, and blower equipment
Lugs and terminals
Electrical hardware and supplies
Lighting fixtures and lamps
Glass-fabricated materials
Photographic film, paper, and supplies

Chemicals (nonmedicinal)
Insecticides
Cooking, baking, and serving equipment
Kitchen equipment and appliances
Books and pamphlets
Sheet and book music
Drums and cans
Solid fuels
Oils and greases
Ecclesiastical equipment
Wax and rubber-fabricated materials
Scales and balances
Woodworking machines

Industrial (Defense Industrial Supply Center—DISC)

Hardware
Metal bars, sheets, and shapes
Blocks, tackle, and rigging
Fiber rope, cordage, and twine
Bearings
Nails, keys, and pins
Air and oil filters, strainers, and cleaners for aircraft engines

Chain and wire rope
Rope and cable fittings
Electrical wire and cables
Packing and gasket material
Fasteners
Components for gas turbines and aircraft jet engines

Medical and Dental (DPSC)

Drugs and medicines
Chemical analysis instruments
Medical and surgical equipment
Replenishable field medical
sets, kits, and outfits

Biologicals
Hospital furniture
X-ray equipment
Laboratory equipment
Optical equipment

Manufacturing (DPSC)

Hard-to-fit clothing

Critical military garments

Sources: Defense Supply Agency, *An Introduction to DSA* (Cameron Station, Alexandria, Va.: Government Printing Office, January 1970), 8-9; *Commodities and Services Purchased by the Defense Logistics Agency* (Cameron Station, Alexandria, Va.: Government Printing Office, 1991), 1-15; and fact sheets from the supply centers.

APPENDIX C

Facts about DLA's Supply Centers

Locations of Defense Logistics Agency Supply Centers

Defense Construction Supply Center (DCSC)
3990 East Broad Street
Columbus, Ohio 43216-5000
Commander: Brig Gen R. A. Browning, USAF
Telephone: 1-614-238-2166 (DSN 850 + extension)

Defense Electronics Supply Center (DESC)
1507 Wilmington Pike
Dayton, Ohio 45444-5000
Commander: Brig Gen Larry T. Garrett, USMC
Telephone: 1-513-296-6841 (DSN 986 + extension)

Defense Fuel Supply Center (DFSC)
Cameron Station, Building 8
Alexandria, Virginia 22304-6160
Commander: Brig Gen J. E. Bickford, USA
Telephone: 1-703-274-7401 (DSN 284 + extension)

Defense General Supply Center (DGSC)
Bellwood, Petersburg Pike
Richmond, Virginia 23297-5000
Commander: Rear Adm John G. Hekman, Supply Corps, USN
Telephone: 1-804-275-3801 (DSN 695 + extension)

Defense Industrial Supply Center (DISC)
700 Robbins Avenue
Philadelphia, Pennsylvania 19111-5096
Commander: Brig Gen Ray E. McCoy, USA
Telephone: 1-215-697-2301 (DSN 442 + extension)

Defense Personnel Support Center (DPSC)
2800 South 20th Street
Philadelphia, Pennsylvania 19101-8419
Commander: Brig Gen Richard E. Beale, Jr., USA
Telephone: 1-215-952-2300 (DSN 444 + extension)

Sources: DLA Office of Policy and Plans, Organizational Chart, December 1990; *Commodities and Services Purchased by the Defense Logistics Agency* (Cameron Station, Alexandria, Va.: Government Printing Office, 1991); fact sheets from the six defense supply centers; and "In the News," *Dimensions*, June 1992, 20.

Facts about Defense Construction Supply Center

Location. The Defense Construction Supply Center (DCSC) is headquartered in Columbus, Ohio.

Mission. Established in January 1962, its mission is to buy, manage, store, and ship construction material and equipment, vehicle repair parts, and weapon systems parts for US military and North Atlantic Treaty Organization units around the world. In fiscal year 1990, DCSC managed over 560,000 items.

Scope of Operation (FY 1990). DCSC procured over \$713.3 million of material and processed more than 3,759,200 customer requisitions (over 3.5 million from the military services). DCSC processed over 2.6 million line items, equating to over 59,342 short tons of material. Its contractor-operated parts depot—located at Mechanicsburg, Pennsylvania—processed 82,957 orders for sales of \$10.5 million.

Personnel. In fiscal year 1990, 34 military (32 officers and two enlisted) and over 3,116 full-time civil service personnel were assigned to DCSC.

Physical Facilities. DCSC's 121 buildings—including 566,417 gross square feet of office space, 5.5 million gross square feet of warehouse storage, and 5.1 million gross square feet of open storage—occupy over 570 acres of land.

DLA Tenant Activities. DCSC is also home to the DLA Systems Automation Center; Defense Depot, Columbus, Ohio; DLA Civilian Personnel Support Office; Defense Reutilization and Marketing Region; and the Information Processing Center at Columbus.

Non-DLA Tenant Activities. In fiscal year 1990, DCSC supported the Defense Industrial Security Clearance Office, 83d Army Reserve Command, and the USAF Occupational Medicine Clinic.

Sources: DCSC Public Affairs Office fact sheet, 1991.

Facts about Defense Electronics Supply Center

Location. The Defense Electronics Supply Center (DESC) is headquartered at Gentile Station in Kettering—close to Wright-Patterson Air Force Base in Dayton, Ohio.

Missions. DESC has two missions: It manages and buys electronic spare parts for the US military services and such federal civil agencies as the National Aeronautics and Space Administration. DESC also standardizes electronic parts by working with the military services and contractors during the design of new weapon systems to select appropriate parts for equipment and to control the number of new parts being introduced into the defense inventory.

Types of Items Managed. The DESC inventory includes tubes, resistors, connectors, transformers, crystals, audio and video equipment, intercom, antennas, communications and fire-control-system components, microcircuit devices, and a variety of automatic data processing items.

Scope of Operation. In fiscal year 1990, DESC managed more than 986,000 items and supported more than 20,000 military and civil agency customers worldwide. About 23 percent of the center's business was generated by the Army, 37 percent by the Navy, 33 percent by the Air Force, and 7 percent by the Marine Corps and other customers. During fiscal year 1990, DESC recorded over 3 million orders resulting in \$554.2 million of sales and contracts for over \$413 million in stock replenishment materials. With a fiscal year 1990 annual payroll of over \$76 million, it employed 2,325 military and civilian personnel—one of the area's largest employers.

Tenant Organizations. A few of the many tenants include the Air Force Orientation Group, Dayton Distribution Center for the Army and Air Force Exchange Service, Defense Criminal Investigative Service, Defense Contract Audit Agency, Defense Automatic Addressing System Office, and DESC Clinic.

Sources: *Defense Electronics Supply Center, Gentile Station* (Dayton, Ohio: Winkler Company, 1991), 7-9; and DESC profile sheet, 1991.

Facts about Defense Fuel Supply Center

Location. The Defense Fuel Supply Center (DFSC) is headquartered at Cameron Station, Alexandria, Virginia, and has various field elements throughout the world.

Mission. Provides comprehensive and worldwide fuel support—right quantity, place, price, and time—for the armed forces of the United States and to authorized federal government agencies. Procures crude oil for the strategic petroleum reserve. DFSC's overall fuel budget of \$7 billion is almost half of the total defense stock fund.

Organization. DFSC is one of DLA's 24 primary-level field activities and one of its six supply centers. At the end of fiscal year 1991, DFSC had an onboard staff of 833 civilian and 58 military personnel equivalents. In addition to support offices, the alternative fuels, facilities management, supply operations, contracting and production, quality assurance and technical services, and resources management directorates perform major functions.

Terminals. Approximately 204 fuel terminals are used worldwide to store US government-owned fuel. Of the 204 terminals; 50 are government owned and operated; 31 are government owned and contractor operated; 53 are contractor owned and operated; 24 are funded by the North Atlantic Treaty Organization; and 46 are funded by other foreign governments.

Users and Contracts. DFSC serves about 5,000 activities, each with distinct fuel requirements. The center's civilian users, though numerically small, demand a lot of monitoring due to their diverse locations and requirements. The Air Force, requiring massive quantities of jet fuel, is DFSC's biggest consumer. It purchases about 60 percent of the total barrels sold. The Navy accounts for about 33 percent and the Army about 5 percent.

Types of Products and Services. DFSC contracts for products and services based entirely on military and civilian requirements. They include bulk products; posts, camps, and stations; ship bunkers; direct natural gas; coal; storage; laboratory testing; and natural gas, shale oil, and synthetic fuel samples. During fiscal year 1991, 9,125 contracts totaling \$5.09 billion were awarded. During 1991, DFSC bought 198 million barrels of bulk refined products.

Sources: DFSC Public Affairs Office press release, 1991; and DFSC fact book for fiscal year 1990.

Facts about Defense General Supply Center

Mission. The Defense General Supply Center (DGSC) is an inventory control point and is responsible for managing over 400,000 supply items used by the armed services and many federal agencies, including National Aeronautics and Space Administration. Annual sales of these items exceed \$800 million; the items are used on over 1,000 major weapon systems.

Contracting and Production. Procures supplies and services to support DOD and some civil agencies. Its paperless order placement system enables faster handling of orders for film, light bulbs, batteries, and respirators. Procures school and library supplies for over 270 overseas military dependent schools.

Supply Operations. Manages the inventory in both DLA and military storage depots. Receives about 8,000 customer orders valued at more than \$2 million each day.

Technical Operations. Provides technical and engineering support to center as well as to military services and civilian agencies. Maintains purchase descriptions, packaging requirements, and technical data for use during acquisitioning. Seeks reductions in duplicate items by physically comparing items with similar descriptions.

Quality Assurance. Develops and establishes contract quality provisions to support specific customer requirements. Develops inspection, test, sampling plans, and acceptance criteria with which contractors must comply. Investigates, validates, and processes customers' quality complaints; initiates the appropriate corrective action. Provides specialized training to center.

Source: DGSC Public Affairs Office, "A Visitor's and Newcomer's Guide to the Bellwood Community" (brochure). 1991, 6-10

Facts about Defense Industrial Supply Center

Location. The Defense Industrial Supply Center (DISC) is located on the Aviation Supply Office Compound in Northeast Philadelphia, Pennsylvania.

Mission. The center provides wholesale support of industrial items to the military services. Its range of items includes bearings, rope, cable and fittings, fasteners, hardware, packing and gasket materials, springs and rings, metal bars, sheets and shapes, electrical wire and cable, as well as ores, minerals, and precious metals.

DISC purchases and manages items used in the repair and maintenance of key weapon systems. The latter include the Trident, Patriot, and Minuteman III missiles; Black Hawk and Apache helicopters; Abrams tank; Eagle, Hornet, and Harrier aircraft; *Ohio*- and *Los Angeles*-class submarines; *AEGIS*-class cruisers; and *Nimitz*-class aircraft carriers. DISC also provides supply support to certain National Aeronautics and Space Administration space programs and a number of federal agencies.

Personnel. In fiscal year 1991, DISC employed over 2,000 civilians and a complement of 34 military officers and enlisted personnel from the four military services.

Vital Statistics. DISC's fiscal year 1991 operating expense of over \$85 million significantly affected the economic strength of the Delaware Valley. Also, DISC managed and procured over 940,000 industrial items and received over 5.9 million requisitions—a monthly average of 496,700—grossing over \$840.1 million in sales to the military services and other activities. Its fiscal year 1991 procurement awards were valued at over \$487 million.

Source: DISC Public Affairs Office fact sheet, fiscal year 1992.

Facts about Defense Personnel Support Center

Location. The Defense Personnel Support Center (DPSC) is the largest of DLA's six supply centers and is only minutes away from the center of Philadelphia, Pennsylvania.

Mission. The nearly 5,000 workers at DPSC procure and manage food, clothing and textiles, and medicines and medical equipment for active duty personnel (Army, Air Force, Navy, Marines, and Coast Guard) and their eligible dependents. Other customers include the District of Columbia public schools, Veterans Administration hospitals, and US federal prisons.

Organization. DPSC is organized into four major directorates: subsistence operations, clothing and textiles, medical support, and manufacturing.

Subsistence Operations Directorate (DPSC-PS). Annually, the 1,422 DPSC-PS workers manage and supply over \$2 billion of fresh fruit and vegetables, as well as frozen and dehydrated food for military customers worldwide. Also, DPSC-PS buys another \$3 billion worth of food for resale in approximately 340 commissaries. This massive feeding effort is supported by four main storage facilities and 27 defense subsistence offices. From Philadelphia and other locations—including Alameda, California, and Zweibrücken, Germany—the DPSC-PS workers ensure that the food needed at military dining facilities, aboard ships, and in exercise sites or battlefields arrives on time and in quality condition.

During Operations Desert Shield and Desert Storm, DPSC-PS averaged about \$4.5 million a day in food demands. In all, the DPSC-PS workers bought and supplied \$1.06 billion in food rations, beef, sugar, coffee, and other products.

Clothing and Textiles Directorate (DPSC-PT). This directorate's 479 employees—from the supply clerks and procurement experts to inventory management specialists—provide 8,000 different items to customers worldwide. DPSC-PT spends approximately \$1.1 billion a year to outfit military service members with the quality uniforms, helmets, body armor, chemical protective suits, footwear, and tents they need to meet their daily mission during peace and war.

During Operations Desert Shield and Desert Storm, DPSC-PT provided \$962 million worth of items to American troops. Items included chemical protective suits, desert camouflage uniforms, body armor, helmet covers, and ammunition cases.

Medical Support Directorate (DPSC-PM). The 532 members of this directorate buy and manage medical items ranging from aspirin and vaccines to surgical instruments and sophisticated imaging equipment. About \$800 million a year is spent buying 44,000 different medical items used in the entire

spectrum of health care from pediatrics to geriatrics. Military physicians and other medical personnel who care for patients (i.e., active and retired military members and their dependents) in hospitals and clinics around the world depend on DPSC-PM's immediate and efficient support.

The medical directorate serves a major role in providing medical supplies and equipment needed for the Defense Department's deployable medical systems hospital project called DEPMEDS. Over the next several years, 11,000 DEPMEDS systems will be built, providing the military a capability to transport, set up, and disassemble mobile hospitals anywhere in the world.

During peak months of the Gulf War, the medical directorate averaged about \$2.4 million in orders daily. Some of the critically needed items included antidotes for chemical agents, vaccines, bandages, sunscreen lotion, and numerous other items, for a total of \$556.9 million.

Manufacturing Directorate. DPSC operates the nation's only government-owned clothing-manufacturing facility. In its 500,000 square-foot facility, over 1,300 personnel work in nine different sewing shops to produce hard-to-fit clothing and critically needed military garments—normally equalling 3 percent of the military service's annual requirements. The workers also make hand-embroidered flags for the president of the United States and heraldic materials such as regimental flags and battle streamers. Its projected year-end sales for fiscal year 1991 were about \$39 million.

During Operations Desert Shield and Desert Storm, this directorate went into full gear to produce the much needed desert-camouflage, battle-dress uniforms for hundreds of thousands of American troops. At the height of operations, factory workers were turning out desert uniforms, canteen covers, hats, and Nomex flyer coveralls worth about \$13.7 million.

APPENDIX D

Facts about DLA's Defense Distribution Regions

Locations of Defense Distribution Regions

Defense Distribution Region West

Post Office Box 960001

Stockton, California 95296-0002

Commander: Col Jim LaBounty, USA

Public Affairs Tel. No.: 1-209-982-2840

(DSN 462 + extension)

Defense Distribution Region East

c/o Building 81

New Cumberland, Pennsylvania 17070-5001

Commander: Capt Fred A. Williams, Supply Corps, USN

Public Affairs Tel. No.: 1-717-770-7180

(DSN 977 + extension)

Defense Distribution Region Central

2163 Airways Boulevard

Memphis, Tennessee 38114-5210

Commander: Col William F. Murphy, USMC

Public Affairs Tel. No.: 1-901-775-6753

(DSN 683 + extension)

Defense Management Review Decision 902 mandated the consolidation of depot distribution functions under DLA (see chap. 3).

Sources: DLA Public Affairs Office specialists, telephone interviews with author, November 1991 through January 1992; *Outlook* (Cameron Station, Alexandria, Va.: Defense Logistics Agency, Supply Operations Directorate, February 1992), 5; and "In the News," *Dimensions*, June 1992, 20.

Facts about Defense Distribution Region West

Deputy Secretary of Defense Donald Atwood approved Defense Distribution Region West (DDR-W) as DLA's prototype activity on 12 April 1990. DDR-W was formed to test the feasibility of consolidating the military service's materiel distribution functions under DLA, and thus to improve the Department of Defense's operational efficiency. The prototype was implemented on 24 June 1990 by consolidating depots in California—the former Defense Depot at Tracy, Sharpe Army Depot, and the distribution functions of the Naval Supply Center at Oakland. In April 1991, the distribution functions at Sacramento Army Depot and Sacramento Air Logistics Center at McClellan AFB joined DDR-W.

The prototype organization tested software and procedures to make consolidated materiel distribution more cost-effective for DOD customers. Approximately \$30 million in annual savings are expected to result from the DDR-W consolidation. These savings would result from system uniformity by employing the new DOD Distribution System data processing package; reducing overhead and administrative support; merging common inventory items; centralizing packing; increasing shipment consolidation and reducing overhead and transportation costs; and getting maximum use of existing facilities.

