AD-A050 683 OFFICE OF THE CHIEF OF ENGINEERS (ARMY) WASHINGTON D --ETC F/G 15/5
SECURITY ASSISTANCE REPAIR PART SUPPORT. VOLUME II. ANNEX A.(U)
APR 77 W K GAY, W J BURKE, J H TATE

UNCLASSIFIED T-27787-VOL-2 NL

1 OF 3
AD A050683

SECURITY ASSISTANCE REPAIR PART SUPPORT

VOLUME II

Prepared by
Engineer Studies Group
Office, Chief of Engineers
Department of the Army

April 1977

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER (14) IR-27787-Vol-2	2. GOVT ACCESSION NO. DA 724334	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) (6) Security Assistance Repair Part Support. Volume II. Annex A.		5. TYPE OF REPORT & PERIOD COVERED (9) Final Report. Mar 76-Apr 77
		6. PERFORMING ORG. REPORT NUMBER None
7. AUTHOR(s) (10) William K. Gay, William J. Burke Mr. James H. Tate		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Engineer Studies Group 6500 Brookes Lane, Washington, DC 20315		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS NA
11. CONTROLLING OFFICE NAME AND ADDRESS Headquarters, Department of the Army Office of the Deputy Chief of Staff for Logistics Director of International Logistics		12. REPORT DATE (11) Apr 77 13. NUMBER OF PAGES 388 (12) 222p.
14. MONITORING AGENCY NAME & ADDRESS (If different from Controlling Office) NA		15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE NA

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

DDC RECEIVED MAR 2 1978 F

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

NA

18. SUPPLEMENTARY NOTES

NA

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Repair Part Support	FMS	Security Assistance
Material Support	LOGMAP	International Logistics

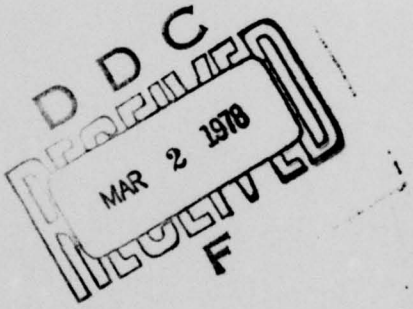
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Weapon systems in the international logistics (IL) community have increased so much that DA questioned the US ability to provide repair part support without diminishing US readiness. This study answers that question by analyzing US industrial base capabilities and the IL repair part program. It also evaluates methods of projecting military hardware system supportability. Three major conclusions are made: US industrial capability is adequate, IL repair part program management must be improved to cure problems in repair part support, and there are unexploited methods for looking ahead at military hardware system supportability. Comprehensive recommendations for improvements are made.

FORM 1473 EDITION OF 1 NOV 65 IS OBSOLETE 401 192 JOB UNCLASSIFIED

SECURITY ASSISTANCE REPAIR PART SUPPORT

VOLUME II

(ANNEX A)



Prepared by
Engineer Studies Group
Office, Chief of Engineers
Department of the Army

April 1977

"The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents."

CONTENTS

VOLUME II

	Page
CONTENTS	iii
LIST OF ABBREVIATIONS	v
ANNEX A--INTERNATIONAL LOGISTICS (IL) REPAIR PART PROGRAMS	A-1
APPENDIX A-1--US REPAIR PART PROGRAM CONCEPTS DESCRIBED FOR NONLOGISTICIANS	A-1-1
APPENDIX A-2--IL IMPACTS ON REPAIR PART SUPPORT TO US FORCES	A-2-1
TAB A--SPECIAL ESG INDICATOR CHARTS	A-2-A-1
TAB B--SPECIAL ESG INDEX CHARTS	A-2-B-1
APPENDIX A-3--COMMERCIAL DIRECT SALES (CDS)	A-3-1
TAB A--STATISTICS ON CDS	A-3-A-1

VOLUME I

MAIN PAPER

VOLUME III

ANNEX B--WEAPON SYSTEM SUPPORTABILITY

APPENDIX B-1--EVALUATION OF SUPPORTABILITY OF SELECTED PARTS

APPENDIX B-2--INDUSTRY APPRAISAL

ANNEX C--BIBLIOGRAPHY

LIST OF ABBREVIATIONS

AAO	authorized acquisition objective
ACSI	Assistant Chief of Staff for Intelligence
ADP	Automatic Data Processing
AGI	annual general inspections
ALMC	US Army Logistics Management Center
ALMSA	Automated Logistics Management Systems Agency
ALT	administrative leadtime
AMASM	Army Military Assistance and Sales Manual
AMD	average monthly demand
AMDEX	Army Maintenance Data Exchange System
AMDF	Army Master Data File
AOD	area oriented depot
AOQ	authorized operating quantity
APC	armored personnel carrier
APOM	Army Program Objective Memorandum
AR	Army Regulation
ARCSIP	Automated Requirement Computation System--Initial Provisioning
ARMCOM	US Army Armaments Command
ASA	Assistant Secretary of the Army
ASACG	Army Security Assistance Coordinating Group
ASAP	as soon as possible
ASD(ISA)	Assistant Secretary of Defense (International Security Affairs)
ASF	Army Stock Fund
AVSCOM	US Army Aviations Command
BLS	Bureau of Labor Statistics (US Department of Labor)
B/O	backorder
BOE	blanket open end agreement
CAA	Concepts Analysis Agency
CASA	Coordinator for Army Security Assistance
CCP	collection and consolidation point
CCSS	Commodity Command Standard System
CDS	commercial direct sales
CG	Commanding General
CIA	Central Intelligence Agency
CISIL	Central Integrated Systems International Logistics
CLRTX	Command Logistics Review Team Extended
CLSSA	Cooperative Logistics Supply Support Agreement
COA	Comptroller of the Army
COCP	customer order control point

CONUS	Continental United States
CRDD	commitment required delivery date
CSA	Chief of Staff, US Army
CSP	concurrent spare parts
DA	Department of the Army
DAAS	Defense Automatic Addressing System
DAMPL	Department of the Army Master Priority List
DARCOM	US Army Materiel Development and Readiness Command
DA STD	Department of the Army Standard
DCSLOG	Deputy Chief of Staff for Logistics
DESCOM	Depot Support Command
DIA	Defense Intelligence Agency
DIL	Director of International Logistics
DLA	Defense Logistics Agency
DOD	Department of Defense
DON	demand order number
DPPG	Defense Program Planning Guidance
DRC	see DARCOM
DRD	Demand Return and Disposal File
DSA	Defense Supply Agency
DSAA	Defense Security Assistance Agency
DSS	Direct Support System
DSU/GSU	direct support unit/general support unit
DX	direct exchange
ECOM	US Army Electronics Command[1/]
EDS	equipment distribution system
EOH	equipment on hand
EOQ	economic order quantity
EOR	Equipment Operationally Ready
ES	equipment serviceability
ESG	Engineer Studies Group
FAD	force activity designators
FMAC	Financial Management Advisory Committee
FMC	Food Machine Corporation
FMS	foreign military sales
FMSO	foreign military sales order
FORDAD	Foreign Disclosure Automated Data System
FY	fiscal year
GA	grant aid
GAO	General Accounting Office
GSA	General Services Administration

1/ ECOM was redesignated ERCOM (US Army Electronics Readiness Command) shortly after the information cut-off date for this study.

IIQ	initial issue quantity
IL	international logistics
IPD	issue priority designator
IPG	Issue Priority Group
IRO	Inventory Research Office
ITAD	Intelligence Threat Analysis Detachment
JCS	Joint Chiefs of Staff
JLC	Joint Logistics Commander
LIF	Logistic Intelligence File
LOA	letter of offer and acceptance
MAAG	Military Assistance Advisory Group
MACOM	major Army commands
MAD	Material Assistance Designator
MAP	Military Assistance Program
MICOM	US Army Missile Command 2/
MILSCAP	Military Standard Contract Administration Procedures
MILSTEP	Military Supply Transportation Evaluation Procedures
MMD	material management decision file
MRQ	maximum release quantity
MSA	maintenance support agreements
MSAP	Military Security Assistance Projection
MSC	DARCOM major subordinate command
NASA	National Aeronautics and Space Administration
NCAD	New Cumberland Army Depot
NDP	National Disclosure Policy
NICP	national inventory control point
NORM	not operationally ready maintenance
NORS	not operationally ready supply
NSN	national stock number
NSNMDR	national stock number master data record
OACSI	Office, Assistant Chief of Staff for Intelligence
OASD(ISA)	Office, Assistant Secretary of Defense (International Security Affairs)
OBRA	Office of Business Research and Analysis
OCSA	Office, Chief of Staff, US Army
ODCSLOG	Office, Deputy Chief of Staff for Logistics
ODCSOPS	Office, Deputy Chief of Staff for Operations and Plans
ODCSRDA	Office of the Deputy Chief of Staff for Research, Development, and Acquisition
OMA	operation and maintenance, Army
OP Code	ownership purpose code

2/ MICOM was redesignated MIRCOM (US Army Missile Readiness Command) shortly after the information cut-off date for this report.

PAA	Procurement Appropriations, Army
P&B	price and budgeting
PCF	program change factor
PCLTR	procurement cycle leadtime requirement
PCR	procurement cycle requirement
PDF	program data file
PEMA	procurement of equipment and missiles, Army
PLT	production leadtime
PM	project manager
POC	point of contact
POD	point of debarkation
POE	point of embarkation
POM	Program Objective Memorandum
P&P	procurement and production
PPBS	Planning, Programming, and Budgeting System
PROMS	Procurement Management System
PROT-IPD-H	protected for issue priority designators--high
PROT-IPD-L	protected for issue priority designators--low
PWD	procurement work directive
PWRMO	protectable war reserve material objective
RAM-D	reliability, availability, maintainability, and dependability
RCS	report control symbol
RCYR	repair cycle requirement
RDD	required delivery date
RDES	requirements determination and execution system
RDT	requirements determination time
RDTE	research, development, test, and evaluation
RDTR	requirements determination time requirement
RECAP	Review and Command Assessment of Programs
REOR-PT	reorder point
RO	requirements objective
ROID	Report of Item Discrepancy
SA	Secretary of the Army
SAMPAP	Security Assistance Master Planning and Phasing Worksheets
SCR	system change request
SECDEF	Secretary of Defense
SIC	Standard Industry Classification
SIMS-X	Selected Item Management System Extended
SL	safety level
SLAC	support list allowance card
SMGC	supply management grouping codes
SMGD	supply management grouping designators
SSA	see CLSSA

TARCOM	US Army Tank and Automotive Readiness Command
TROSCOM	US Army Troop Support Command
UMMIPS	Uniform Military Materiel Issue Priority System
UPZ	(foreign military sales contract designator for Jordan HAWK sale in 1976)
US	United States
USAAA	US Army Audit Agency
USAF	US Air Force
USAILCOM	US Army International Logistics Command
USAREUR	United States Army, Europe
VSL	variable safety level
WFO	Washington Field Office
WLRR	wholesale level replenishment requirement