In its overall strategy, the Sharpe and Tracy locations were used as the primary hub for receiving, issuing, and storing items. The inventory control points were instructed to position items based on customer support, item demand, facility capability, and lower cost. Stocks were repositioned by attrition and not redistribution, unless the latter was more cost-effective. Positioning of the stock takes into account the locations of the primary customers.

Both the Army and Air Force continued their consolidated containerization and packaging operations; however, transportation arrangements were modified to eliminate overlapping duplicated routes.

To the maximum extent possible, DDR-W ensured that distribution and support functions adhered to DLA's standard policies, procedures, and data processing programs. In-place programs were established to chart customer support effectiveness before, during, and after the consolidation.

DDR-W demonstrated its ability to operate the consolidated activity with the same or improved customer support and achieve the expected savings. Defense officials estimate that \$39 billion can be saved by 1995 through depot consolidation. Based on DDR-W's successful implementation, DLA received the go-ahead to consolidate the depots under its management.

Source: DDR-W Public Affairs Office fact sheet, December 1991.

Facts about Defense Distribution Region East

Defense Distribution Region East (DDR-E) was established 17 April 1991 through a consolidation of the former Defense Depot Mechanicsburg, Pennsylvania (DDMP), and the former New Cumberland Army Depot (NCAD). DDR-E has expanded to include distribution operations at seven more installations in five states.

DDMP was established in 1963 as the Mechanicsburg Defense Depot Activity, one of the major DLA depots. NCAD began life in 1917 as the Marsh Run Storage Depot to supply materiel to the US Army. Through the years, a succession of changes—in name, mission, and areas of geographic responsibility—have occurred at both installations.

DDR-E's specialized missions include providing name-brand, semipерishable food items to military commissaries in Europe and the area around the Mediterranean Sea. DDR-E personnel assemble traypack modules—complete lunch and dinner meals for 18 people. They also assemble medical kits ranging in size from hip-pocket first-aid kits to 1,000-bed mobile field hospitals. DDR-E also provides publications and spare parts needed to maintain major weapon systems, daily air shipments of medical supplies to Europe, and supplies for DOD schools.

Keeping the region's headquarters at New Cumberland promises a solid relationship for the future between DOD and central Pennsylvania. In fiscal year 1991, its payroll was more than \$120 million, with localized nonlabor expenditures of approximately \$60 million for an initial economic impact of over \$180 million. Nonlabor costs are such things as equipment and supplies, rent, utilities, printing, commercial services, and maintenance.

DOD plans to invest more than \$250 million in new facilities for DDR-E. With the opening of the Integrated Materiel Complex at the Mechanicsburg site and the Eastern Distribution Center at the New Cumberland site, DDR-E is prepared to enter the twenty-first century with the most modern warehousing facilities in all of the federal government.

Source: Defense Distribution Region East, Public Affairs Office fact sheet, January 1992.

Facts about Defense Distribution Region Central

The installation became operational in January 1942 as the Memphis General Depot. It was an activity of the US Army Corps of Engineers but was soon transferred to the Quartermaster Corps. In 1964 it became a part of the Defense Supply Agency, now DLA. In October 1991 the Defense Depot-Memphis, Tennessee, was renamed Defense Distribution Region Central (DDR-C), reflecting the installation's change into the Central Region Headquarters and the Memphis Distribution Site. The DDR-C headquarters will oversee operations at the Armed Forces distribution centers that were recently consolidated into the Central Region.

The Memphis Distribution Site (MDS), the former distribution function of the depot, will continue its mission of receiving, inspecting, storing, and shipping supplies to the US military services. The MDS ships about 305,000 tons of goods a year. Its fiscal year 1991 in-stock inventory was valued at more than \$1.5 billion. Annual issues to the military services are nearly \$1 billion. The MDS is highly computerized and mechanized. The computer operates 24 hours a day to support the mission; further, warehouse mechanization for receipt, storage, and retrieval of supplies expedites those functions.

The US Army still owns the land and buildings. DLA only leases the property and physical plant. There are 118 buildings, 35 of which are warehouses or combination warehouse/office buildings on post. The installation has approximately 5.5 million square feet of covered storage space, about 6 million square feet of open storage space, 36 miles of paved roadway, and 24 miles of railway. Today's land and property are worth about \$835 million. Acreage is just over 640 acres—one square mile.

DLA-Memphis is the second largest military activity in the Memphis area and contributes more than \$125 million—in annual salary and other expenditures—to the local economy. In addition to the MDS, the installation also hosts the Defense Industrial Plant Equipment Center Headquarters, Defense Reutilization and Marketing Service—Memphis Region, DLA Systems Automation Center Branch Office, and a US Army Corps of Engineers resident office. These tenants annually contribute an additional \$27 million to the Memphis-area economy.

Source: Defense Distribution Region Central, Public Affairs Office fact sheet, January 1992.

APPENDIX E

Facts about DLA's Service Centers

Locations of Defense Service Centers

Defense Administrative Support Center

Cameron Station

Alexandria, Virginia 22304-6130

Commander: Col G. C. Tucker, USA

Telephone Number: 1-703-274-6003

(DSN 284 + extension)

Defense Industrial Plant Equipment Center

2163 Airways Boulevard

Memphis, Tennessee 38114-5051

Commander: Capt D. W. Hall, Supply Corps, USN

Telephone Number: 1-901-775-6501

(DSN 693 + extension)

Defense Logistics Service Center

Federal Center

Battle Creek, Michigan 49017-3084

Commander: Col Laurence E. Simpson, USMC

Telephone Number: 1-616-851-4989

(DSN 932 + extension)

Defense National Stockpile Center

1745 Jefferson Davis Highway

Crystal Square Building #4, Suite 100

Arlington, Virginia 22202

Commander: L. E. LePage

Telephone Number: 1-703-746-7350

Defense Reutilization and Marketing Service

Federal Center

Battle Creek, Michigan 49017-3092

Commander: Col R. Agnor, USAF

Telephone Number: 1-616-961-5972

(DSN 932 + extension)

Defense Logistics Agency Systems Automation Center

P. O. Box 1605

Columbus, Ohio 43216-5002

Commander: Capt D. J. Quirk, Supply Corps, USN

Telephone Number: 1-614-238-9288

(DSN 850 + extension)

Sources: DLA Office of Policy and Plans Organizational Chart, December 1990; and "In the News," *Dimensions*, June 1992, 20.

Facts about Defense Administrative Support Center (DASC)

Mission. Under the direction and control of the director, DLA, the DASC commander provides administrative support to DLA activities and non-DLA activities in accordance with support agreements, and furnishes DLA-wide technical guidance and assistance in specified functional areas.

Examples of Major Functional Support:

a. Develop and administer budgets and control funds for Headquarters DLA, DASC, and designated activities.

b. Provide support services, including teletype, voice, and data communication; mail and courier pickup and delivery; and processing and controlling of classified, controlled, and express mail.

c. Provide printing, duplicating, publications, and publications distribution support through the DASC printing publications control officer and liaison with the Defense Printing Service for all printing and duplicating needs.

d. Provide installation and office services, including space and facilities management, personal property accounting, temporary duty and local transportation, nonlegal library, parking control, and base supply.

e. Provide visual information support, graphic, photographic, exhibit, audiovisual communication, motion picture production support, and automated data processing support.

f. Assure delivery of defense finance and accounting services, including accounting, disbursing, voucher examination, and civilian pay service to DASC customers.

Fiscal Year 1991 Statistics: Each workday, DASC employees

a. maintained 12 on-line data bases and one gateway to over 800 data bases in the library;

b. operated two mainframes, 10 minicomputers, and supported 1,500 personal computers and 95 automated information systems;

c. ensured on-line access for 1,800 worldwide users of 50 different computer applications;

d. processed 150 financial transactions to reprogram funds and 143 new or revised publication pages; and

e. procured \$14,000 worth of printed material from commercial sources, delivered 3,915 pounds of nonaccountable mail, and distributed 546 publications and forms line items.

Sources: Andrea Gross, DASC, director, Office of Planning and Resource Management, telephone interview with author, 9 July 1992; Defense Logistics Agency Regulation 5805 [1. "[DASC] Mission Statement," draft, n.d., 2-3; and DASC-RP fact card, n.d.

Facts about Defense Industrial Plant Equipment Center (DIPEC)

Background. In 1962, the General Accounting Office surveyed industrial plant equipment management throughout DOD and determined that much duplication was occurring because of the fact that each service managed its own IPE. The GAO also determined that centralized management of DOD-owned IPE would reduce duplication, save considerable time and money, and strengthen industrial preparedness. The study, coupled with a secretary of defense memorandum, resulted in the establishment of the DIPEC in 1963.

Mission. Headquartered in Memphis, Tennessee, DIPEC has five missions relating to the national preparedness of industrial plant equipment. These include maintaining a central inventory of DOD-owned IPE; managing a general reserve of idle IPE; acting as a clearinghouse for DOD-owned IPE; providing requested maintenance support to all DIPEC customers; and providing additional procurement, technical, and training support to any DOD requester. DIPEC supports customers around the globe, including Italy, Germany, Guam, Japan, Korea, United Kingdom, Pakistan, and Cuba (Guantánamo).

Organization. DIPEC consists of the supply operations, plans and policies, contracting, technical operations, quality, storage, and maintenance directorates. It employs a diverse work force of 550 persons.

Inventory. At the end of fiscal year 1990, DIPEC's general reserve contained more than 6,724 items, with a replacement value of over \$1.03 billion. Through reutilization efforts, during the same period, DIPEC processed 653 items through maintenance at a cost of \$10 million. The current replacement cost of those items exceeds \$60.8 million, resulting in savings of more than \$50.8 million. Since its establishment in 1963, over \$4 billion in savings has been realized through reutilization of IPE.

Operations. DIPEC also maintains a technical data repository that contains data pertaining to over 20,000 individual items. These packages range from simple sales brochures to operation and maintenance data, parts lists, wiring diagrams, and schematics.

Sources: Everett E. Sims, *An Introduction to Defense Industrial Plant Equipment Center* (Memphis, Tenn.: DIPEC Operations and Training Office, November 1991), 3a-36a; and fact sheets from Ronald W. Meyer, DIPEC Training Office, and Denise Kidd, DIPEC Public Affairs Office, January 1992.

Facts about Defense Logistics Service Center (DLSC)

Mission. The DLSC's primary mission is to manage logistics information for items of supply used by the US military services, DOD agencies, NATO, other international countries, civil agencies, and private companies. In the past few years, DLSC has assumed responsibility as the US representative for the Joint US/Canada Certification Program. This program controls the release of logistics information critical to space and military programs. Another mission is maintaining the Military Engineering Data Asset Locator System (MEDALS) data base. MEDALS is an automated locator system for indexing, storing, and maintaining DOD engineering and technical drawings. It is projected to contain information on about 130 million drawings. DLSC also serves as the US National Codification Bureau at the international level. NATO patterns its cataloging functions after the US system. Thus, DLSC personnel meet regularly with NATO representatives in Brussels to set policy and procedures for its operation.

Operation. DLSC has an annual operating budget of \$44 million and over 700 employees. With the Federal Catalog System (FCS), DLSC serves customers around the world, and its customer service office answers thousands of questions annually about its products and services. DLSC also trains its customers on the latest FCS and DLIS technical information. Once DLSC implements its multi-million-dollar modernization project, it will be able to support customer needs far into the twenty-first century.

In fiscal year 1990, DLSC improved the Federal Item Identification Guide (FIIG) to help its customers. A FIIG document shows standard requirements, formats, and coding structure for the collection of item characteristics and item-related data. More than one item name usually appears in an existing FIIG. DLSC helped the customer match the right FIIG to the right item via the One Name FIIG (ONF). With the ONF, customers no longer have to "force fit" the name into a FIIG that doesn't meet all of the specified requirements; items can enter the system faster; and only those requirements needed to describe the items of supply for that name will be in the ONF document. Also, DLSC modernized its Logistics Remote Users Network (LOGRUN) to a total connectivity of 1,257 terminals. Through direct connect and pass-through to the Army, Air Force, and Navy, LOGRUN supported over 26,000 customers who needed to access the Defense Integrated Data System.

DLSC made its FED LOG data available on CD-ROM as of 1 June 1992. This logistics information system allows customers to retrieve management, part-number, supplier, freight, and characteristic information in a matter of seconds. In some cases, the customer may realize an 8:1 productivity increase over retrieving similar information from the microfiche or paper files. For example, each 4.72" compact disk stores the information equivalent of 925 microfiche sheets, 1,500 floppy disks (5¹/₄", 360K), or 250,000 printed pages (8¹/₂" x 11"). The current FED LOG is a three-disk set which contains DLIS,

Navy, Army, and Air Force information (see table E-1). It requires minimal support equipment (table E-2) and provides various searches and search combinations (table E-3).

DLSC envisions continued modernization efforts to support a growth to 88,470 customers—including contractors, NATO, and international governments—by the year 2000.

Contact the DLSC Customer Service Office for more information about FED LOG or any other DLSC products or services:

Customer Service Office
Defense Logistics Service Center
74 Washington Avenue N
Battle Creek MI 49017-3084
(Commercial) 1-616-961-4725
(DSN) 932-4725
(FAX) 616-961-5305

Sources: "Defense Logistics Service Center (DLSC) Mission and Organization," booklet, n.d., 1; DLSC Annual Report (FY 1990), pamphlet, 3, 5; and Defense Logistics Service Center, "Introducing FED LOG," pamphlet, 1992, 1.

Table E-1

FED LOG Data Available on Three-Disk Set

Defense Logistics Information System

- Master Cross Reference List (MCRL)
- Management List-Consolidated (ML-C)
- DOD Interchangeability and Substitutability (I&S)
- Commercial and Government Entity (CAGE) Code (H4/H8)
- Federal Supply Classification (H2)
- Freight Classification Data
- Portions of the Federal Item Name Directory (H6—i.e., AIN to colloquial)
- Decoded Characteristics Data

Navy

- Master Repairable Item List (MRIL)
- Navy Item Control Numbers (NICN)
- List of Items Requiring Special Handling (LIRSH)

Army

- Army Master Data File (AMDF)

Air Force

- Transportation
- Recoverable Item Movement Control System (RIMCS)
- Catalog Management Data (CMD)
- Air Force Interchangeability and Substitutability (I&S) File
- Stock Number User Directory (SNUD)
- Master Base Address File
- Air Force X-File

Source: Defense Logistics Service Center, "Introducing FED LOG," pamphlet, 1992, 2.

Table E-2

Minimal Support Equipment Needed

FED LOG operates on IBM XT-/AT-compatible personal computer systems with MS DOS 3.1 or above, 640 kilobytes (KB) random access memory (RAM), and a hard disk drive with at least five megabytes (MB) free (DLSC recommends 10 MB free). A color monitor and a printer are optional.

FED LOG also requires CD-ROM disk drive units. Here, FED LOG provides additional flexibility. It can run on one or two dual disk drive units. The software accompanying FED LOG will prompt the user to answer equipment configuration questions. After loading FED LOG, the system will operate according to the drive unit's capability. When the user requires characteristics description of items, [DLSC] recommends using two dual disk drive units for easiest and smoothest operation.

Source: Defense Logistics Service Center, "Introducing FED LOG," pamphlet, 1992, 3.

Table E-3

Valid Searches and Search Combinations

DLIS and Air Force Searches

- National Item Identification Number (NIIN)
- National Stock Number (NSN)
- Commercial and Government Entity (CAGE) Code
- Supplier Name
- Item Name
- Part Number
- Part Number + CAGE
- Part Number + Supplier Name
- Part Number + Item Name
- Part Number + CAGE + Item Name
- Part Number + Supplier Name + Item Name
- Item Name + CAGE
- Item Name + Supplier Name

Navy Unique Information Searches

- Navy Item Control Number (NICN)
- Engine Number
- Shipping Code

Army Unique Information Searches

- Management Control Number (MCN)
- Line Item Number (LIN)

Partial (Wild Card) Searches

- Supplier Name
- Item Name
- Part Number
- Plus any of the respective combinations above

Source: Defense Logistics Service Center, "Introducing FED LOG," pamphlet, 1992, 4.

Facts about Defense National Stockpile Center (DNSC)

Mission. To develop, implement, and support a system for supplying critical and strategic materials to meet the military, industrial, and essential civilian national defense needs (industrial base) of the United States for a period of not less than three years during a national emergency.

Grand Strategy. To translate the constantly changing stockpile materiel requirements into a cascade of operational activities. Changes in requirements generate the composition of the Annual Materiels Plan (AMP), which is developed from the requirements analyses—a plan required by law and subject to congressional advice and consent. The requirements analyses become the focal point in the center's strategy to

- a. buy, sell, and barter materials to meet the AMP objectives;
- b. conform operational programs to accommodate the changing mix of materials in the stockpile;
- c. use the AMP as the trigger device to set the center's annual Strategic Plan amendments and to conform midrange goals and objectives with those of its parent, DLA, and DOD;
- d. solicit expert technical advice and policy guidance to define what the stockpile's continuing needs will be and incorporate them into future requirements analyses;
- e. use the current and past AMPs to develop operating programs regarding the warehousing, protection, maintenance, upgrading, inspection, and disposal of stockpile materials; and
- f. through the AMP and other operational program requirements, control the development of budgetary, financial, personnel, and administrative activities.