ANNEX A

INTERNATIONAL LOGISTICS (IL) REPAIR PART SUPPORT PROGRAMS

ANNEX A

INTERNATIONAL LOGISTICS (IL) REPAIR PART

SUPPORT PROGRAMS

Section		Page
I	INTRODUCTION	
	Purpose	A-3
	Scope	A-3
	Background	A-3
	Methodology	A-8
II	IL IMPACTS ON REPAIR PART SUPPORT TO US FORCES	
	Production or Management	A-8
	FMS Impacts	A-9
	CDS Impacts	A-11
III	POLICIES, PROCEDURES, AND FUNCTIONAL RESPONSIBILITIES	
	The US Army Supply System--The Base Case	A-11
	The US Initial Provisioning Program Compared to the IL CSP--Forming and Filling the Supply Pipeline	A-12
	The US Replenishment Program Compared to IL Cooperative Logistics Supply Support Agreements (CLSSA)--Keeping the Supply Pipeline Filled	A-23
	US Special Programs Compared to the FMS Defined-line Case Program--Adding A Little Extra to the Pipeline	A-38
	US Depot Overhaul Programs Compared to Maintenance Support Agreements (MSA)--The "Recurring" Special Program	A-42
	Blanket Open End (BOE) Programs--The Discount SSA	A-43
	Grant Aid (GA) Programs	A-45
	The Total Repair Part Support Program--Integrating the Individual Support Programs	A-45
	Defense Logistics Agency Interfaces	A-48
IV	IL PROGRAM REVISIONS	
	The Rationale	A-50
	The New Policy	A-51
	The Vehicles	A-61

Section		Page
V	CONCLUSIONS AND RECOMMENDATIONS	
	Conclusions	A-67
	Recommendations	A-68

Figure		
A-1	Historical Summary of Significant Events Involving FMS Repair Part Programs	A-4
A-2	Initial Provisioning Requirements Determination	A-13
A-3	Issue Search Matrix Logic	A-18
A-4	Permitted Customer Penetrations of General Purpose Assets	A-19
A-5	USAILCOM Issue Priority Designator Assignment for CSP Requisitions	A-20
A-6	Replenishment Requirements Objective and Total Requirement Determination	A-25
A-7	FMSO1 Requirement Determination Problems	A-30
A-8	FMS Defined-line Case Titles	A-39
A-9	Recommended Policies Concurrent Spare Part Program	A-54
A-10	Recommended Policies Cooperative Logistic Supply Support Agreement	A-55
A-11	Recommended Policies FMS Defined-line Programs	A-58
A-12	Recommended Policies Blanket Open End Agreements	A-60
A-13	Executive-level Milestone Chart for FMS Management Plan	A-64
A-14	FMS Management Plan Activity Schedule	A-65

APPENDIX A-1--US REPAIR PART PROGRAM CONCEPTS DESCRIBED FOR NONLOGISTICIANS	A-1-1
APPENDIX A-2--IL IMPACTS ON REPAIR PART SUPPORT TO US FORCES	A-2-1
TAB A--SPECIAL ESG INDICATOR CHARTS	A-2-A-1
TAB B--SPECIAL ESG INDEX CHARTS	A-2-B-1
APPENDIX A-3--COMMERCIAL DIRECT SALES (CDS)	A-3-1
TAB A--STATISTICS ON CDS	A-3-A-1

I. INTRODUCTION

1. Purpose. This annex analyzes US Army policies, procedures, and functional responsibilities for IL repair parts support programs to determine if these programs function without adverse impact on US forces. Corrections and/or improvements are recommended.

2. Scope. This annex:

a. Analyzes logistics management indicators to determine if IL repair part programs have had any adverse impact on repair part support to US forces.

b. Examines all IL and US repair part support programs in terms of program objectives, requirements forecasting and asset management, financial management, and performance measurement.

c. Examines functional responsibilities for integrating separate repair part support programs into a "total" support program.

d. Evaluates CDS impacts on repair part support to US forces and the DA ability to routinely detect and control these impacts.

3. Background.

a. Many studies/directives published in the past 24 months have proposed methods of correcting problems related to IL customer use of the US supply system (Figure A-1). Progress in coordinating and implementing the proposed corrections has been slow considering the magnitude of the potential adverse impacts on US force readiness. Slow progress occurred because the documents were distributed at different

HISTORICAL SUMMARY OF SIGNIFICANT EVENTS INVOLVING FMS REPAIR PART PROGRAMS

Date	Event	Required/Recommended Actions Or Comments	Responsible Organization Level	Status as of 15 Jan 77
May 1975	Deputy Secretary of Defense (SECDEF) changes CLSSA guidance.	All services directed to prepare to manage CLSSA program on a dollar value basis.	DA Staff	On 5 Nov 76, DOD directed immediate full implementation of CLSSA dollar value management. The US Army does not currently have a comprehensive set of implementable CLSSA instructions. (34)[a/]
October 1975	Army Security Assistance Study completed by Director of Management, Office, Chief of Staff, US Army (OCSA). (77)	Many excellent recommendations were made. CSA required specific action. Of note is the requirement to develop a total package approach to FMS and develop a methodology for better assessment of FMS impacts.	DA Staff	The US Army still does not have a formal total package program. Except for self-initiated action at MICOM, no effort was detected at operational levels to indicate FMS impact assessments are made.
November 1975	USAAA Audit Report No. EC 76.407 completed on DARCOM customer order control program. (Note: May 76 USAAA followup audit noted DARCOM after 1 year of effort did not have program fully operational.) (78)(87)	Deficiencies were cited in DARCOM ability to control and process requisitions in a timely manner and to ensure reimbursement under customer order program. Customer order control point (COCP) shortfalls result in Army funds being spent on material for other US/IL customers.	DARCOM	Program now works for end items, but indications are that problems still exist for repair part orders. DARCOM Internal Review will conduct audit in Feb 77.
March 1976	Security Assistance Logistics Support Study completed by US Army Logistics Management Center (ALMC) Inventory Research Office for USAILCOM. (112)	Numerous excellent recommendations were made to improve/correct IL repair part programs and assess IL impacts.	USAILCOM	Due to change of POC at sponsor level, no definite status could be determined. It appears only a small portion of the potential benefit from this excellent study was realized.