Today's Stockpile. As of 31 March 1991, the defense national stockpile held 66 commodity groups, valued at \$9 billion, in various depots and storage sites around the continental United States. During this same period, the stockpile's acquisition and upgrades totaled over \$56.7 million, and its disposal was valued at \$35.3 million.

Sources: Richard F. Stevens, Jr., DNSC Office of Planning and Marketing Research engineer, telephone interview with author, 26 December 1991; Defense Logistics Agency, *Defense National Stockpile Center's Strategic Plan* (Cameron Station, Alexandria, Va.: DLA, September 1990), 7, 9; and Department of Defense, *Strategic and Critical Materials Report to the Congress: Operations under the Strategic and Critical Materials Stock Piling Act during the Period October 1990–March 1991* (Washington, D.C.: Office of the Assistant Secretary of Defense, 3 October 1991), 2–5.

Facts about Defense Reutilization and Marketing Service

Mission. The Defense Reutilization and Marketing Service (DRMS) is responsible for the disposal of excess property generated by the military services. DRMS accomplishes this mission through reutilization, transfer, donation, sale, or ultimate disposal of the property.

Operations. From the headquarters in Battle Creek, Michigan, the disposal mission is managed through five regions located in Memphis, Tennessee; Columbus, Ohio; Ogden, Utah; Camp H. M. Smith, Hawaii; and Lindsey Air Station, Wiesbaden, Germany. (See chap. 1, endnote 38, for an update on the major restructuring effort under way in DRMS.)

Reutilization. The DRMOs classify and process the excess property turned in by the military services and other DOD activities. The property is first examined for reutilization within DOD, sale to one of the foreign countries participating in the DRMS Foreign Military Sales program, or for transfer or donation to other federal or state agencies or qualified civilian organizations. If the review is unsuccessful, the property is offered for sale to qualified buyers.

Marketing. DRMS sells excess property to the general public through sealed bids, spot bids, national and local auctions, negotiated sales, and retail sales. DRMO personnel prepare written descriptions of property to be sold and notify interested buyers through an Invitation for Bid—which gives date and location, terms and conditions, and other information about the sale. Also, personnel interested in DRMS sales may be placed on the bidders list by writing the bidders control office at DRMS headquarters.

Disposal of Hazardous Materials and Wastes. DRMS manages the disposal of hazardous property for all DOD activities. DRMS initiates reuse or sale of 75 percent of the hazardous materials it processes. Hazardous materials include petroleum products, pesticides, miscellaneous chemical and industrial waste by-products. The DRMS mission excludes disposal of radioactive wastes, municipal sludges, trash and refuse, and material which cannot be disposed of due to military restrictions.

Sources: Sandra Bullock, DRMS Public Affairs Office specialist, telephone interview with author, 14 November 1991; and "Defense Reutilization and Marketing Service," pamphlet, June 1991.

Facts about DLA Systems Automation Center (DSAC)

Mission. DSAC is DLA's primary central design activity for automated information and telecommunications systems—used by DLA field activities to manage, buy, store, and ship goods and services for the military customer and other DOD agencies. DSAC designs, develops, and maintains the automated systems that enable DLA to supply over 3.1 million items and support services to the US military forces around the world.

Background. DSAC (formerly the Data Systems Automation Office) was established in February 1964, two years after the creation of DLA. Today's staff of 1,500 computer professionals are headquartered in Columbus, Ohio, with satellite directorates in Philadelphia, Pennsylvania; Battle Creek, Michigan; Ogden, Utah; and Memphis, Tennessee.

Operational Statistics. DSAC-supported systems facilitate

- a. automatically processing 95 percent of 27.8 million requisitions annually;
- b. supplying food for 9 million persons daily in US dining halls and commissaries around the world;
- c. providing contract administration for over 67.5 million DOD and other government contracts valued at over \$1 trillion and involving 30,000 contractors;
- d. maintaining a nationwide on-line teleprocessing network that serves more than 150,000 DLA and DOD end users in the continental US, Hawaii, Pacific, and Europe;
- e. receiving, storing, and shipping over 1.75 million tons of material to the military services each year;
- f. maintaining automated pay, personnel, and cost accounting records for 96,700 DLA, DOD, and other government employees, including the White House staff;
- g. reutilizing or arranging for the worldwide sale, transfer, or donation of \$4.7 billion worth of surplus DOD material;
- h. automating over 70,000 narrative messages annually, the latter destined for DOD activities worldwide; and
- i. operating DLA's Intra-Agency Automated Data Processing Training Office—which in 1991 provided over 134,000 hours of instruction to 4,424 persons.

Sources: Glenn Garratt, DSAC Public Affairs Office specialist, telephone interview with author, 9 July 1992; and DSAC Public Affairs Office fact sheets, January 1992, 9 July 1992.

APPENDIX F

Plans for Enhancing Weapon Systems Management Capabilities in DOD

Weapon Systems Management Capabilities

1. *Application files.* The services and DLA should develop and maintain weapon systems application data files in their automated systems for those secondary items that can be identified as having weapon systems applications. Application files will be used to establish the relative priority of need of one item to another and the degree of criticality of each item relative to its next higher assembly and ultimately to the end item/weapon system. Each component's ADP (automated data processing) systems should be capable of using application data in the requirements determination process.

2. *Stock levels by weapon system.* The services and DLA should develop the capability to identify individual item requirement segments (safety level, administrative lead time/procurement lead time, additives, and economic order quantity) by weapon system for both peculiar and common items.

3. *Multiechelon optimization models.* The services and DLA should develop multiechelon requirements models that optimize stockage for peculiar and common initial and replenishment spares and repair parts to achieve weapon system operational availability rates.

4. *Integrated initial/replenishment spares and repair parts computation.* The services and DLA should develop the capability to compute initial and replenishment spares and repair parts requirements within their automated systems using compatible methodologies.

5. *Asset visibility.* The capability should be developed for the integrated materiel manager to possess DOD-wide visibility down to the lowest supply echelon. This asset visibility *includes* stocks in the hands of supply activities responsible for the supply/resupply of a maintenance activity or an operational activity but *excludes* stocks in the hands of ultimate users. Other activities/units may also be excluded based on size or mobility requirements (e.g., combat ships, operational units).

6. *Demand/usage reporting.* The services should develop the capability to code and record demands and maintenance usage data by weapon system through modification of standard requisitioning and reporting systems. Identification of demand and related usage data by weapon system should be perpetuated through each echelon of the requirements determination process.

7. *Interservice data exchange.* The services and DLA should develop the capability for intercomponent exchange of end item program/application data, individual item demand/usage data, and resupply time information where one component is managing items essential to another component's weapon systems.

8. *Performance tracking.* The services and DLA should modify their internal performance reporting systems as well as the DOD Military Supply and Transportation Evaluation Procedures performance reports to measure supply and operational availability performance by weapon system.

9. *Asset positioning.* The services should develop and institute the capability to position items essential to weapon systems at their own service-operated storage site that is nearest to the site of forecasted usage. DLA should develop the same capability to use DOD storage sites for positioning of materiel.

10. *Redistribution.* Service and DLA inventory managers should have the capability to initiate redistribution actions on a systemwide basis for essential weapon system items to achieve weapon system readiness objectives.

11. *Development of Planning, Programming, and Budgeting System inputs.* The services and DLA should develop the capability to prepare their POM [Program Objectives Memorandum] and secondary item budget submissions on a weapon system basis.

12. *Budget execution.* The services and DLA should develop the capability to track and monitor budget execution on a weapon system basis.

13. *Balancing resources.* The services and DLA should develop a mechanism to trade optimally among procurement, repair, and distribution resources so that these resources can be balanced to achieve maximum weapon system effectiveness for the minimum total logistics dollars.

Sources Department of Defense, *Secondary Item Weapon System Management Concept* (Washington, D.C.: Office of the Secretary of Defense, May 1986), 3-17.

Weapon Systems Management Capabilities by Group

(Numbers in parentheses refer to numbers in the preceding section of the appendix)

1. Item identification
 - (1) Application files
2. Requirements determination
 - (2) Stock levels by weapon system
 - (3) Multiechelon optimization models
 - (4) Integrated initial/replenishment spares and repair computations
3. Information systems
 - (5) Asset availability
 - (6) Demand/usage reporting
 - (7) Interservice data exchange
 - (8) Performance tracking
4. Materiel management
 - (9) Asset positioning
 - (10) Redistribution
5. Resource development/allocation
 - (11) Development of Planning, Programming, and Budgeting System inputs
 - (12) Budget execution
 - (13) Balancing resources

Source: Department of Defense, *Secondary Item Weapon System Management Concept* (Washington, D.C.: Office of the Secretary of Defense, May 1985), 3-16.

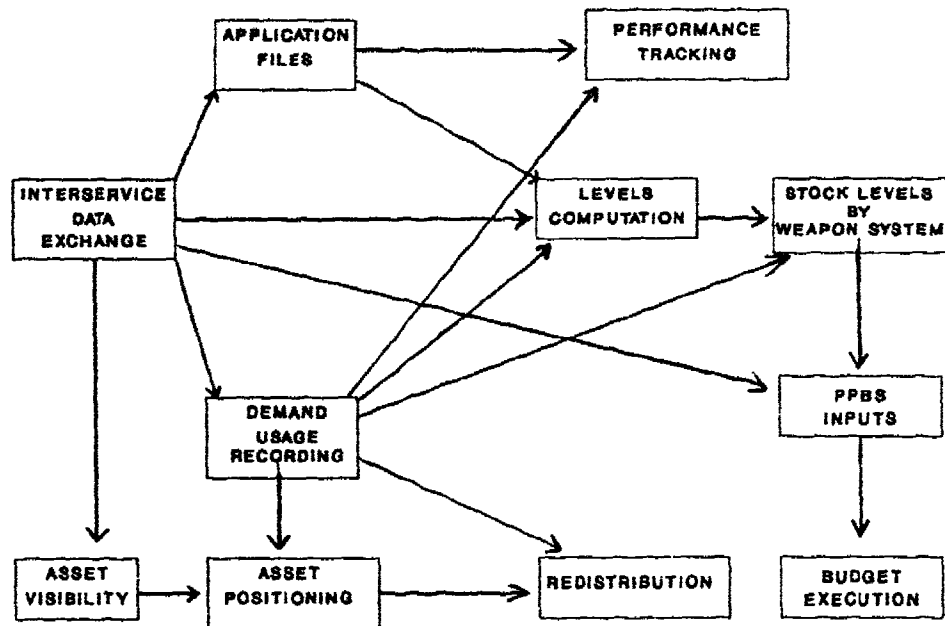


Figure F-1. Interdependence of Weapon Systems Objectives. (From Defense Logistics Agency, *Secondary Item Weapon System Management Implementation Plan* [Cameron Station, Alexandria, Va.: Defense Logistics Agency, 31 January 1986], 5)

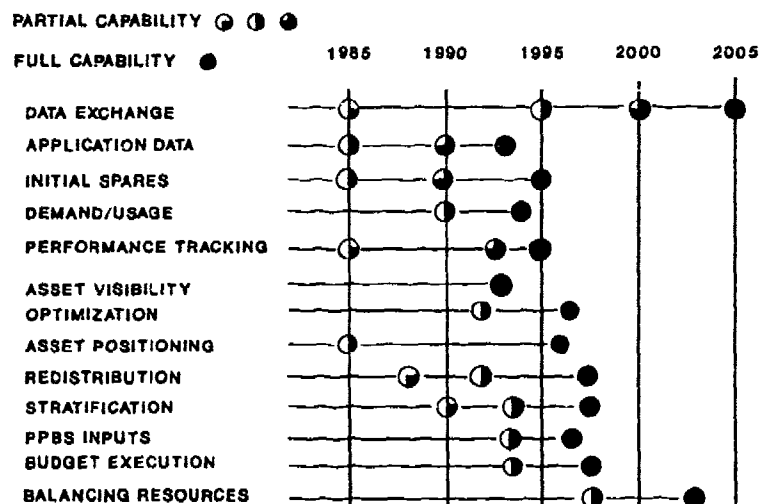


Figure F-2. Weapon Systems Management Concept Milestone Plan. (From Defense Logistics Agency, *Secondary Item Weapon System Management Implementation Plan* [Cameron Station, Alexandria, Va.: Defense Logistics Agency, 31 January 1986], 6; and Larry Kohler, Defense Logistics Agency, chief, Supply Management Division, telephone interviews with author, October 1991 and 21 September 1992)

APPENDIX G

Air Force Systems in DLA's Weapon Systems Support Program

Critical Level-A Systems

<i>Weapon System</i>	<i>Entry Date</i>
LGM-30 Minuteman Missile	Jul 64
B-52 Stratofortress Aircraft	Feb 74
C-135 Stratolifter Aircraft	Feb 74
F-111 Aircraft	Apr 69
C-5 Galaxy Aircraft	Apr 69
F-15 Eagle Aircraft	Feb 74
E-3A AWACS Aircraft	Oct 75
F-16 Aircraft	Mar 76
AGM-86B Air Launched Cruise Missile	Sep 80
Defense Support Program	Oct 80
B-1B Aircraft	May 82
MH-60G Pave Hawk Helicopter	Mar 83
MX Peacekeeper Missile	Oct 83
SOF Aircraft (AC-130A, AC-130H, MC-130H, EC-130E, HC-130)	Jun 84
TF33-PW-102 Engine (C-135E, EC-135H/K/P Aircraft)	Jul 84
TF33-P-3/5/9 Engine (C/EC-135, B-52H Aircraft)	Jul 84
All J57 Engines (C-135, EC-135, B-52 Aircraft)	Jul 84
F108 CFM-56 Engine (KC-135R Aircraft)	Jul 84
TF33-100 Engine (E-3A/B/C Aircraft)	Jul 84
TF30-100 Engine (F-111F Aircraft)	Jul 84
TF30-P-3/4/7/9 (F-111A/D/E Aircraft)	Jul 84
T56-A-9 Engine (AC-130A/D Aircraft)	Jul 84
T56-A-7/15 Engine (C-130B/E/H/N/P Aircraft)	Jul 84
GE T-700 Engine (UH-60A Helicopter)	Jul 84
T64-GE-3/7 Engine (H-53B/C/H, HH-53B Helicopter)	Jul 84
TF39-GE-1 Engine (C-5A Aircraft)	Jul 84
F100-PW-100 Engine (F-15A/B/C/D Aircraft)	Jul 84
F100-PW-200 Engine (F-16A/B/C/D Aircraft)	Jul 84
F110-GE-100/129 Engine (F-16C/D Aircraft)	Jul 84
F101-GE-100 Engine (B-1 Aircraft)	Jul 84
F100-PW-220 Engine (F-15C/D/E Aircraft)	Feb 85
SOF HH-53H Pave Low Helicopter	Feb 86
E-4B Airborne Command Post	Sep 87
F100-PW-229 Engine (F-15E, F-16C/D Aircraft)	Jun 88

Total Critical Level-A Systems: 34

Critical Level-B Systems

<i>Weapon System</i>	<i>Entry Date</i>
F-4 Phantom Aircraft	Jun 65
C-130 Hercules Aircraft	Nov 67
F-106 Delta Dart Aircraft	Apr 69
C-141 Starlifter Aircraft	Apr 69
463L Cargo System	Jul 70
HH-3E Jolly Green Giant Helicopter	Nov 70
Super Jolly H-53 Helicopter	Nov 70
A-7D Corsair Aircraft	Feb 71
AGM-69A SRAM Missile	Jul 72
AGM-65A Maverick Missile	Jul 74
F-5 Freedom Fighter Aircraft	Aug 74
UH-1 Iroquois Helicopter	Oct 74
A-10 Thunderbolt II Aircraft	Sep 75
Advanced Air Traffic Control and Land System (ATCALS)	Nov 79
Precision Acquisition of Vehicle Entry (Pave)	
Phased Array Warning System	Nov 79
Ballistic Missile Early Warning System (BMEWS)	Nov 79
Command, Control, and Communications System 427M	Oct 80
FPS-108 Cobra Dane System	Oct 80
T-38 Aircraft	Dec 80
Joint Surveillance System/Region Operations Control Center	Dec 80
OV-10A Aircraft	Jul 81
Ground Based Electro-Optical Deep Space Surv. Sys.	Aug 81
Munitions Lift MHU-173/E Trailer	Jan 83
Aircraft Refueler R-9 Vehicle	Jul 83
Advanced Medium-Range Air-to-Air Missile, AIM-120A	Mar 84
Satellite Communications Terminal (AN/TSC-100)	Jun 84
Satellite Communications Terminal (AN/TSC-94)	Jun 84
AFSATCOM Type 12 Terminal (AN/TSC-88)	Jun 84
Defense Communications Radio (9 Systems)	Jun 84
Defense Communications Teletype (AN/ASR-02A, AN/MGC-02A, AN/TGC-20)	Jun 84
Defense Communications Meteorological (AN/TQM-028, AN/TCC-76, AN/TPS-068, AN/TCC-77)	Jun 84
TF34-GE-100 Engine (A-10 Aircraft)	Jul 84
TF41-A-1 Engine (A-7 Aircraft)	Jul 84
T58-GE-1/3/5 Engine (H-1F/P, H-3B/E Aircraft)	Jul 84
T53-L-13 Engine (H-1D/H Aircraft)	Jul 84
T400-CP-400 Engine (H-1N Aircraft)	Jul 84
T76-G-10/12 Engine (OV-10A Aircraft)	Jul 84
TF33-P-7 Engine (C-141A/B Aircraft)	Jul 84

Critical Level-B Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
J75-P-17 Engine (F-106A/B Aircraft)	Jul 84
J79-GE-15/17 Engine (F-4C/D/E/F/G Aircraft)	Jul 84
J85-GE-21 Engine (F-5E/F Aircraft)	Jul 84
J85-GE-5/13 Engine (F-5A/B, T-38A Aircraft)	Jul 84
High-Speed Antiradiation AGM-88A Missile	Sep 84
Aerospace Guidance and Meteorology Centers (AGMC/B-1, AGMC/B-52, AGMC/C-135, AGMC/C-141, AGMC/MX, AGMC Minuteman)	Nov 84
NAVSTAR Global Positioning System (Control Segment)	Dec 84
PAVE TACK System	Nov 85
Intratheater Imagery Transmission System (ITTTS)	Nov 85
PW-110 Engine (F-117, C-17A Aircraft)	Oct 86
Low-Altitude Navigation and Targeting Infrared for Night (LANTIRN)	Dec 86
Low-Level Laser Guided Bomb (GBU-24)	Jan 87
Guided Bomb Unit (GBU-15)	Jan 87
Defense Meteorological Satellite Program (DMSP)	Nov 87
Consolidated Space Operations Center	Oct 88
MILSTAR System	Jan 89
AN/MSR-T4 (B-52, F-111 Aircraft)	May 89
Automatic Remote Tracking Stations (ARTS)	Oct 89

Total Critical Level-B Systems: 61

Critical Level-C Systems

<i>Weapon System</i>	<i>Entry Date</i>
AWACS E-3A Simulator	Dec 76
485L TACS	Dec 77
Ground Launched Cruise Missile BGM-109C Missile	Sep 80
Phased Array FPS-85 Radar Systems	Oct 80
T-37 Aircraft	Dec 80
T-45 Simulator	Dec 80
T-5 Simulator	Dec 80
F-16 Simulator	Apr 81
F-15 Simulator	Apr 81
F-111 Simulator	Apr 81
F-4 Simulator	Apr 81
Air Combat Maneuvering Instrumentation	May 81
C-130 Simulator	Jun 81
A-10 Simulator	Oct 81
AN/UGC-129(V)-1 Teletype	Aug 82
AN/UGC-141(V) Teletype	Aug 82
B-52 Trainer Aircraft	Oct 82
KC-135 Trainer Aircraft	Oct 82
Tactical Information Processing and Interpretation (TIPI) System WS-428A	Jan 83
T-50 and T-51 Simulators	Jan 83
SMK-87 and SMK-94 Simulators	Jan 83
T-4 and T-26 Trainer Aircraft	Jan 83
C-135 Simulator	Mar 83
H-53 Simulator	Mar 83
CH-3E Simulator	Mar 83
Aerial Gunnery Targeting System	May 83
Combat Theater (TRI-TAC) Communications Program 478T	Jun 83
F-4 Aircraft Support Equipment	Nov 83
F-5 Aircraft Support Equipment	Nov 83
F-15 Aircraft Support Equipment	Nov 83
A-7 Aircraft Support Equipment	Nov 83
A-10 Aircraft Support Equipment	Nov 83
OV-10A Aircraft Support Equipment	Nov 83
C-5 Aircraft Support Equipment	Nov 83
C-141 Aircraft Support Equipment	Nov 83
T-37 Aircraft Support Equipment	Nov 83
H-53 Helicopter Support Equipment	Nov 83
H-1 Helicopter Support Equipment	Nov 83
H-60 Helicopter Support Equipment	Nov 83
F-16 Aircraft Support Equipment	Nov 83

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
F-106 Aircraft Support Equipment	Nov 83
F-111 Aircraft Support Equipment	Nov 83
E-3A Aircraft Support Equipment	Nov 83
C-135 Aircraft Support Equipment	Nov 83
C-130 Aircraft Support Equipment	Nov 83
T-38 Aircraft Support Equipment	Nov 83
H-3 Helicopter Support Equipment	Nov 83
B-52 Aircraft Support Equipment	Nov 83
B-1 Aircraft Support Equipment	Nov 83
R-14 Aircraft Refueler Vehicle	May 84
Communications Center (AN/TSC-107)	Jun 84
Frequency Management System (AN/TRQ-35)	Jun 84
Satellite Type 12 Terminal (AN/TSC-102)	Jun 84
Digital Subscriber Terminal (AN/TYC-0008V)	Jun 84
B-1B Aircraft Trainer	Jun 84
J69-T-25 Engine (T-37B Aircraft)	Jul 84
Aircraft Towing Tractor (MB-2)	Jul 84
T-39 Aircraft	Jul 84
J60-P-3 Engine (T-39 Aircraft)	Jul 84
C-18A and EC-18B Aircraft	Aug 84
P2 Fire/Crash Truck	Aug 84
P8 Fire/Crash Truck	Aug 84
P10 Fire/Crash Truck	Aug 84
P12 Fire/Crash Truck	Aug 84
P19 Fire/Crash Truck	Aug 84
P20 Fire/Crash Truck	Aug 84
P15 Fire/Crash Truck	Aug 84
AGMC/F-4	Nov 84
AGMC/F-5	Nov 84
AGMC/F-15	Nov 84
AGMC/F-16	Nov 84
AGMC/A-7	Nov 84
AGMC/A-10	Nov 84
AGMC/T-38	Nov 84
AGMC/F-111	Nov 84
Aircraft Towing Tractor (MB-4)	Dec 84
Flight Line Towing Tractor	Dec 84
A/S32U-30 Aircraft Towing Tractor	Feb 85
Over-the-Horizon Backscatter Program (AN/FPS-118)	Apr 85
Precision Location Strike System	Apr 85
MX Peacekeeper Missile Support Equipment	Jul 85

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
Power Conditioning Continuation Interface Equipment	Aug 85
C-17A Airlifter Aircraft	Dec 85
P-18 Fire/Crash Truck	Oct 86
Space Defense Operation Center-4	Dec 86
Small Intercontinental Ballistic Missile (ICBM)	Dec 86
Regency Net System (AN/TRC-179(V), AN/FRC-180(V), AN/GRC-215)	May 87
C-17A Aircraft Support Equipment	Jun 87
A/S32R-11 Refueling Truck	Jul 87
AN/FSQ-124A SATCOM Control Center	Sep 87
AN/TSC-85B(V)2, AN/TSC-93B(V)2 SATCOM Terminal	Sep 87
Small ICBM Support Equipment	Sep 87
E-4B Support Equipment	Sep 87
Peacekeeper Rail Garrison	Dec 88
Strategic Air-to-Ground Missile	Jan 88
Defense Specialized Programs (DSP I, DSP II, DSP III)	Feb 88
Single Channel Objective Tactical Terminal (TSC-124)	Feb 88
Advanced Cruise Missile (F112-WR-100) Engine	Jun 88
P-23 Fire/Crash Truck	Jul 88
Mini Pumper	Jul 88
Peacekeeper Rail Garrison Support Equipment	Dec 88
ICBM Super-High Frequency Satellite Terminals (ISST)	Jun 89
Ground Power Generator System	Jul 89
Weapon Storage and Security System (WS ³)	Oct 89
B-2 Bomber Aircraft (ATB)	Oct 89
B-2 Bomber Support Equipment	Oct 89
F118-GE-100 Engine (B-2 Bomber)	Oct 89
Advanced Cruise Missile (ACM-129)	Sep 89
Ground Wave Emergency Network (GWEN)	Nov 89
Iceland Command and Control Enhancement (AN/GSQ-235)	Nov 89
Transportable Shelter System (TSS)	Dec 89
P-22 Fire Truck	Jan 90
P-24 Fire Truck	Jan 90
AN/FRT-100V1 Communications System	Feb 90
AN/PRC-128 (Scope Shield Phase I) Radio Set	Jul 90
NAVSTAR Global Positioning System User Equipment	Aug 90
Strategic Air Command (SAC) Automated Command Control System 465L	Nov 90
Deployable Strategic Mission Data Preparation Shelter	Mar 91
AGMC/E-3A AWACS Aircraft	Mar 91
AGMC/C-5A Aircraft	Mar 91

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
AGMC/KC-130 Aircraft	Mar 91
AGMC/MC-130 Aircraft	Mar 91
AGMC/H-53 Helicopter	Mar 91
AGMC/EH-60 Helicopter	Mar 91
AGMC/Short Range Attack Missile (SRAM)	Mar 91
AGMC/OV-10 Aircraft	Mar 91
AGMC/B-2 Aircraft	Mar 91
AN/FPS-124 Unattended Radar	Mar 91
AN/FPS-117 Long-Range Radar	Mar 91
AN/TGC-28 Communications Center	Oct 91
AN/FPN-62 Precision Landing Radar	Oct 91
AN/FPS-90 Radar Set	Oct 91
Coder-Decoder Groups (AN/GPA-122, AN/GPA-124, AN/GPA-125)	Oct 91
AN/GPN-20 Radar Set	Oct 91
AN/GPN-22(V) Highpar Radar	Oct 91
AN/GPN-25 Radar Set	Oct 91
AN/GRA-111 TACAN Monitor/Control	Oct 91
Instrument Landing System	Oct 91
AN/GSC37 Communications Control	Oct 91
AN/GSH-47 Recorder-Reproducer	Oct 91
AN/GSN-12 Communications Central	Oct 91
AN/MPN-13 GCA Radar	Oct 91
Drone Tracking and Control Systems Network-846L	Oct 91
USAFE Wideband Relay (486L)	Oct 91
Meteorological and Weather Network (Both Fixed and Mobile Facilities) 433L	Oct 91
AN/MPN14H Mobile RAPCON	Oct 91
Northern Area System	Oct 91
AN/TPX-42A(V) Radar IFF System	Oct 91
AN/TRN-26 Lightweight TACAN	Oct 91
AN/TRN-41 Air Droppable TACAN	Oct 91
AN/TSW-7C Air Traffic Control Central	Oct 91
AN/URC-56C Communications Command and Control Center for Crisis Situations	Oct 91
OJ-314 Communications Control Console	Oct 91
AN/GRC171 Radio	Oct 91
SAC 802L/Single Sideband High-Frequency/Single Sideband Communications Equipment Supporting SAC Giant Talk Mission	Oct 91
Non-Airborne Electronic Warfare Equipment	Oct 91
Radar Data Transfer System	Oct 91
AN/TGC-27 Communications Center	Oct 91

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
Network Used for Common Air Force Communications	
Equipment 823L	Oct 91
AN/TRC170 Troposcatter Radio Terminal System	Oct 91
487L/SAC Low-Frequency Communications System	Oct 91
AN/GRC-171B(V)4 Radio	Oct 91
AN/FPS-85 Radar System	Oct 91
AN/TRC-176(V)2 Vehicular Radio	Oct 91
AN/TRC-97 Troposcatter Radio	Oct 91
AN/TSC-53 Communications Set	Oct 91
AN/TSC-60(V)1,2,3,4,5,6,9 Communications Central	Oct 91
Air Force SATCOM Equipment 441L	Oct 91
Military Strategic and Tactical Relay Satellite (MILSTAR)-Ground System (Common) 745L	Oct 91
Tactical Air Control Systems	Oct 91
AN/MPS-19 Simulator	Oct 91
AN/FSQ-141 Global Positioning System	Oct 91
AN/GRC-221 Aircraft Alerting Communications System	Oct 91
AN/TPN-19 Landing Control Central Radar	Oct 91
Solar Observing Optical Network	Oct 91
AN/TSC-62A Communications Central	Oct 91
Operations Centers (AN/TSQ-91[V], AN/TSQ-92[V], AN/TTC-30)	Oct 91
AN/MLQ-T4 Electronic Countermeasure System	Oct 91
AN/UPX-14 IFF Interrogator	Oct 91
AN/FPS-6 Radar Set	Oct 91
Data Coordinate Transmitting System	Oct 91
AN/FPS-116 Radar System	Oct 91
Digital Computer System	Oct 91
TSC102 Satellite Communications Terminal System	Oct 91
AN/UPX-21 IFF Interrogator Set	Oct 91
AN/FSC-80 Communications Subsystem	Oct 91
AN/FYQ-68 Display Subsystem	Oct 91
AN/FPS-77 Weather Radar Set	Oct 91
AN/FRR-95 Radio Solar Telescopic Network	Oct 91
Television Ordnance Scoring System	Oct 91
AN/MSQ-T51 Simulator	Oct 91
AN/TMQ-15 Wind Measuring Set	Oct 91
AN/PAQ-T1 Simulator	Oct 91
S517G Maintenance Shelter	Oct 91
AN/TSQ-111 Communications Nodal Control Element	Oct 91
Launch Control Processor Center	Oct 91
AN/MSQ-T43 Simulator	Oct 91

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
AN/GSH46 Recorder-Reproducer	Oct 91
AN/GY015V Data Reduction Central	Oct 91
AN/TMQ35 Transportable Weather Terminal	Oct 91
Radar Systems (AN/FPS-120, AN/FPS-49, AN/FPS-50[V], AN/FPS-92, AN/FPS-115)	Oct 91
Transportable Weather Terminal	Oct 91
AN/TSC-60(V)7, 8 Communications Central	Oct 91
AN/TPS-43E	Oct 91
AN/FRC-39 Troposcatter Radio	Oct 91
AN/TSC-117 Communications System	Oct 91
AN/TSQ-93V3 Operations Center	Oct 91
AN/TYC-10 Message Processing Center	Oct 91
AN/FRC-117 Radio Communications System	Oct 91
AN/FRR-78V Receiver Site	Oct 91
Communications Command and Control Center	Oct 91
AN/GRC-17BV2 Radio	Oct 91
AN/FSQ-114 Space Surveillance	Oct 91
AN/GPS-10 Global Positioning	Oct 91
AN/UCC4V Message Processing Center	Oct 91
AN/MLQ-T2 Countermeasure Training System	Oct 91
AN/MPQ-T3 Simulator	Oct 91
AN/MPS-9 Simulator	Oct 91
AN/MPS-T1 Simulator	Oct 91
AN/UGC-54 Teletypewriter Set	Oct 91
Drone Tracking and Control Systems	Oct 91
R2174-P-URR Radio Receiver	Oct 91
Close Support Control System	Oct 91
AN/MSQ-77 Bomb Scoring System	Oct 91
AN/MSQT-7B, AN/MSQT-13, AN/MSQT-8 Simulator Models	Oct 91
Germany-United Kingdom-Belgium Microwave System Scope Communications	Oct 91
Worldwide Area Stations HFSSB System Scope Control	Oct 91
AN/UPX-14 IFF Interrogator Transponder	Oct 91
Radar Threat Emitter	Oct 91
AN/TPQ-43 Bomb Scoring Radar System	Oct 91
AN/VPQ-1 Radar System	Oct 91
AN/GIC-21 Communications Set	Oct 91
AN/GKC-1 Satellite Tracking System	Oct 91
AN/GSC-28 Communications System	Oct 91
AN/GSC-29 Communications System	Oct 91
High-speed Data Communications System	Oct 91

Critical Level-C Systems (continued)

<i>Weapon System</i>	<i>Entry Date</i>
AN/GSQ-175 Data Distribution Central	Oct 91
AN/GYQ-17V Data Processing Station	Oct 91
AN/GYQ-18 Data Display System	Oct 91
AN/GRT-21 VHF Transmitter	Oct 91
AN/GRT-22 UHF Transmitter	Oct 91
AS-3482 HF Antenna	Oct 91
VR3700 Recorder-Reproducer	Oct 91
AN/FPS-20G Radar System	Oct 91
AN/GRC-206(V)3 Radio	Dec 91

Total Level-C Systems: 255

TOTAL AIR FORCE WEAPON SYSTEMS IN DLA WSSP: 350

Source: Defense Logistics Agency, Weapon Systems Support Branch, "Table of Weapon Systems and System Program Managers: Air Force," 2 April 1992.

APPENDIX H

Weapon Systems Support Program Reports

- **251301—Weapon Item Data Status Transaction (B-148).** [This report,] document identifier code (DIC) WS3, appendix B-148, is an internally generated, daily response transaction transceived via AUTODIN (automatic digital network) to submitting service activities, giving status of their weapon system application submissions. The status responses, appendix A-57, part II, weapon system status codes (WSSC), reflect the status of submissions resulting from validation and processing from the mainframe and minicomputer processes to the weapon system data base (WSDB). The WSSCs appear in positions 65-66 and define the rejected or changed status of the original submissions as processed in the appendix D-77 process.