(Figure A-1 Continued on Next Page)

HISTORICAL SUMMARY OF SIGNIFICANT EVENTS INVOLVING FMS REPAIR PART PROGRAMS--Continued

Date	Event	Required/Recommended Actions or Comments	Responsible Organization Level	Status as of 15 Jan 77
June 1976	Financial Management Advisory Committee Report on the US Army's Procurement Appropriations completed for the Secretary of the Army (SA). (45)	The FMS section concluded "... the Committee does believe that the complexities of the customer order control program, the inherent risks to the Army's direct program and the indicated continuation of the high level of customer activity warrants serious consideration of the basic problems which it is believed will be confronted by the Army. We observe no activity that would suggest such long-range matters are receiving the priority or depth of study and planning believed to be essential."	ASA	Action plan being implemented by Comptroller of the Army (COA). Several actions already completed. Financial Management Advisory Committee (FMAC) was presented updated status in Nov 76.
June 1976	MICOM notifies USAILCOM of serious implementation problems inherent in CLSSA dollar management concept and requests guidance.	MICOM offers to host seminar to resolve problems.	DARCOM/ USAILCOM	In Dec 76, MICOM believing to be in violation of the law, stopped buying CLSSA "pipelines." Six new cases were affected.
July 1976	Draft study on Organizational Missions, and Procedures Used in Support of the DARCOM IL.	The study concluded: "There is no standard structure/ management system within the DARCOM MSCs dedicated to the	USAILCOM	Sponsor concurred with findings in Oct 76. Corrective action plan to be developed upon receipt of final published study.

(Figure A-1 Continued on Next Page)

HISTORICAL SUMMARY OF SIGNIFICANT EVENTS INVOLVING FMS REPAIR PART PROGRAMS--Continued

Date	Event	Required/Recommended Actions or Comments	Responsible Organization Level	Status as of 15 Jan 77
	program completed by ALMC, Logistics Studies Office for USAILCOM. (100)	execution of the DARCOM IL mission. The organizational missions, functions, and procedures...contain imprecise and equivocal language. With the exception of one MSC, TROSCOM, the documents are verbose and some of the material contained in them is invalid." A recommendation to correct this shortcoming was made.		
July 1976	ODCSLOG engages contractor to revise FMS Army Regulations (ARs).	Numerous policy changes had invalidated existing ARs. The audit trail of changes was becoming obscured.	DA Staff	Initial draft ARs completed. An ESG review of draft AR concluded that although a significant improvement over present FMS policy, the repair part support section would not meet DA needs. DARCOM/USAILCOM will not revise implementation AR until after receipt of policy AR. MSCs currently do not have clear guidance. (63)

a/ Numbers in parentheses refer to bibliographic references in Annex C, Volume III.

Figure A-1

levels, circulated in different channels, and generally specialized in subject. This combination of circumstances delayed integration of recommendations into a comprehensive plan for correcting or improving IL programs. Thus, this study proves a useful vehicle for resurfacing these recent recommendations so they may be incorporated in action plans along with the independent recommendations made in this study.

b. The circumstances leading to discovery of the events documented in Figure A-1 and other recommendations developed in this annex evolved as follows:

(1) The requirements determination process was identified as the heart of the supply system. Therefore, US and IL policies and procedures for determining total requirements had to be reviewed before ESG could test the capabilities of various US industrial sectors to satisfy combined US and IL requirements.

(2) Review of FMS policies and procedures found confusion at all US Army levels about "how," "why," and "who" makes IL programs operate as they do. The review process was complicated by the absence of an audit trail of changes to the outdated FMS regulations.

(3) The underlying attitude at all levels seemed to be the "IL is different." Most operational level workers believe IL support is a "political" program exempt from the sound material management procedures used in the US supply system. To emphasize this point, MSC workers repeatedly cited differences between policies and procedures

for US and IL repair part support programs. As document research and interviews continued, the differences between US and IL program designs became increasingly noticeable and seldom justifiable.

(4) Review of the products of the Joint Logistic Commanders (JLC) IL Standardization Committee provided little explanatory information. The wording of the JLC agreements is very general. Interviews with US Navy and USAF representatives identified that each service under the guise of "standardized" instructions was really operating with different procedures. (94)

4. Methodology. The design of each repair part support program is analyzed in relation to its own specific program objectives and compatibility with the total US supply system. Knowing that it is possible within the US supply system to prepare a "total program" of repair part support which permits successful deployment of a weapon system, analogous US and IL programs were compared to identify if IL programs can also be integrated into a "total program." The term "program" rather than "package" is used to emphasize support is continuous and affects the supply system for years. A "package," on the other hand, implies something is formed once and forgotten.