- **251302—Weapon System Unidentified [National Stock Number] Violations (F-56).** [This report,] appendix F-56, is prepared on a daily basis. It reflects those weapon item data transactions, DIC WS1s, resulting from provisioning supply support requests (SSR), which did not match an existing NSN when processed against the WSDB, appendix D-77, NSN Data File (mini NIR [national inventory record]), after at least five consecutive passes through the daily requirements cycles. The WS1s are uniquely identified by the weapon system advice code (WSAC) "AO" in positions 65-66 and a transaction origination code (TOC) "P" in position 62. These transactions are listed on the appendix F-56 listing and furnished to the weapon system monitors for review and analysis as to the cause(s) of rejects [in lieu of] submitting notification of the violations directly to the services.

- **251303—Supply Availability and Work Load Analysis Report (F-67).** [This report,] appendix F-67, is generated by the distribution subsystem as a result of the appendix D-189 process and [in accordance with] chapter 44. The report is prepared in six parts by different categories, such as stocked items by service, log gain, weapon systems, CONUS requisitions only, and so forth.

- **251304—CTDF [Contracting Technical Data File], Interrogation Reply—Technical Data (DLAM 4130.3, F-72).** [This report,] volume 2, part 5, appendix F-72, SAMMS Technical Operations Procedures Manual, contains the WS items, line [number] [due out (DO)], DO field of the CTDF in a report format. The field data is generated and updated on a daily basis from the appendix D-77 processes via the DIC "YQF," DLAM 4130.3, volume 2, part 5, appendix B-525. This DO line represents the recordation of the first 10 *different* WSDCs recorded for an NSN in the NSN data portions of the WSDB.

- **251305—Weapon System Support Program (WSSP) Variable Safety Level (VSL) Augmentation (F-78).** [This report,] appendix F-78, is prepared at quarter end as a result of the appendix D-187 process for the monitor's review. [It] is a printout reflecting counts of the total number of weapon system NSNs undergoing the augmented VSL computation, total number of NSNs which actually received/used the augmented computation quantity. (These are identified as having a "W" safety level code assigned, appendix A-103,

and the total dollar value of the increased VLS.) Monitors should review and analyze the printout in conjunction with appendixes F-138 and F-333 and the NSN back-order records in the WSDB to identify those NSNs requiring still more intensified management, in the form of an even higher supply availability percentage factor in [Management Policy Table (MPT)] MPT005, appendix F-333, Safety Level Factors for Critical Weapon Systems Table, for use in the augmented VSL computation for the specific WSDC/WSIC combinations.

- **251306—Weapon System Summary Status Report (F-112).** [This report,] appendix F-112, is prepared at the end of the month by the distribution subsystem as a result of the appendix D-189 process and is used in the preparation of the Headquarters DLA reports control system [RCS], RCS DLA(M)516(O) report, appendix C-72, Status of Selected Weapon Systems, DLA Form 444, and as input to certain DLA Operations Research Office modeling operations research projects. On a monthly basis, this report updates its own files in the WSDB to be retained in the end-of-the-month statistical posture until the next end-of-the-month report. The data elements of the report are furnished via the next end-of-the-month report. The data elements of the report are furnished via the DIC "CWS," appendix B-272, Weapon System Summary Status Report Transaction. The data have been assigned product control number SR(M)112 by the comptroller (DLA-CM) for transmitting to Headquarters DLA by AUTODIN. Duplicate DIC "CWS" transactions are loaded to the WSDB down load vehicle for minicomputer refreshment/update. Each WSDC summary line of data is broken down into three detailed weapon systems essentiality codes (WSEC), appendix A-44, part 1, groupings of the whole column total: (1) 1; (2) 5, 6, 7; and (3) 3, blank. The columns of various applicable monthly counts will be detailed in the group, which is appropriate for the data, in each of the columnar areas, such as stocked, specific [supply status codes], SSCs, NSN back orders/direct vendor deliveries (DVD), net demands, and supply effectiveness percentages by WSDC, service, and [Defense Supply Center] totals, where applicable.

- **251307—Controlled Violation Listing (F-122).** [This listing,] appendix F-122, is prepared as a result of the failure of the DIC "ZTA," appendix B-70, "Management Policy Table Transaction" (MPTT), attempting to process supply availability percentages to MPT005, appendix F-333, "Safety Level Factors for Critical Weapon Systems" table, in the appendix D-2 process. These violations must be cleared by reentering correct data and violation reentry codes, appendix A-62, in the appendix D-96 process to clear the applicable violation reason code (VRC), appendix A-82, and allow the processing of the WSSPs MPT005 transaction.

- **251308—Weapon System Item File (WSIF) Write Out (F-137).** [This report,] appendix F-137, is a daily accessible report via the terminal screen with print options, and on tape for mostly reconciliation purposes as depicted in appendixes D-30 and D-80 processes, respectively. The report consists of WS1

record formats and may be sequenced by item, end-item system-specific activity, or military service. The report format is used on all reconciliation tapes sent by AUTODIN to the services for periodic files compatibility realignment. Terminal access to these reports is obtained via menu-driven access processes as depicted in appendix D-30, and as operationally described in the *Weapon System Users Manual* [WSUM, DLA Handbook (DLAH) 4140.6, in publication, as of 23 June 1992], to retrieve data from the WSDB NSN data files.

- **251309—Weapon System Out-of-Stock Items (F-138).** [This report,] appendix F-138, is prepared as a result of the appendix D-79, part 1, process and contains a listing on an end-of-the-month basis of all weapon system items in the WSDB which are out of stock, without issuable assets, and other related item data fields, such as back orders, due ins, quarterly forecast of demand/numeric stockage objective (QFD/NSO), and so forth, as well as total counts of NSNs in certain SSC, ICC, and reason code categories. The report is available at the terminal by accessing the monthly report file in the WSDB, via the menu-driven process as depicted in appendix D-30, and as operationally described in the WSUM, chapter 4 [DLAH 4140.6]. The report's statistics are reflective of end-of-the-month figures each month, until the next month's report file is updated/replaced. The report is sequenced by NSN for the monitors who, in turn, furnish the report in ORC of record sequence to each applicable IM [item manager] for expedite actions on out-of-stock items.

- **251310—Weapon System Nonstock Items (F-139).** [This report,] appendix F-139, is prepared as a result of items identified as nonstock in the WSDB as depicted in the appendix D-79, part 1, process on an end-of-the-month basis. The report lists the nonstock items (having SSCs, appendix A-50, of other than 1 or A, and WSEC 1, 5, 6, or 7), ORC of record, IM, WSEC, and WSMC [Weapon System Management Code] for each WSDC. The total number of NSNs per WSDC and the grand total of NSNs [are] also listed on the report and are available monthly from the WSDB report file via a menu-access process as depicted in appendix D-30 process and in accordance with operating procedures described in WSUM [DLAH 4140.6]. The report/file is replaced each month by the next month's data, and the data remain constant on the file for the duration of each month.

- **251311—Monthly Weapon System Analysis Report—Part 1, All WS1 Submissions to System (F-140A).** [This report,] appendix F-140A, is prepared on a monthly basis at the end of the month as a result of the appendix D-79 process. The report is a cumulative listing of all WS1 submissions to the appendix D-77 process during all daily cycles for the month. This report, either separately or in conjunction with appendices F-140B, F-140C, and F-140D, is available to the monitors for review and analysis of the DSC's monthly WSSP activity, which shows all submitted documents' mirror images for the time period. The report is available to the monitors via menu-access screens in

accordance with operating procedures depicted in WSUM [DLAH 4140.6] and the appendix D-30 processes.

- **251312—Monthly Weapon System Analysis Report—Part 2, WS1s Processed against Each WSDC (F-140B).** [This report] is prepared as a result of the appendix D-79 process on a monthly basis from the month's cumulative daily appendix D-77 process. The report is a listing of all WS1s out of all submissions to the system (appendix F-140A), which actually processed against each WSDC and shows stocked, nonstocked, on-hand, no-stock-on-hand, WSAC, and line/WS1 totals. The report is accessed by menu-driven screens in accordance with the appendix D-30 process and operating procedures in WSUM [DLAH 4140.6]. The report is replaced monthly by the subsequent month's report data, and is used by monitors, either separately or in conjunction with appendixes F-140A, F-140C, and F-140D, for review and analysis of the month's WSSP activity. The report lists by WSDC all transactions which process successfully and the original WSAC, appendix A-5, part 1, which dictates what was processed.

- **251313—Monthly Weapon System Analysis Report—Part 3, All WS3s Rejected by System (F-140C).** [This report] is prepared as a result of the appendix D-79 monthly processing of the cumulative month's daily appendix D-77 processes. The report lists all of the month's WS3 reject responses resulting from the appendix D-77 cycles. The report is accessed via the menu-driven screens as depicted in appendix D-30 processes and in accordance with operating procedures in the WSUM [DLAH 4140.6]. The report is used by monitors, either separately or in conjunction with appendixes F-140A, F-140B, and F-140D, for review and analysis of the month's WSSP activity.

- **251314—Monthly Weapon System Analysis Report—Part 4, All WS3 Rejects Summary (F-140D).** [This report] summarizes all weapon item data status transaction[s] generated during a given month, appendix D-77, as the result of a rejected WS1 transaction, appendix B-144. The report reflects each WSDC that received a rejected WSSC and a total, by service, of each WSSC generated for the month. It is prepared as depicted in appendix D-79. This printout is compiled and available at the end of the month, after accumulation of WS3 transaction information/data for the applicable month. The F-140D may be accessed on-line by the WS monitors (WSM). A hard copy of the printout will not be generated automatically by the system (hard-copy printouts are available upon request). The report may be used by WSMs either separately or in conjunction with appendixes to manage the WSSP.

- **251315—Standard Supply Control Study (F-167).** [This report] is prepared in regards to the WSSP as a result of an end-of-the-month computation in the appendix D-79, part 2, process. The qualifying items will trigger/generate an SSCS containing an "AW" reason for study code (RFSC), appendix A-156, to the IM's ORC of record, indicating the advanced warning that the item(s) is

already out of stock or is within the parameters of MPT002, appendix F-455, Advance Warning Table, of becoming out of stock.

- **251316—Weapon Systems Items Deleted by DIIP [Defense Inactive Item Program] (F-187A).** [This report] is generated as a result of the appendix D-150 end-of-the-month process. The report contains all pertinent DIIP data and the WSDC of the highest system record measured by WSIC of the applications on the deleted NSN. The report is in four parts—one part for each service. The entire report (four parts) is furnished to the monitors for further processing in accordance with appendixes F-187A and E-387P processing procedures.

- **251317—Weapon Systems Items under DIIP Review (F-187B).** [This report] is generated as a result of both the appendix D-149 annual process and the appendix D-150 May end-of-the-month process. During the annual appendix D-149 process, DIC "CZR," appendix B-46, Inactive Item Review (IIR) Notification, and during the May end-of-the-month process, DIC "CZF," appendix B-46, IIR Notification, trigger the preparation of the hard-copy report, appendix F-187B, in four service-divided parts. The entire report is forwarded to monitors for further processing in accordance with appendixes F-187B and E-387P processing procedures.

- **251318—Safety-Level Factors for Critical Weapon Systems Table 005 (F-333).** [This report] is prepared as a result of the DIC "ZTA," MPTT appendix B-70, input to the appendix D-2 process. The report lists the specific supply availability factors by WSDC, appendix A-44, part 2, to be used in the appendix D-187 VSL computation process for the alternative augmented VSL computation.

- **251319—Advance Warning Table 002 (F-455).** [This report] is prepared as a result of the DIC "ZTA," MPTT appendix B-70, input to the appendix D-2 process. The report lists the federal supply classes and the number of days and dollar-value criteria to be used in the computation of items to receive advanced warning when the items are potentially or actually considered out of stock. The determination of which items will receive advanced warning is made in the appendix D-79, part 2, process. When the entered criteria are breached, appendix D-79 process triggers generation of appendix F-167, Standard Supply Control Study, with an "AW" RFSC, appendix A-156, for the IM of record.

- **251320—Structure Query Language (SQL) Reports.** [These reports] are created (and stored for future retrieval) in the WSDB and are processed for any script written that is relative to any data contained in WSDB files. These reports are written and processed in accordance with appendix D-30 processing procedures and the WSUM [DLAH 4140.6] operating procedures. All reports/files/scripts are processed within the mainframe programs of the

SAMMS weapon system processes for the WSSP and are produced either at the terminal screen for viewing to the monitor/author or as hard copy, using the printer option. Additionally, the required formatted WSSP reports may be duplicated by SQL simply by writing the correct SQL script. However, these canned reports are the most frequently viewed and used reports at the end of the month and should be viewed from that vantage point instead of tying up SQL processing with something already available. The intent and major advantage/focus of SQL is the creation of unique reports from data/information in the WSDB in tailored, desired combinations for answering critical requests, questions, or analyses posed by headquarters, DSCs, or weapon systems support problems. Scripts for SQL reports may be as simple or as complicated as may be deemed necessary to obtain any desired report.

Sources: Defense Logistics Agency Manual 4140.2, vol. 2, "Supply Operations Manual, Defense Supply Center, Supply Operating Procedures, Weapon Systems Support Program," draft, 26 July 1991, II-1-51-17 to -22; and Judith Young, DSAC supply system analyst, telephone interview with author, 16 July 1992.

APPENDIX I

Weapon Systems Support Program Support Tools

Supply Support Requests

General. The supply support request (SSR) is a document or group of documents submitted by a user or potential user of a consumable item of supply to an integrated materiel manager (IMM) to obtain integrated materiel management support. The basic purpose of the SSR is to inform the IMM of the user's projected requirements for retail and wholesale stock. Based on the information in the SSR, the IMM is required to take action to record the submitting activity as a user of the item in the Defense Logistics Information System (DLIS) total item record (TIR) at the Defense Logistics Service Center (DLSC) in Battle Creek, Michigan. The IMM also uses the SSR data as input to the requirements determination process so that sufficient stock shall be on hand to satisfy initial requisitions received from the user service. The following policies apply to SSRs:

1. The processing of SSRs shall adhere to the [sourced] procedures and do not apply to the following item categories:

- a. Medical materiel.
- b. Clothing and textiles.
- c. Subsistence items.
- d. Fuels.
- e. Ammunition.
- f. Items peculiar to use by a foreign country and not used by US forces.
- g. Nonconsumable items.
- h. Nuclear ordnance items.

2. The SSR procedures apply to consumable-type items subject to item management assignment to an IMM, including

- a. provisioning and nonprovisioning items,
- b. items already managed by an IMM,
- c. new items being assigned to an IMM for the first time,
- d. initial and follow-on supply support requirements, and
- e. items previously peculiar to a foreign country for which US forces have generated legitimate requirements.

Refer to the source for specific procedures, required documentation, control, processing, and the use of standard interservice agency serial control numbers related to SSRs.

Source: Department of Defense Manual (DODM) 4140.26-M, *Defense Integrated Materiel Management Manual for Consumable Items*, 13 February 1989, 4-1 to 4-9

Special Program Requirements

General. [The special program requirement (SPR)] procedure was developed to alleviate problems incurred in forecasting unusual requirements, for individual items required to support special programs, or for projects. These are of a nonrepetitive nature and cannot be predicted through the use of demand history or available program data and have the greatest probability of resulting in the submission of requisitions for them. The following SPR policies apply:

1. SPR-eligible requests (those requirements which meet any of the following criteria as to purpose):

- a. One-time training exercises or maneuvers.
- b. Repair or rebuild programs which are either nonrecurring or which are seldom or irregularly programmed.
- c. New construction (ships, buildings, etc.).
- d. One-time alterations, modification, or conversion programs.
- e. Initial issue of existing items (such as outfittings, activations, and changes in authorized allowances).
- f. Initial requirements for special operational projects.
- g. Requirements for initial testing.
- h. Requirements for government-furnished property.
- i. Requirements for infrequently planned support operations such as Arctic and Antarctic resupply missions.
- j. Special situations of a nonrepetitive nature when required in support of authorized international logistics programs (i.e., initial pipeline stockage requirements in support of approved cooperative logistics support arrangements, etc.).

2. Exclusions from SPR submission (recurring provisioning, mobilization reserve materiel requirements, requirements for which the service/agency has a recurring demand, and all categories of subsistence).

3. Defense Supply Center (DSC) procurement. The DSC accepts SPRs not exceeding quantitative limits prescribed by Headquarters DLA and initiates procurements, when warranted, without requiring advance support requisitions. If an SPR submission exceeds the DLA-established limits, the DSC will advise the forecasting activity via a "DYK" transaction with "PB" status that special procurement action is required and will request a supporting funded requisition to arrive sufficiently in advance of the support date, taking into account procurement lead time. The supporting funded requisitions permit the DSC to initiate necessary procurement on a timely basis.

Source: Air Force Manual (AFM) 67-1, *USAF Supply Manual*, vol. 1, pt. 1, *Basic Air Force Supply Procedures*, 25 June 1991, 11-121.

Logistics Asset Support Estimate

Purpose. The logistics asset support estimate (LASE) provides an automated procedure for the military services to interrogate the Defense Logistics Agency (DLA) and/or the inventory control points (ICP) and/or IMM for their asset position in order to obtain their level of support available to support contingency or operational plans, projects, and other important programs. The LASE procedure only obtains a "snapshot" of asset availability; it does not request that assets be set aside or forecast to support a program. For nonrecurring programs such as onetime alterations, modifications, or conversions, the SPR process should be utilized.

LASE Requests. Submissions are limited to the activities listed in AFM 67-1, volume 1, part 4, chapter 1, attachment 58. The LASE program is designed to obtain a general estimate of the type of supply support which might be anticipated when a specific military standard requisitioning and issue procedure (MILSTRIP) requisition is not pertinent to the inquiry. LASE interrogations will not be used for obtaining routine stock status where normal DOD 5000.25-1-M, MILSTRIP, should be employed. Asset support requests will be initiated in conjunction with particular programs or projects by personnel responsible for scheduling, planning, or reporting on the overall supply support status of major equipment or systems. Output data depend on the LASE request codes, which include basic asset data, back-order data, or both data. Currently, procedures mandate that Air Force LASE submissions will request both asset and back-order data.

LASE Replies. Responses to asset support requests will normally be accomplished within five working days after receipt and, in all instances, must be accomplished within 10 working days. Replies will be formatted to contain data as specified by the submitting activity. If the asset support reply reveals that the ICP/IMM is unable to support requirements for a onetime, nonrecurring demand in support of special projects, modifications, conversions, and so forth, and the need date is at least 90 days away, submit an SPR to the appropriate activity, according to AFM 67-1, volume 1, part 1, chapter 11, section W.

Refer to AFM 67-1 for specific information on transaction rejects, follow-up on asset support requests, ICP/IMM action of asset support request follow-ups, and transaction formats.

Source: AFM 67-1, *USAF Supply Manual*, vol. 1, pt. 1, *Basic Air Force Supply Procedures*, 25 June 1991, 10-37 to 10-40.

Weapon Item Data Card

1. This card is prepared by military service weapon systems managers/ICPs/activities to identify items required to support designated weapon systems to establish, add, change, or delete an NSN item and/or data elements from the weapon systems file. Also, weapon item data cards will be initiated through the provisioning SSR whenever an end item (EI) has weapon system (WS) application.

2. The following are fields in the transaction:

<i>FIELD LEGEND</i>	<i>FIELD POSITION</i>	<i>EXPLANATION/INSTRUCTION</i>
Document Identifier Code	1-3	Enter WS1.
Routing Indicator Code (RIC, To)	4-6	Enter the RIC of the processing DSC.
Blank	7	Leave blank.
National Stock Number	8-20	Enter the NSN to be identified to the weapon system in position 28-30 by the relationship indicated in position 65-66.
Blank	21-23	Leave blank.
Weapon System Essentiality Code (WSEC)/Blank	24	Enter applicable WSEC from position 55 of provisioning SSR or else leave blank. WSECs indicate the degree to which the failure of the part/item affects the EI or WS to perform.
Weapon System Maintenance Code (WSMC)/Blank	25-26	Enter applicable WSMC from position 69-70 of provisioning SSR or else leave blank. WSMCs determine the degree to which repairability or maintenance for the specific part/item affects the EI or WS operation.
Blank	27	Leave blank.
Weapon System Designator Code (WSDC)/SSR	28-29	Enter the two-position alpha/numeric code representing the weapon system to which the

Weapon Item Data Card (continued)

<i>FIELD LEGEND</i>	<i>FIELD POSITION</i>	<i>EXPLANATION/INSTRUCTION</i>
		NSN, position 8-20, is applicable. The WSDC is in position 37-38 of an SSR if entered through provisioning.
Service Code	30	Enter the alpha code representing the service/activity associated with WSDC position 28-29.
Blank	31-43	Leave blank.
Interchangeability/ Substitutability Data	44	Leave blank.
Reserved for Military Service Use	45-53	Leave blank. (Military service weapon systems managers entries in these fields will be nonsignificant to processing DSCs.) NOTE: Position 45, for Navy only, will reflect their item mission essentiality code (IMEC) when applicable.
Blank	54-55	Leave blank.
Transaction Date	56-60	Enter the five-position Julian date the transaction is prepared. Whenever this field is blank and the advice code is AD, the current date is automatically furnished.
Blank	61-64	Leave blank.
Weapon System Advice Code (WSAC)	65-66	Enter applicable WSAC.
Routing Indicator Code (RIC, From)	67-69	Enter RIC of weapon systems manager or ICP submitting activity.
Blank	70-80	Leave blank.

NOTE: See source for locations of codes (i.e., WSEC, WSMC).

Source: Defense Logistics Agency Regulation 4140.38, *DLA Weapon Systems Support Program*, 9 June 1988, appendix B-144.

Access to the Defense Logistics Agency Corporate Network (DCN)

The DCN (formerly DLA Network (DLANET)) consists of 27 nodes utilizing 32 NCR Comten front-end processors. Expansion beyond the continental United States has been accomplished by establishing a node in Wiesbaden, Germany, and the installation of a multiplexor in Pearl Harbor, Hawaii. The network utilizes an IBM 3270 protocol and provides a rapid, effective teleprocessing service to DLA and authorized non-DLA subscribers.

Since 1973, methods of connecting to the DCN have expanded from the traditional 4800- or 9600-baud circuit connecting an IBM or equivalent 3270 bisynchronous control unit to the Comten. Now, asynchronous devices can be connected by using protocol converters; land area network connections are available; and mini- and microcomputers can emulate 3270 control units to allow access from devices attached to them. Soon, devices attached to the defense data network will have access capability to the numerous DLA applications (table I-1). The average customer may be interested in the features of the Standard Automated Materiel Management System Telecommunications (SAMMSTEL), briefly described below.

Table I-1

List of Applications Available via the DCN

- Automated Payroll, Cost, and Personnel System
- Base Operating Supply System
- Command Security Automated Control System
- Computer-Based Training
- Defense Fuel Automated Management Systems
- Defense Integrated Data System
- Defense Integrated Subsistence Management System
- Defense Operations Research Analysis
- Defense Reutilization and Marketing Automated Information System
- Depot Maintenance
- Department of Defense Dependent Schools
- Department of Defense Warehousing and Shipment Processing
- General Reserve Interrogation Process
- Interrogation Requirements Information System
- Master Identification Data Base System
- Mechanization of Contract Administration Services
- Mechanization of the Defense Industrial Security Clearance Office
- Military Engineering Data Asset Locator System
- Military Standard Requisitioning and Issue Procedures
- Perishable Subsistence Automated Supply System
- Personnel Investigations Center
- Standard Automated Materiel Management System

Source: Defense Logistics Agency Systems Automation Center (DSAC), *DLANET: An Introduction to the DLA's Corporate Network* (Columbus, Ohio: DSAC Directorate of Telecommunications, April 1990), 3-1 to 3-6.

SAMMS

SAMMS supports the integrated materiel management mission for hardware, medical, clothing, and textile commodities. The functions consist of worldwide supply support and logistics management of approximately 2.5 million active hardware, medical, clothing, and textile items with an inventory of over \$3 billion. Support includes

- 1. maintaining national stock inventory records, processing requests for materiel, positioning assets for best customer support, and evaluating agency performance,**
- 2. forecasting future item demand, determining requirements, setting stock level, initiating purchase requests, and maintaining supply control records,**
- 3. processing purchase requests and issuing solicitations, orders, and contracts to support customer and stock requirements,**
- 4. maintaining stock fund financial records for logistics operations encompassing funds programming and control, financial inventory evaluation, sales and collections, purchase and other cost computations, and contractor payments,**
- 5. generating aggregate stock fund requirements through stratification of assets against materiel requirements, and**
- 6. cataloging records, item standardization studies, interfaces with the Defense Integrated Data System, and technical data for use when purchasing an item.**

In addition to providing access to standard files, SAMMSTEL provides the customer with access to the following:

- 1. National inventory record to obtain stock availability.**
- 2. Due-in file to determine when assets are expected to arrive at the depot.**
- 3. Active requisition control and status file to obtain current requisition status. (This status is usually available up to approximately 45 days after final action on a document.)**
- 4. Customer/depot complaint file to check the status of a product quality deficiency report (formerly quality deficiency report) or a report of discrepancy.**

Gaining Access to DCN Applications

Contact the DLA Systems Automation Center and request the "Introduction to DLANET" booklet. As of 27 July 1992, it is being updated. Thus, if the name is changed, ask for the information/application package. You should get the booklet.

Write to: DLA Systems Automation Center
ATTN: DSAC-RBA
P. O. Box 1605
Columbus OH 43216-5002
Telephone: Ms Pat Martin, DSN 850-9163

Once you receive the information, you will see descriptions of the various applications available through DCN access. You can then refer to the access chart and determine which forms must be completed and submitted to DSAC. Access approval hinges on the type of equipment to be used, results of a technical evaluation of that equipment, its certification, and the user's capability to guarantee that DLA will be reimbursed for communications-circuit expenses.

Sources: Defense Logistics Agency Systems Automation Center (DSAC), *DLANET: An Introduction to the (DLA's) Corporate Network* (Columbus, Ohio: DSAC Directorate of Telecommunications, April 1990), 2-1, 3-6; and Alice Bontrager, acting chief, DSAC Technical Planning and Liaison Branch, telephone interview with author, 27 July 1992.

APPENDIX J

Sample Monthly and Quarterly Performance Reports and Air Force Distribution

**Defense Logistics Agency
Weapon Systems Support Program
Monthly Performance Report—Air Force
December (Fiscal Year 1992)**

WSSP Code	Weapon System	NSNs	NSNs Stock On Hand	Net Demand	Supply Available
01F	Missile, Minuteman LGM-30	19,562	18,831	23,615	94.1%
02F	Aircraft, Phantom F-4	24,491	23,818	43,672	91.3%
04F	Aircraft, Stratofortress B-52	14,198	13,875	31,227	92.8%
05F	Aircraft, Stratolifter C-135	35,297	33,979	44,339	92.5%
06F	Aircraft, Hercules C-130	30,432	28,955	49,745	91.8%
09F	Aircraft, Delta Dart F-106	5,756	5,641	17,496	94.2%
10F	Aircraft, F-111	26,809	25,862	36,235	92.6%
11F	Aircraft, Galaxy C-5	30,598	27,628	37,121	91.4%
12F	Aircraft, Starlifter C-141	19,240	18,436	36,900	91.7%
14F	Cargo System, 463L	10,859	10,472	10,142	95.3%
15F	Helicopter, Green Giant H-3	4,628	4,542	16,422	92.8%
16F	Helicopter, Super Jolly H-53	6,913	6,706	18,081	93.4%
18F	Missile, SRAM AGM-69A	1,301	1,270	7,124	92.4%
39F	Cobra Dane System, FPS-106	2,080	2,046	2,120	93.3%
40F	Defense Support Program	10,037	9,707	10,212	93.7%
52F	Simulator, C-130	1,015	996	1,788	93.2%
55F	Simulator, A-10	1,096	1,073	3,544	92.5%
56F	Aircraft, B-1B	38,135	36,288	22,051	93.2%
73F	Simulator, H-53	283	277	1,507	91.7%
74F	Simulator, CH-3E	88	86	583	87.3%
75F	Helicopter, MH-60G Pave Hawk	2,705	2,423	6,840	95.1%
77F	Vehicle, Aircraft Refueler R-9	2,054	1,993	5,485	89.2%
78F	Communications Program (TRI-TAC)	8,056	7,745	11,855	94.0%
79F	Missile, MX Peacekeeper	8,428	17,777	15,569	95.0%
80F	Support Equipment, F-4 Aircraft	5,841	35,072	53,432	92.5%

Source: Headquarters DLA Weapon Systems Support Office, Monthly Performance Report (Air Force), 13 January 1992, 1.

**Defense Logistics Agency
Weapon Systems Support Program
Quarterly Report—Air Force
Beginning—October 1991
Ending—December 1991**

WSSP Code	Weapon System	Stocked NSNs	NSNs Stock On Hand	Net Demands	Supply Available	Avg Days On H/O	ICP Days
01F	Missile, Minuteman LGM-30	19,562	18,831	83,574	93.7%	78	6
02F	Aircraft, Phantom F-4	24,491	23,818	157,119	91.2%	88	9
04F	Aircraft, Stratofortress	14,198	13,875	112,658	92.8%	85	7
05F	Aircraft, Stratolifter	35,297	33,979	158,533	92.2%	79	7
06F	Aircraft, Hercules C-130	30,432	28,955	173,862	91.9%	78	7
09F	Aircraft, Delta Dart	5,756	5,641	62,989	93.5%	73	6
10F	Aircraft, F-111	26,809	25,862	129,035	92.7%	85	7
11F	Aircraft, Galaxy C-5	30,598	27,628	132,122	91.2%	83	8
12F	Aircraft, Stratolifter C-141	19,240	18,436	131,295	91.5%	79	7
14F	Cargo System, 463L	10,859	10,472	35,501	95.7%	89	5
15F	Helicopter, Green Giant H-3	4,628	4,542	59,469	92.6%	77	7
16F	Helicopter, Super Jolly H-53	6,913	6,705	65,131	93.2%	81	6
18F	Missile, SRAM AGM-69A	1,301	1,270	24,725	92.2%	74	6
39F	Cobra Dane System, FPS-108	2,080	2,046	7,517	93.0%	83	6
40F	Defense Support Program	10,037	9,707	36,258	93.6%	74	5
52F	Simulator, C-130	1,015	996	6,447	93.0%	49	4
55F	Simulator, A-10	1,096	1,073	11,965	93.6%	31	2
56F	Aircraft, B-1B	38,135	36,288	75,787	92.8%	83	8
73F	Simulator, H-53	283	277	5,185	93.7%	31	2
74F	Simulator, CH-53E	88	86	2,218	89.7%	54	7
75F	Helicopter, MH-60G Pave Hawk	2,705	2,423	24,263	94.6%	84	7
77F	Vehicle, Aircraft Refueler R-9	2,054	1,993	20,319	90.2%	91	9
78F	Communications Program, Combat Theater (TRI-TAC) 478T	8,056	7,745	41,768	93.6%	77	7
79F	Missile, MX Peacekeeper	18,423	17,777	55,179	94.4%	74	6
80F	Support Equipment, F-4 Aircraft	35,841	35,072	192,679	92.4%	79	6

Source: Headquarters DIA Weapon Systems Support Office, Quarterly Performance Report (Air Force), 22 January 1992, 1-2.

Distribution of Reports on WSSP Supply Support Performance

Headquarters US Air Force
ATTN: USAF/LGSS (Mr Jim Bowie)
Washington D.C. 20330-5130

Headquarters Air Combat Command
ATTN: ACC/LGSWA
Langley AFB VA 23665-5001

Headquarters Technical Integration Center
ATTN: TIC/DLSS
Scott AFB IL 62225-6001

Headquarters Air Force Materiel Command
ATTN: AFMC/LGS-I (Mrs Mary Hoyle)
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Headquarters Air Training Command
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Hurlburt Field FL 32544

Additionally, the quarterly report is distributed to:

Lt Col Dale Shively, USAF
Air Force Materiel Command (ATTN: XR [DLA])
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Ms Ruth Sherman
Oklahoma City Air Logistics Center
ATTN: OC-ALC/FMI-3 (DLA)
Tinker AFB OK 73145

Ms Maryanne Clare
Ogden Air Logistics Center
ATTN: OO-ALC/FMI (DLA), Building 1209
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Ms Rose-Ann Griffin
San Antonio Air Logistics Center
ATTN: SA-ALC/FMR-DLA, Building 171
Kelly AFB TX 78241-5000

Commander
Headquarters Defense Logistics Agency Europe (DEUR-C)
Vaihingen, Germany
APO New York 09128

Source: Headquarters DLA Weapon Systems Support Office, 22 January 1992 and 18 February 1992 cover letters.

APPENDIX K

President Reagan's Executive Order 12526

By the authority vested in me as president by the Constitution and the laws of the United States of America, and in order to establish, in accordance with the provisions of the Federal Advisory Committee Act, as amended (5 USC App. 1), a Blue Ribbon Commission on Defense Management, it is hereby ordered as follows:

Section 1. *Establishment.* (a) There is established the President's Blue Ribbon Commission on Defense Management. The commission shall be composed of no fewer than 10 and no more than 17 members appointed or designated by the president.

(b) The composition of the commission shall include persons with extensive experience and national reputations in commerce and industry, as well as persons with broad experience in government and national defense.

(c) The president shall designate a chairman from among the members of the commission. The chairman shall appoint a professional and administrative staff to support the commission.

Section 2. *Functions.* (a) The commission shall study the issues surrounding defense management and organization, and report its findings and recommendations to the president and simultaneously submit a copy of its report to the secretary of defense.