II. IL IMPACTS ON REPAIR PART SUPPORT TO US FORCES

5. Production or Management. This study was originally chartered to determine if combined US and IL repair part demands would overtax US industrial capacity. Early in the project, the task of determining the

adequacy of IL program policy and procedures to prevent adverse US impacts was added. It was soon concluded that at no time in the next 5 years will the combined IL and US demands for repair parts present a challenge to US industrial capabilities. (See Volume III, Annex B.) However, an adverse IL impact on US repair part support was found. That adverse impact results from shortfalls in current IL program policies and procedures.

6. FMS Impacts. In this section, the title FMS includes all government-to-government foreign repair part sales involving the US supply system. (See Appendix A-2 for a more detailed discussion.)

a. ESG could not find any recurring management indicators at any organizational level capable of identifying IL impacts--good or bad--on the US supply system. In addition, ESG could not find any recurring indicators capable of identifying the extent of IL repair part involvement in the US supply system. (See Appendix A-2.) As a result, ESG developed two special sets of indicators to surface IL impacts. One set is a simple reconfiguration of standard MILSTEP data by fund (i.e., Army Stock Fund or Procurement Appropriations, Army (PAA) secondary) and customer category. The other set is also generated from MILSTEP. Data are combined to form an index which in each case permits the manager to read directly incremental IL increases to US supply system activity over what would have occurred had only US forces used the system. Each index display is stratified by fund category. (See Tabs A and B to Appendix A-2).

b. Neither set of ESG special indicators conclusively identified an adverse IL impact on US forces. However, the special indicators provided a visibility of IL repair part activity in the US supply system that could be found nowhere else (see Figure A-2-12). As a result, ESG could translate the consequences of various shortcomings in IL policies, procedures, and functional responsibilities into impacts on the US system by comparing each shortcoming against the magnitude of IL activity in the US system affected by that shortcoming. Based on this type of analysis, ESG concluded:

(1) IL repair part programs have adversely impacted the quality of repair part support to US forces. Impact severity, although not serious enough to reduce US readiness, almost certainly decreased US readiness improvement rates. Adverse impacts result from shortcomings in IL program policies, procedures, and functional responsibility assignments and not from IL customer actions. The adverse IL impacts on support to US forces occurred in three ways. First, US assets have been prematurely released. Second, US financial flexibility in material management processes has been restricted. Third, turbulent IL demand patterns have disrupted US requirements forecasts and diverted management attention from general supply system activities to IL-peculiar "fire-fighting." (See Figure A-2-9.) Impact intensity varies significantly between MSCs.

(2) Management indicators presently used by DARCOM and USAILCOM are not adequate for determining when IL impacts positively or negatively on the US supply system. Data to prepare additional indicators exist in MILSTEP but are not currently used.

(3) Future adverse IL impacts on support to US forces could be prevented if US and IL management reviews were conducted jointly using MILSTEP indicators and the ESG special indicators. This procedure would permit better overall supply system management through an appreciation of how IL customers use the US supply system.

7. CDS Impacts. CDS impacts on repair part support to US forces have been adverse only on an exceptional basis and probably only in the HAWK and M113 armored personnel carrier (APC) weapon systems. Current management and control procedures are not adequate to routinely detect and prevent such adverse impact. Shortfalls in this area are easily correctable using resources at hand. Appendix A-3 provides a detailed discussion of CDS.

III. POLICIES, PROCEDURES, AND FUNCTIONAL RESPONSIBILITIES

8. The US Army Supply System--The Base Case. In order to determine if IL repair part support programs are adequate, it is necessary to understand the basic principles of US programs. This "return to the basics" philosophy identified the specific IL program design shortfalls found in this study. Appendix A-1 describes basic US repair part program concepts.

Readers not familiar with US programs are encouraged to read all of Appendix A-1 or at least paragraphs 4b and 4f before continuing with this annex.

9. The US Initial Provisioning Program Compared to the IL CSP--Forming and Filling the Supply Pipeline.

a. Program objectives.

(1) US initial provisioning provides an on-hand operating stockage and appropriate on-order backup of organizational through general support maintenance category repair parts, special tools, and ancillary test equipment, at user through wholesale supply levels. The "supply pipeline" thus formed is the basis for the US replenishment program.

(2) IL concurrent spare parts provide for "initial support of major end items pending the establishment of sustaining support." DA policy does not require that CSP act as the basis of a specific sustaining program (i.e., replenishment). A policy requiring that CSP computations include special tools and ancillary test equipment was being developed in January 1977. It is not yet implemented.

b. Requirements determinations and asset management.

(1) US initial provisioning requirements compute a worldwide provisioning objective (Figure A-2). Repair part peculiarities (i.e., shelf life, operational essentiality, and insurance levels), actual major Army commands (MACOM) subordinate unit geographical

INITIAL PROVISIONING REQUIREMENTS DETERMINATION (35)
(Worldwide Provisioning Objective)

OTHER SPECIAL REQUIREMENTS	. Provides for special explicitly defined demands.
AUTHORIZED OPERATING QUANTITY (AOQ)	. Provides initial operating stock to the user. . AOQ (initial operating stock quantity in months) x (demand rate) x (support program).
INITIAL ISSUE QUANTITY (IIQ)	. Provides initial stockage to all intermediate and retail level stockage points. . IIQ (order-ship time to bring part forward from wholesale level) x (demand rate) x (support program).
WHOLESALE LEVEL REPLENISHMENT REQUIREMENT[a/] (WLRR)	. Provides on-hand and on-order wholesale-level backup stocks . For consumable parts, this is equal to the replenishment procurement cycle leadtime requirement (PCLTR). . For reparable parts, this is equal to the replenishment repair cycle requirement (RCYR).
SAFETY LEVEL (SL)	. Objective of requirement is to prevent minor interruptions of replenishment caused by demand fluctuations. . SL = (safety level in months) x (demand rate) x (support program).
PROTECTABLE WAR RESERVE MATERIAL OBJECTIVE (PWRMO)	. See Concepts Analysis Agency (CAA) study reference. (89) . This quantity is not pertinent to this study.

a/ This quantity is procured for the initially programed equipment deployment and for additional deployments in excess of 25 percent of the original program.

Figure A-2

distributions, and equipment deployment schedules are considered to tailor an authorized operating quantity (AOQ) and an initial issue quantity (IIQ) requirement compatible with physical operational constraints (e.g., United States Army, Europe (USAREUR) and Continental United States (CONUS) requirements are different). Individual US customer requirements are combined to form a wholesale level replenishment and safety level (SL) requirement completing a "pipeline" to user level. Requirement computations are performed by the CCSS subroutine called the Automated Requirements Computation System--Initial Provisioning (ARCSIP). Automated Logistics Management Systems Agency (ALMSA) is implementing ARCSIP computational improvements developed by the DARCOM Inventory Reasearch Office (IRO). US provisioning assets are reserved in special ownership codes and released when the major end items are fielded. (15)(51)

(2) IL CSP requirements determinations involve presentation of an MSC-proposed requirement support list allowance card (SLAC) deck to the IL customer. The DA policy of a minimum requirement of 12 months of supply has developed into a standard practice. Since CSP computations are not related to physical restraints in the customer's supply system or to any replenishment program, the resulting CSP operating stockage is usually too small, and a supply pipeline is never formed. The IL customer adjusts the MSC proposal up or down as desired to establish the final requirement. Although no statistics are kept on the topic, one knowledgeable USAILCOM representative thought that over 90 percent of accepted CSP cases are accepted as is. (90)

(a) Package shipments represent an attempt to relate CSP requirements to actual customer needs. The customer identifies how many of each part are to be delivered to a particular in-country location. Individual parts, as available from the different MSCs, are "picked and packed" into distinct consolidated shipments at a US depot. Thus, a partial solution for establishing AOQ and IIQ requirements is provided. However, a "pipeline" is still not formed. Only MICOM uses package shipments. In March 1977, after depot coordination problems are resolved, USAILCOM-NCAD (New Cumberland Army Depot) will assume responsibility for all CSPs and will offer package shipments from all MSCs. Package shipments should so vastly improve quality control of CSP shipments and overall end item deployments that they should be made mandatory if storage costs are not found exorbitant.

(b) An ALMSA programer familiar with ARCSIP developed on his own initiative a systems change request (SCR) tasking his own office to revise CSP computations so they are based on the same rationale as US initial provisioning. The SCR was approved by USAILCOM in December 1976 after consultation with IRO. If given adequate priority, the SCR could be implemented in July 1977 simultaneously with ARCSIP changes. Of note here is that the entire management/organizational hierarchy for developing such a change in IL support program design was inverted. Higher level offices were involved with "quick fixes" to daily operations rather than perceiving the conceptual shortfalls in CSP design. To permit

this CSP SCR to fully correct CSP computations, ODCSLOG must make a firm policy statement that the wholesale level replenishment requirement portion of the CSP will act as the basis of the replenishment program selected by the IL customer. This policy will permit the establishment of a supply pipeline under CSP just as occurs in US initial provisioning.

(3) IL CSP asset management is driven by the CRDD established for the case. The CRDD is established at MSC level in months of leadtime. The CSP CRDD must be 60 days earlier than the end item CRDD. When the case is signed, the CRDD in months is converted into a calendar date. At least 75 percent of the CSP must be offered for shipment by the CRDD. Unless special arrangements are made (a knowledgeable USAILCOM representative stated they seldom are), individual parts will be released randomly as available, and not held until the CRDD for consolidated shipping. Thus, the customer is left to identify and distribute the parts as they trickle into country. (64)(65)

(a) MSCs do not have standard procedures for the important CRDD determination process. MICOM sets the CRDD equal to the actual part production leadtime (PLT). TARCOM checks actual PLT only for PAA-funded parts. All ASF parts are given a standard 18-month CRDD. Since it is not known when in the procurement cycle (i.e., just before or just after the last procurement action) the CSP requisition enters the US system, all of these CRDD may be too early. It would be more realistic to set the CRDD equal to the full PCLTR, procurement cycle

requirement (PCR), requirement determination time (RDTR), plus COCP and package shipment processing time delays. (See Figure A-6.) Additionally, if the customer returns the SLAC deck late, as MICOM states is not uncommon, definite procedures should exist for separating the CSP CRDD from the end item CRDD to permit late CSP delivery. This last procedure forces the "penalty" for poor planning/slow action on the customer where it belongs. Current practices, however, tend to unofficially pressure the supply manager into diverting assets to fill a CSP to prevent the MSC from "looking bad" because the end item was ready and the CSP was not. Assets are released according to the logic shown in Figures A-3 and A-4. The requisition IPD is assigned at USAILCOM according to the logic shown in Figure A-5. CSP and US requisitions become "competitive" for available assets when the CRDD is past.