(b) The primary objective of the commission shall be to study defense management policies and procedures, including the budget process, the procurement system, legislative oversight, and the organizational and operational arrangements, both formal and informal, among the Office of the Secretary of Defense, the Organization of the Joint Chiefs of Staff, the unified and specified command system, the military departments, and the Congress. In particular, the commission shall

1. Review the adequacy of the defense acquisition process, including the adequacy of the defense industrial base, current law governing federal and Department of Defense procurement activities, departmental directives and management procedures, and the execution of acquisition responsibilities within the military departments;

2. Review the adequacy of the current authority and control of defense in the oversight of the military departments, and the efficiency of the decision-making apparatus of the Office of the Secretary of Defense;

3. Review the responsibilities of the Organization of the Joint Chiefs of Staff in providing for joint military advice and force development within a resource-constrained environment;

4. Review the adequacy of the unified and specified command system in providing for the effective planning for and use of military forces;

5. Consider the value and continued role of intervening layers of command on the direction and control of military forces in peace and in war;

6. Review the procedures for developing and fielding military systems incorporating new technologies in a timely fashion;

7. Study and make recommendations concerning congressional oversight and investigative procedures relating to the Department of Defense; and

8. Recommend how to improve the effectiveness and stability of resources allocation for defense, including the legislative process.

(c) In formulating its recommendations to the president, the commission shall consider the appropriate means for implementing its recommendations. The commission shall first devote its attention to the procedures and activities of the Department of Defense associated with the procurement of military equipment and materiel. It shall report its conclusions and recommendations on the procurement section of this study by 31 December 1985. The final report, encompassing the balance of the issues reviewed by the commission, shall be submitted not later than 30 June 1986, with an interim report to be submitted not later than 31 March 1986.

(d) The commission shall be in place and operating as soon as possible. Shortly thereafter, the commission shall brief the assistant to the president for national security affairs and the secretary of defense on the commission's plan of action.

(e) Where appropriate, implementation of the commission's recommendations shall be considered in accordance with regular administrative procedures coordinated by the Office of Management and Budget, and involving the National Security Council, the Department of Defense, and other departments or agencies as required.

Section 3. *Administration.* (a) The heads of executive agencies shall, to the extent permitted by law, provide the commission such information as it may require for purposes of carrying out its functions.

(b) Members of the commission shall serve without additional compensation for their work on the commission. However, members appointed from among private citizens may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law for persons serving intermittently in the government service (5 USC 5701-5707), to the extent funds are available.

(c) The secretary of defense shall provide the commission with such administrative services, facilities, staff, and other support services as may be necessary. Any expenses of the commission shall be paid from such funds as may be available to the secretary of defense.

Section 4. *General.* (a) Notwithstanding any other executive order, the functions of the president under the Federal Advisory Committee Act, as

amended, except that of reporting to the Congress, which are applicable to the commission, shall be performed by the secretary of defense, in accordance with guidelines and procedures established by the administrator of general services.

(b) The commission shall terminate 30 days after the submission of its final report.

Ronald Reagan

The White House
15 July 1985

Sources President's Blue Ribbon Commission on Defense Management, *A Quest for Excellence: Final Report to the President*, 99th Cong., 2d sess., June 1986, 27-28.

APPENDIX L

Executive Summary of Report of President's Blue Ribbon Commission on Defense Management (Seventeen Defense Management Issues)

1. Americans think that inefficiency in US defense spending is a big problem.
2. Americans believe that fraud (illegal activities) accounts for as much of a loss in defense dollars as waste (poor budget management).
3. Defense contractors are seen as especially culpable for waste and fraud in defense spending.
4. Congress is perceived as contributing to defense budget inefficiencies to a lesser extent than defense contractors and the Defense Department. Simultaneously, the American public is often supportive of congressional actions some would consider waste-producing.
5. Americans are confident that waste and fraud in defense spending can be significantly reduced.
6. Better strategic planning, tougher treatment of defense contractor fraud, and improved training of procurement personnel head the list of specific solutions the American public believes would most help reduce defense waste and fraud.
7. Reducing bureaucratic red tape, making "off-the-shelf" purchases, stopping the "revolving door" between the Defense Department and the defense industry, and greater sharing of weapons and equipment across the services also are solutions with significant public support.
8. Biennial budgeting is opposed by a 50 percent to 42 percent majority.
9. While the public is split on the efficacy of contractor self-governance, it overwhelmingly believes that this solution should be tried.
10. Americans believe that the US military is a good fighting force and that its effectiveness is in far less need of reform than its acquisition system.
11. Americans are aware that there are problems in the US military organization, and a majority of Americans stop short of a top mark for the US military's effectiveness.
12. Americans are also aware that organizational problems negatively impact military effectiveness. In describing the military as a fighting force, 49 percent selected "very effective," but a large 45 percent chose "moderately effective." Only 4 percent picked "not very effective."
13. Americans react favorably to the general idea of increasing the authority of the unified commanders.
14. A plurality of Americans are satisfied with the current degree of civilian control of the military, but the remainder of the public more frequently believes there is too much civilian control.
15. Americans can be divided into three important groups based on their overall attitudes toward the military as an institution and toward the defense budget. A plurality (37 percent)—Owls—have a generally positive attitude

toward the military as an institution but a negative or mixed attitude toward the defense budget. One-third—Hawks—have a positive attitude toward both the military as an institution and the defense budget. One-quarter of all Americans—Doves—have a negative attitude toward the military as an institution and a negative or mixed attitude toward the defense budget.

16. Americans can also be divided into three groups based on how they rate the performance of the military on spending and on fighting (defending the country). A plurality (43 percent) are satisfied with the US military's fighting performance alone. One-third (36 percent) of the American people are satisfied with neither the US military's fighting nor spending performance. Only one-sixth are satisfied with both. (Hardly anyone, 4 percent, is satisfied with spending performance alone.)

17. Americans considerably overestimate the amount of money that the US spends on defense in general and on nuclear weapons in particular. On average, the public believes that 46 percent of the total federal budget goes to military spending. A plurality of the public think that spending on nuclear weapons makes up the largest share of the defense budget.

Source: House, *A Quest for Excellence: Final Report [of the President's Blue Ribbon Commission on Defense Management] to the President, 99th Cong., 2d sess., June 1986, 190-93.*

APPENDIX M

DLA's Data Review, Analysis, and Monitoring Aid

The Data Review, Analysis, and Monitoring Aid (DRAMA) system acts as an intelligent conduit for all the information required in the item-introduction and supply-management processes, providing intelligent processing of data as it moves between weapon systems contractors, the services, and existing systems like DLA's SAMMS [Standard Automated Materiel Management System]. Its primary purpose is to save DLA substantial amounts of money by ensuring that purchasing and stock-management plans rapidly adapt to changes made to the design of weapon systems.

DRAMA assists DLA in handling components throughout their life cycle by making use of Logistics Support Analysis Record (LSAR) information.* Using the LSAR data, DRAMA allows DLA to verify that all important decisions in the handling of a component are made based on the latest information available from weapon systems contractors. DRAMA optimizes the item-introduction process by supplying catalogers with data that is currently unavailable, allows DLA to prepare better for preprovisioning conferences, and allows DLA to influence the design of weapon systems to enhance supportability. DRAMA also optimizes the supply-management process, enabling DLA to reduce expenditures by avoiding the purchase of components that are not needed by delaying purchases when possible, by screening requests for components from the services for accuracy, and by making more accurate analyses of requirements.

Summary of Functionality

DRAMA currently has capabilities for assisting DLA in the item-introduction and supply-management processes. DRAMA is expected to be enhanced to support other processes such as quality assurance and transportation, packaging, and storage.

Item Introduction

The lifetime of DRAMA's handling of a new component begins when it is first introduced into the LSAR data base. DRAMA screens the LSAR data base for completeness, automatically informing the weapon systems contractor of missing or erroneous data. DRAMA enables DLA to produce this feedback to contractors early enough to influence weapon systems design decisions.

When all necessary data about a component is available, DRAMA initiates cataloging of that component via SAMMS and assists the cataloging process by providing catalogers with information from the LSAR data that is not otherwise available.

*LSAR data is provided by the prime contractor of each new weapon system.

Supply Management

After an item is introduced, the services inform DLA about requirements via supply support request (SSR). DRAMA monitors SSRs to verify that their information is consistent with the latest information available from the LSAR data base. When an SSR is based on outdated information, DRAMA traps it and contacts the appropriate service for clarification. This enables DLA to determine support requirements based on more accurate information and minimizes procurements that are unnecessary. DRAMA also monitors interim and final advice concerning SSRs and sends notifications to the weapon systems contractor when it determines that service and contractor assumptions have become unaligned.

DRAMA also reviews recommended buys generated by SAMMS to verify that they are also consistent with the latest information available from the LSAR data base. DRAMA assists users in deciding whether to buy, how much to buy, and when to buy, based on the most recent available information about components.

Benefits of DRAMA

DRAMA provides DLA substantial benefits for the item-introduction and supply-management processes. The main benefits are summarized below. Almost without exception, item managers and catalogers who have seen demonstrations of DRAMA think that it will greatly assist them in doing their day-to-day tasks. Contractors also think that this type of system is required at DLA if they are to support the weapon systems now being delivered to the government.

Item-Introduction Benefits

DRAMA increases the efficiency of the item-introduction process in several ways:

- DRAMA assists DLA and the services in identifying and establishing NSNs for components that are necessary to support weapon systems. DRAMA provides the services and contractors with data on NSN assignments.
- The DRAMA workstation provides access to LSAR data. This will benefit the user of the cataloging tools on line (CTOL) system by reducing the level of effort associated with cataloging. Multiple screenings of the same item will be eliminated, and the introduction of new NSNs will be reduced.
- DRAMA provides DLA with the potential to influence the design of a weapon system and reduce inventory levels by eliminating the need for some new items. Similar items may already exist in the inventory, and DLA can recommend these existing items for inclusion on the system rather than new items. If this potential is realized, inventory-level increases can be avoided.

- DRAMA allows DLA to be better prepared for the preprovisioning conferences because the cataloging process is initiated earlier. In the future, DRAMA might eliminate the need for preprovisioning conferences altogether.

- DRAMA reduces the provisioning lead time for parts 30 to 60 days. Because LSAR data are provided early in the life cycle of the weapon system, cataloging of parts for that weapon system can be initiated as soon as all the information is available. When the service requests support for parts, the cataloging has already been completed and the provisioning can be started immediately.

Supply-Management Benefits

Previous studies of items that entered the inventory through the provisioning process revealed that 56 percent of the items had no demand after two years, 44 percent after three years, and 38 percent after four years. A certain percentage of these items will probably never have a demand recorded against them. At a minimum, procurement of some items could have been delayed four or more years. DRAMA allows DLA to increase the efficiency of the supply-management process in several ways:

- DRAMA detects item deletions. Item managers can then take appropriate actions to avoid buying deleted items. With nearly \$60 million spent on initial stockage of new items that enter the system through the provisioning process, DRAMA's ability to detect deletions provides great potential for investment savings.

- DRAMA provides data necessary to allow an item manager to validate service requirements. This will result in decreasing the quantities procured on some items and thus reduce inventory growth.

- DRAMA identifies delays in dates when items will be required in DLA inventories to support a weapon system. Item managers can then take the action necessary to delay procurements. With 38 percent of new items experiencing no demands after four years, DRAMA's ability to detect changes to fielding date information has a significant potential for postponing procurement actions until they are actually required.

- DRAMA enables item managers to decrease or increase the recommended buy quantity based upon projected fielding or usage data.

DRAMA's Future

Over the next two years [by mid-1993], DRAMA will have increased capabilities in at least three different dimensions. The specific areas of expansion are as follows:

- Functional expertise of supply management, configuration management, storage and transportation.

- Connection and integration of DRAMA with existing systems (e.g., SAMMS, CTOL).
- User/developer productivity aids (e.g., better inquiry capabilities, integrated note taking, increased reactivity to changes in data).

From the start of the program, DRAMA has been expanding steadily in all three dimensions listed above. As more knowledge and expertise about areas like supply management are added to DRAMA, the users will be able to resolve provisioning problems faster and more accurately. The expertise encoded in the system will assist users in making more accurate decisions, and extensions/enhancements will be vital to automating LSAR data processing and provisioning. Currently, expertise about item introduction and supply management has been the primary focus. However, DLA has identified a number of additional functional areas which need to be handled by DRAMA. Configuration management, storage location, and transportation of components are three which will be addressed once supply management has been completed in DRAMA.

Connecting and integrating DRAMA with existing systems will be ongoing as the prototype makes the transition to a production system. Because the DLA environment is in the midst of a modernization program and most existing systems are changing, DRAMA will continue to evolve according to its best fit into the DLA environment. Currently, DRAMA is expanding on a number of different fronts in terms of connectivity. Plans are being developed to connect DRAMA to CTOL, and plans are being finalized (in conjunction with DSAC) to connect DRAMA with SAMMS so that transactions can be moved between these two systems.

The third dimension to DRAMA's development is providing more assistance to end users and system maintainers to enhance productivity. The Information Sciences Institute is actively working on interface paradigms and tools that give the user the flexibility and means to work efficiently in this complex data-management environment. For example, agendas and note-taking capabilities are being integrated to help users organize and retrieve the many notes that they currently do on paper. These types of productivity aids are being developed for DRAMA and will undoubtedly apply to other logistics tasks that DLA may choose to automate in the future.

Productivity Aids

There are several approaches represented in the DRAMA system to enhance end-user and programmer productivity. The desktop metaphor of the user interface is user-friendly and allows users to simultaneously view and interact with different aspects of the system easily and efficiently. The design of the windows that present information to users follows consistent design principles, making the interface easy to learn. The scenarios and agenda tools allow users

to efficiently and conveniently manage the large number of activities involved in DRAMA. The note-taking capability allows users to enter into the system the information that they typically scribble on printouts, with the added benefit of powerful techniques for retrieving them. The inquiry capability allows users to produce a wide variety of reports of the different kinds of information available in DRAMA. In addition, these productivity aids are implemented in a way that makes programming, extending, and maintaining them easier. [Refer to figures M-1 and M-2 for samples of available screens.]

Sources: Kathryn Willyard, DLA Weapon Systems Support Program adviser, Sacramento Air Logistics Center (CA), telephone interviews with author, 30-31 March 1992 and 20 July 1992; and Information Sciences Institute, *Data Review, Analysis, and Monitoring Aid: Description of System Functionality* (Marina del Rey, Calif.: University of Southern California, 31 May 1991), 4-4v.

APPENDIX N

**Defense Personnel Support Center's Support
to Operations Desert Storm and Provide Comfort**

The following represents some of the food, clothing, textiles, medicines, and medical items requisitioned by the services in support of Operations Desert Shield and Desert Storm (as of 24 April 1991).

<i>Activity</i>	<i>Requisitions Processed</i>	<i>Dollars</i>
Subsistence	33,608	\$1,067,0 B
Clothing and Textiles	261,081	962,0 M
Medical	218,647	556,9 M
TOTAL	513,336	2,585,9 B

Subsistence (approximate figures)

- Meal, ready-to-eat (MRE) food rations—bought approximately 20.6 million boxes of MREs worth \$900 million. Bought enough MREs to feed 12.8 million meals monthly.
- Flameless heaters (to warm MREs)—bought 17.8 million heaters worth \$25.2 million.
- Tray-pack food rations—bought 50,059 pallets of tray rations worth \$70.6 million. Enough to prepare 21.6 million meals worth \$67.6 million. Bought enough tray-pack rations to prepare 5.6 million meals monthly.

Clothing and Textiles (approximate figures)

- 1.9 million chemical protective suits (\$144.1 million).
- 5.2 million desert camouflage trousers (\$15.50 each; \$80 million). *Note:* \$16.6 million worth of desert trousers are being converted back to woodland pattern now that war is over.
- 5.2 million desert camouflage coats (\$16.60 each; \$86.3 million). *Note:* \$25.1 million worth of desert coats are being converted back to woodland pattern now that war is over.
- 2 million hot-weather woodland camouflage coats (\$40.6 million).
- 1.375 million desert tan boots (\$58.1 million). *Note:* \$40 million worth of desert tan boots are being converted back to woodland pattern now that war is over.
- 1.1 million pairs of cold weather underwear (\$11.4 million).
- 2 million hot-weather woodland camouflage trousers (\$41.8 million).
- 750,240 desert-colored helmet covers (\$5.4 million). *Note:* \$21,000 worth of desert helmet covers are being converted back to woodland pattern now that war is over.

Medals (approximate figures)

- 432,000 National Defense Service medals (\$648,000).
- 222,000 Army Commendation medals on contract (\$777,000).
- 25,000 Purple Heart decorations; another 36,000 on contract (\$122,500).
- 40,000 Air Force Commendation medals on contract (\$143,500).
- 311,000 Navy Achievement medals on contract (\$1,166,250).
- 186,000 Army Good Conduct medals on contract (\$381,300).
- 162,000 Combat Infantry badges (1st award) on contract (\$267,300).

Medical (approximate figures)

- Adhesive Bandages—bought 6.9 million bandages worth \$156,000.
- Stopcocks—bought 22,161 intravenous stopcocks worth \$839,874.
- Sponges—bought 5,200 surgical sponges worth \$556,000.
- Atropine Injectors—bought 1.98 million atropine injectors worth \$6.7 million.
- Mark I Kits—bought 2.24 million kits worth \$20 million.
- Immune Globulin—bought 1.01 million vials of globulin worth \$3.9 million.
- Pyridostigmine Bromide Tablets—bought 842,200 packages worth \$10.4 million.
- Chloroquine Phosphate Tablets—bought 27,649 tablets worth \$4.43 million.
- Meningococcal Vaccine—bought 18,400 vials of vaccine worth \$2.7 million.
- Sunscreen Lotion—bought 647,200 bottles of sunscreen lotion worth \$939,000.

Directorate of Manufacturing (approximate figures)

Items Made Included

- Desert Camouflage Coats—253,797
- Desert Camouflage Trousers—220,456
- Desert Camouflage Hats—133,010
- Nomex Flyer Coveralls—79,723

Sources: Diane Holmes, Defense Personnel Support Center (DPSC) Public Affairs specialist, telephone interviews with author, March 1992; DPSC Public Affairs Office fact sheet, 24 April 1991; and DPSC Public Affairs Office, "[DPSC] Met Desert Storm Challenge," *Provider* (Special Commemorative Edition), October 1991.

DPSC sent over \$68.2 million worth of food, clothing, textiles, and medical supplies to aid refugees—mostly Kurds in Iraq—in support of Operation Provide Comfort, a major land and air relief operation.

The following are examples of items sent to support Operation Provide Comfort:

Subsistence (approximately \$7.3 million)

- Rice—5 million pounds worth \$586,310.
- Beans—1 million pounds worth \$1.25 million.
- Miscellaneous Fruit—1 million no. 10 cans worth \$2.2 million.
- Miscellaneous Vegetables—1 million no. 10 cans worth \$1.02 million.
- Nonfat Milk—1 million pounds worth \$763,282.
- Orange Juice—bought \$334,886 worth.

Clothing and Textiles (approximately \$58.6 million)

- General-Purpose Tents (large)—485 tents worth \$1.17 million.
- Arctic Tents—334 tents worth \$400,749.
- Hex Tents—946 tents worth \$736,602.
- Wool Blankets—398,845 blankets worth \$7.7 million.
- Sleeping Bags—19,936 sleeping bags worth \$1.3 million.
- Bath Towels—854,171 towels worth \$2.5 million.
- Gym Shoes—150,000 shoes worth \$1.36 million.
- Bed Sheets—58,830 sheets worth \$450,000.
- Women's Trousers—166,699 trousers worth \$1.6 million.
- Men's Trousers—170,000 trousers worth \$1.9 million.
- Men's Shirts—300,000 shirts worth \$5.7 million.
- Cold-Weather Coats—23,081 coats worth \$735,129.
- V-Neck Undershirts—50,000 undershirts worth \$132,500.
- Undershorts—50,000 undershorts worth \$82,500.

Medical (approximately \$2.3 million)

- Multivitamins—\$54,200.
- Measles/Mumps/Rubella Vaccine—\$76,860.
- Diphtheria and Tetanus Vaccine—\$117,119.
- Vitamins A and C—\$70,000.

- Pharmaceuticals—\$1,160,000.
- Surgical Items—\$74,795.
- Trauma and Sick-Call Resupply Sets—\$238,000.

Sources: Defense Personnel Support Center (DPSC), Public Affairs Office fact sheet, 25 April 1991; and "DPSC Helped 'Provide Comfort' to Refugees in Largest Military Modern Day Relief Effort," *Provider* (Special Commemorative Edition), October 1991.

APPENDIX O

**General Issue Request/Depot Release
Procedural Entries**

Issue Request for Expendable Items AF Form 2005 Entries (Columns 1-95)

Current issue procedures allow various methods to request supplies, equipment, and services. The following entries are required on AF Form 2005, Issue/Turn-in Request, to request consumable supply items through the local base supply:

POS	NBR POS	FIELD DESIGNATION	REMARKS/NOTES
1-3	3	Transaction Identification Code	ISU
4-6	3	Delivery Destination	Note 1 ^a
7	1	Issue Exception Code	Note 2 ^a
8-22	15	Stock Number, Part Number	Note 3 ^a
23-24	2	Unit of Issue	
25-29	5	Quantity	Note 4 ^a
30-43	14	Document Number	
44	1	Demand Code	See atch A-7 ^b
45-50	6	Work Order Number or Blank	Note 5 ^a
51	1	Transaction Exception Code	See atch A-6 ^c
52	1	Supply Condition Code	Note 6 ^a
53	1	Force Activity Designator	Note 7 ^a
54	1	MICAP Flag	Note 8 ^a
55-56	2	System Designator	
57-59	3	Project Code (if applicable)	Note 9 ^a
60-61	2	Delivery Priority	Note 10 ^a
62-64	3	Required Delivery Date (Normally Blank)	Note 11 ^a
65-66	2	Urgency Justification Code	See atch A-10 ^d
67-80	14	Mark-For	See atch A-4 ^e
81	1	CAMS Unit ID Code	Note 12 ^a
32-93	12	CAMS Job Control Number	Note 12 ^a
94-95	2	End Item DIFM System Designator	For UJC AR or BR

Source: AFM 67-1, USAF Supply Manual, vol. 2, USAF Standard Base Supply System, 1 February 1992, 11-1 to 11-84.

^aRefer to AFM 67-1, vol. 2, pt. 2, chap. 11, 11-31 to 11-34, for descriptions of notes.

^bRefer to AFM 67-1, vol. 2, pt. 2, chap. 11, 11-54, for descriptions of demand codes.

^cRefer to AFM 67-1, vol. 2, pt. 2, chap. 11, 11-50G, for descriptions of issue transaction exception codes.

^dRefer to AFM 67-1, vol. 2, pt. 2, chap. 11, 11-67, for descriptions of urgency justification codes.

^eRefer to AFM 67-1, vol. 2, pt. 2, chap. 11, 11-39, for an explanation of issue "mark-for" inputs for supply points.

Depot Release Procedures

DD Form 1348-1 Entries (Columns 1-80)

DD Form 1348-1, DOD Single Line Item Release/Receipt Document, will be prepared and used by the releasing (shipping) activity to effect selection, packing, and release of materiel to transportation channels, and as the source document for preparation of bills of lading and similar transportation documentation, or as authority for mail or courier routing to the consignee activity. The basic principle is to repeat the requisition information on the DD Form 1348-1 whenever possible. For example, under ideal conditions, the exact quantity of the item requested would be released from the initial point that received the requisition. The resulting document would repeat the requisition data and simply add price data and any other required information in the specified blocks and/or the remarks space.

The entries required in columns 1-80 are based on the type of source document (e.g., requisition, materiel release order [MRO], referral order, etc.) the DD Form 1348-1 is prepared from. These entries are indicated in the following paragraphs:

- a. Document identifier, columns 1-3: Enter the identity of the source document.
- b. Routing identifier (from), columns 4-6: Enter the identity code of the shipping activity.
- c. Media and status (M&S), column 7: Enter the code contained in the source document.
- d. Stock or part number, columns 8-22: Enter the stock or other number of the item being released. (The type of number will be identified by the entry in column 3. If the number exceeds 15 digits, the entire number will be identified and entered in block W.) NOTE: MROs prepared by DLA activities will have the submission time in columns 21-22 of the documentation in processing the demands of all services satisfied by DLA, including grant aid and FMS transactions. Caution must be exercised not to consider this information as part of the stock number.
- e. Unit of issue, columns 23-24: Enter the two-letter abbreviation applicable to the item being released.
- f. Quantity, columns 25-29: Enter the actual quantity being released.
- g. Document number, columns 30-43: Enter the document number contained in the source document.
- h. Suffix, column 44: Enter the appropriate alphabetic suffix code assigned to indicate that a partial quantity is being shipped. Leave blank when the total quantity requisitioned is being released and is included in columns 25-29.
- i. Supplementary addresses, columns 45-50: Enter the code entered in the source document. NOTE: This code will represent the ship-to (consignee) activity only when code "J," "K," "L," or "M" appears in the signal-code column (51). When the signal code, column 51, is either "A," "B," "C," or "D," the materiel will be shipped to the address represented by the code in columns 30-35.

- j. Signal code, column 51: Enter the code appearing in the source document (see above paragraph "i").
- k. Fund code, columns 52-53: Enter the data appearing in the source document. NOTE: Documents received from GSA activities will contain the submission time in these columns.
- l. Distribution code, columns 54-56: Enter the code appearing in the source document.
- m. Project code, columns 57-59: Enter the code appearing in the source document.
- n. Priority code, columns 60-61: Enter the code appearing in the source document.
- o. Required delivery date, columns 62-64: Enter the code, if any, appearing in the source document.
- p. Advice code, columns 65-66: Enter the code appearing in the source document (pt. 4, chap. 1, atch 18).
- q. Routing identifier code, columns 67-69: Enter the code, if any, appearing in the source document (identifies the manager or activity issuing, referring, or passing requests for materiel).
- r. Ownership/purpose code, column 70: Enter the code appearing in the source document (pt. 4, chap. 1).
- s. Materiel condition code, column 71: Enter the code appearing in the source document. This code is significant to the selection of materiel to be shipped (pt. 4, chap. 1, atch 19).
- t. Management data codes, columns 72-73: Enter the code, if any, appearing in the source document. This code is not necessarily significant to consignee.
- u. Unit price, columns 74-80: Enter the unit price of the item being released. NOTE: When a requisition is postposted through the automated data processing system, the item manager will insure that the appropriate entry is made.

APPENDIX P

Prelogistics Assessment Architecture Scenario

BACKGROUND: The United States has been monitoring rising tension over the last several months in a third world country, Orangeland. Suddenly, the radical forces in the country have overthrown the democratic government and have stormed the US Embassy, capturing 46 US citizens and holding them hostage. The United States must consider military options, including use of Air Force units. A close-hold planning team is put in place.

THE SETTING: A conversation between the senior logistics officer (General Log) and his executive officer (Colonel Exec) on planning the logistics support of the operation.

General Log: "The Ops and Intel wienies are planning this mission and the Air Force needs to provide a coordinated position to the Joint Staff on our recommended course of action to respond to the Orangeland situation. Can we offer Ops some proactive options based on our resource picture, or do we have to wait until the 11th hour, when we will get one hour to evaluate the logistics supportability of whatever schemes they come up with? What can you tell me ahead of time about our capability? I don't trust analysts or computers any further than I can throw them, but don't we have some kind of 'gee whiz' models or systems or tools to help figure this out? We need a consistent assessment of our capability."

Colonel Exec: "Yes sir! I don't usually associate with analysts either, but I think we have something. I'll get back to you right away." (Colonel Exec returns in a couple of hours to report to General Log.) "Sir, I have talked to the assessment community about this situation, and it is extremely confusing. I've brought our best talent in this area, Captain Assessor, to give you the bottom-line briefing and answer any questions you may have."

Captain Assessor: "Here's the situation, General Log. We cannot produce an integrated assessment of the logistics capability of our forces to support the potential Orangeland mission. We have asked each functional community in logistics and the Logistics Plans and Weapon System Management Information System (WSMIS) folks to come up with their best assessment. We have gotten several different answers, and the functional experts cannot verify the validity. There is a fair amount of debate over which is the right number. Our best military judgment suggests that we are short of a particular preferred munition known as a Framowitz and even if we had it, we aren't sure we have the TRAP [tanks, racks, adaptors, and pylons] to fly that particular mission, but we are asking the TRAP people now."

General Log: "This is bull! I fought hard for the Framowitz requirements and dollars in the Program Objectives Memorandum (POM). We worked hard to fund the requirement for this kind of contingency, and you are telling me we don't have enough?"

Captain Assessor: "Yes, you did, sir. But we used a different methodology to build and assess the requirement than we did to allocate Framowitzes to the MAJCOM and distribute them in the theater. We did the requirement assess-

ment using targets killed and allocated based on fair sharing of authorized quantities."

General Log (showing rising frustration): "Forget all that! Go to the relevant MAJCOM level and get me an answer. If that doesn't work, go to the nearest base and get their best assessment. They ought to be able to tell me quickly what their capability is."

Captain Assessor: "Sir, we did both of those things. We got two significantly different answers at the MAJCOM level, and both systems claim to have the right one. One model said we could do it, and one said we couldn't; and we aren't sure what the difference is or why the two are producing different answers. We went to the base level and asked them for a quick analysis, and they told us they did not have any assessment tools. They gave us a back-of-the-envelope answer that said we could do it but said they would have a better answer in two weeks if you tell them the exact operational scenario. I guess we will have to go with their quick answer, although no one feels confident about it."

General Log: "You and your assessment community better get your act together. In the meantime, we'll have to tell the Ops guys we think we can support their effort and let's hope we are right."

RESULT: The mission had to be aborted because the appropriate TRAP was unavailable to support Framowitz delivery at that location; by the time it was redistributed from a nearby location, the mission window was missed.

The preceding scenario was excerpted, in its entirety, from the sourced article. In its introduction, Colonel Blazer and Mr Zimmerman made the following comment:

Does this sound like a farfetched horror story? It could happen today. Usually, because of dedicated heroics by Air Force personnel, the Air Force is able to avoid serious errors in decision making related to logistics support capability.

There are some serious problems, however, some of which must be overcome by changing the way in which capability assessments are performed within the logistics community.

Sources: Col Douglas Blazer, USAF, and Donald L. Zimmerman, "The Air Force Logistics Assessment Architecture," *Air Force Journal of Logistics*, Winter 1991, 12.

Glossary

AFLC	Air Force Logistics Command
AFM	Air Force manual
AFMC	Air Force Materiel Command (formerly Air Force Logistics Command)
ALC	Air Logistics Center
AMP	annual materiel plan
AUTODIN	automatic digital network
AWP	awaiting parts
CAMS	core automated maintenance system
CAO	contract administration office
CAS	contract administration services
CD-ROM	compact disk, read-only memory
CIT	consumable item transfer
CONUS	continental United States
COPS	Commodity Oriented Procurement System
CSA	combat support activity
CTDF	contracting technical data file
CTOL	cataloging tools on line
CWS	document identifier code on the Weapon System Summary Status Report Transaction (F-112)
DASC	Defense Administrative Support Center
DBP	Direct Buy Program
DCMC	Defense Contract Management Command
DCN	Defense Logistics Agency Corporate Network
DCSC	Defense Construction Supply Center
DDR-C	Defense Distribution Region Central
DDR-E	Defense Distribution Region East
DDR-W	Defense Distribution Region West
DESC	Defense Electronics Supply Center
DFSC	Defense Fuel Supply Center
DGSC	Defense General Supply Center
DIC	document identifier code
DIIP	Defense Inactive Item Program
DIPEC	Defense Industrial Plant Equipment Center
DISC	Defense Industrial Supply Center
DLA	Defense Logistics Agency
DLAH	Defense Logistics Agency handbook
DLAM	Defense Logistics Agency manual

DLA-O	Defense Logistics Agency, Directorate of Supply Operations
DLAR	Defense Logistics Agency regulation
DLIS	Defense Logistics Information System
DLMS	Defense Logistics Management System
DLSC	Defense Logistics Service Center
DMR	Defense Management Review
DMRD	Defense Management Review decision
DNSC	Defense National Stockpile Center
DOD	Department of Defense
DPSC	Defense Personnel Support Center
DRAMA	Data Review, Analysis, and Monitoring Aid
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSA	Defense Supply Agency
DSAC	DLA Systems Automation Center
DSC	Defense Supply Center
ESOC	Emergency Supply Operations Center
FCS	Federal Catalog System
FED LOG	federal logistics (data system)
FIIG	Federal Item Identification Guide
FY	fiscal year
GAO	General Accounting Office
GNP	gross national product
GS	General Schedule
GSA	General Services Administration
ICC	item category code
IIR	inactive item review
IPE	industrial plant equipment
IRP	inventory reduction plan
ISI	Information Sciences Institute
IWSM	integrated weapon system management
JCS	Joint Chiefs of Staff
LMS	Logistics Management System
LOGRUN	Logistics Remote Users Network
LSAR	logistics support analysis record
MAJCOM	major command
MDS	Memphis Distribution Site
MEDALS	Military Engineering Data Asset Locator System

MICAP	mission capability
MILSTRIP	military standard requisitioning and issue procedures
MPT	management policy table
MPTT	management policy table transaction
NIR	national inventory record
NSA	National Security Act
NSN	national stock number
NSO	numeric stockage objective
OEM	original equipment manufacturer
ONF	One Name Federal Item Identification Guide
OPC	Operation Provide Comfort
OSD	Office of the Secretary of Defense
PM	program manager
PMRP	precious metals recovery program
POM	Program Objectives Memorandum
QFD	quarterly forecast of demand
RCS	Reports Control System
RDD	required delivery date
REMIS	Reliability and Maintainability Information System
RFSC	reason for study code
R&M	reliability and maintainability
SAMMS	Standard Automated Materiel Management System
SAMMSTEL	Standard Automated Materiel Management System Telecommunications
SIWSM	Secondary Item Weapon System Management
SM	system manager
SPR	special program requirement
SQL	standard query language
SSC	supply status code
SSR	supply support request
TOC	transaction origination code
TQM	Total Quality Management
VRC	violation reason code
VSL	variable safety level
WSAC	weapon system advice code
WSDB	weapon systems data base
WSDC	weapon system designator code

WSEC	weapon system essentiality code
WSIC	weapon system indicator code
WSIF	weapon system item file
WSMC	weapon system management code
WSMIS	Weapon System Management Information System
WSSC	weapon system status code
WSSP	Weapon Systems Support Program
WSUM	weapon system users manual