(b) Effective January 1977, CSP assets were no longer automatically reserved in purpose code N (Ownership Purpose (OP) Code N). Although the reservation option still exists, it must be manually accomplished. All CSP assets are now first going into the general purpose code account (OP A). This policy causes the US system to assume the risk that no procurement problems (e.g., contractor default) will occur with the order that includes the CSP purchase. If something does go wrong with that order and assets are not delivered by the CRDD, the CSP requisition becomes competitive on an IPD basis with US requisitions. The practice of releasing OP A assets to fill CSP orders before the

ISSUE SEARCH MATRIX LOGIC

Type Program	IPD	Ownership Purpose Code[a]	Remarks
FMS	01-15	M	Issue to zero balance.
(Includes CSP, BOE, and defined-line cases)		N	Issue quantity identified in Sector 09 on hand. (Zero balance customer's line).
	01-08	A	Issue to PROT-IPD-H[b] if commitment date is past.
	01-08	A	Issue to REOR-PT[c] if commitment date is not past.
	09-15	A	Issue to REOR-PT.
Grant Aid	01-15	M	Issue to zero balance.
	01-03	A	Issue to zero balance.
	04-08	A	Issue to PROT-IPD-H.
	09-15	A	Issue to PROT-IPD-L.[d]
CLSSA(nonXCol62)	01-15	M	Issue to zero balance.
	01-03	A	Issue to zero balance.
	04-08	A	Issue to PROT-IPD-H.
	09-15	A	Issue to PROT-IPD-L.
	01	F	For JCS project codes only.
	02	F	For NORS only.
CLSSA(Col62=X)	01-15	M	Issue to zero balance if CRDD is past.
		M	Issue to REOR-PT-QTY if CRDD is not past.
CLSSA(Col62=X)	01-03	A	Issue to zero balance if CRDD is past.
	04-08	A	Issue to PROT-IPD-H if CRDD is past.
	09-15	A	Issue to PROT-IPD-L if CRDD is past.
	01-15	A	Issue to REOR-PT-QTY if CRDD is not past.

NOTE 1: The use of "X" in column 62 of an SSA requisition is theoretically determined by USAILCOM-NCAD if the requisition has exceeded the country's annual dollar demand estimate (foreign military sales order two (FMSO2) or the requisition is to support a new SSA contract or a new weapon system added to an existing SSA when sufficient time (average procurement leadtime of 14 months) has not been given the Commodity Commands to procure additional stocks to meet the requirement. Realistically, only the dollar value control can be implemented.

NOTE 2. All Grant Aid (GA), FMS BOE, and SSA requisitions are subject to the maximum release quantity (MRQ) and if requisition quantity is excessive, the requisition is rejected for managerial decision.

a/ OP code definitions:
M = Excess assets above requirements objective.
N = Reserved for FMS.
A = General purpose assets used for US replenishment orders.

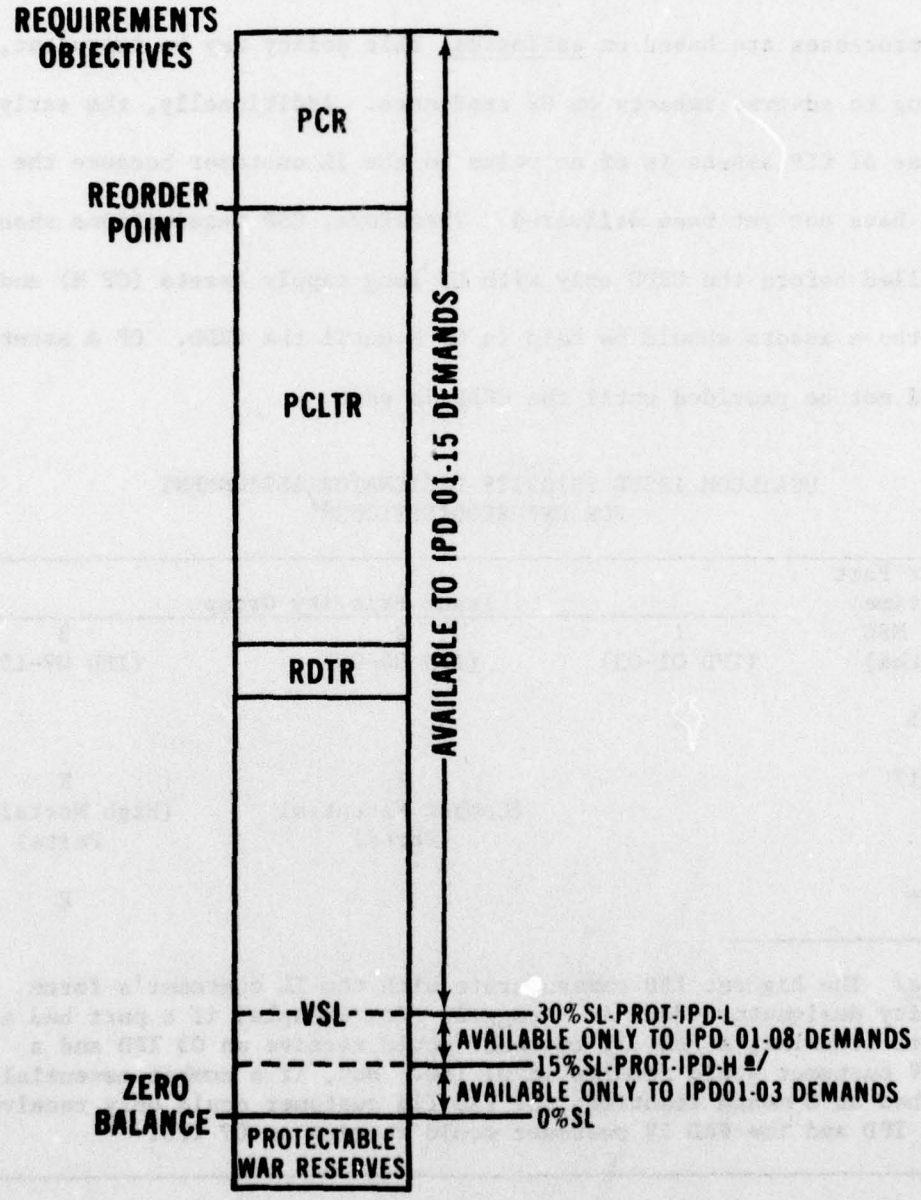
b/ PROT-IPD-H = protected for issue priority designators--high.

c/ REOR-PT = reorder point.

d/ PROT-IPD-L = protected for issue priority designators--low.

Figure A-3

PERMITTED CUSTOMER PENETRATIONS OF GENERAL PURPOSE ASSETS (BY IPD)



a/ CSP, BOE, and defined-line sales theoretically cannot receive assets from below this point.

Figure A-4

CRDD if OP A assets are above the reorder point transfers extra risk to the US supply system. If the procurement and demand forecasting process worked perfectly, this policy would not be disruptive. However, since both processes are based on estimates, this policy may be imprudent, leading to adverse impacts on US readiness. Additionally, the early release of CSP assets is of no value to the IL customer because the end items have not yet been delivered. Therefore, CSP requisitions should be filled before the CRDD only with US long supply assets (OP M) and even those assets should be held in OP N until the CRDD. OP A assets should not be provided until the CRDD is past.

USAILCOM ISSUE PRIORITY DESIGNATOR ASSIGNMENT FOR CSP REQUISITIONS[a/]

Repair Part Leadtime Per MSC (Months)	Issue Priority Group 1 (IPD 01-03)	2 (IPD 04-08)	3 (IPD 09-15)
1-5	X		
6-17		X (Combat Essential Parts)	X (High Mortality Parts)
18+			X

a/ The highest IPD commensurate with the IL customer's force activity designator (FAD) is assigned. For example, if a part had a 5-month leadtime, a FAD III customer would receive an 03 IPD and a FAD IV customer would receive an 07 IPD. But, if a combat essential part had an 8-month leadtime, the FAD III customer could only receive an 04 IPD and the FAD IV customer would receive an 07 IPD.

Figure A-5

c. Financial management.

(1) US procedures for "marrying" funds with a requirement at the right time to ensure on-time parts availability are very deliberate. The provisioning requirement and price estimates are joined to generate a required funding level. Funding levels must be set at least one PCLTR plus one budget cycle before the deployment date. This action ensures fund obligation authority will be available when needed to turn the supply requirement into a procurement action. All budgeting occurs as part of the annual Planning, Programming, and Budgeting System (PPBS) planning cycle. (54)

(2) IL CSP financial management should not affect the US budget because the customer reimburses the US for all assets. However, the reimbursement must be timely and accurate. If not timely, the US will have committed its own funds to purchase the IL asset--thus reducing US financial flexibility in ordering parts for US forces. Reimbursement accuracy in this study refers to replacement pricing. If the US charges the IL customer the price paid for the asset on hand, the US may be cheating itself. Because of inflation, the US will probably have to pay a higher price to replace the asset. This in effect results in US funds being used to support IL. Efficient COCP operations should prevent IL from adversely impacting on the US in either of these areas. Since it was known COCP operations were not effective in the FY 75-FY 76 time frame, IL sales definitely degraded support to US forces. Indications are that COCP repair part operations are not yet efficient enough to prevent this impact. One indication is that MSCs do not have a standard method

of determining replacement pricing. Also, many MSC supply managers commented that the COCP held requisitions too long while determining if the IL customer had adequate funds on hand to cover the order. This time delay directly impacts on MSC ability to have CSP assets available by the CRDD. MICOM has a simple realistic method for setting replacement pricing. MICOM is also trying to automate COCP operations. The MICOM method for replacement pricing involves applying a blanket 19.86 percent inflation surcharge on all IL PAA orders and charging the current Army Master Data File (AMDF) price for ASF parts. The PAA inflation surcharge was developed by the MICOM controller. ASF-AMDF prices are automatically inflated annually and thus are always close to the replacement cost. All MSCs should adopt the MICOM method. Additionally, ODCSLOG should develop a pricing policy for situations where the replacement cost is less than the original purchase cost.

d. Performance measurement.

(1) The success of US initial provisioning is evaluated by comparing actual to scheduled equipment deployments. Any variance in this critical activity always receives high-level intensive management by the weapon system project manager. Additionally, these requisitions are included in MILSTEP performance measurements. Poor performance can be detected by noting how many requisitions placed on backorder were past the CRDD.

(2) Although the CSP is the only IL initial provisioning program and, as such, should be the cornerstone of the "total" support

program, no performance measurement or analysis of CSP program effectiveness was found at MSC, DARCOM/USAILCOM, or DA level. CSP performance receives attention only when an end item delivery is delayed. USAILCOM could not provide any information on CSP cases without manually examining thousands of case folders. This difficulty results from CSP cases being considered part of a large program category called FMS defined-line cases. If a commodity or service can be described as a separate contract line, it can be included in such a case. A single case may therefore include the sale of several equipment types listed as separate lines, a CSP line, a training line, a training material line, or a quality assurance team line. It will never be possible to truly manage these programs until they are provided individual program identity.

10. The US Replenishment Program Compared to IL Cooperative Logistics Supply Support Agreements (CLSSA)--Keeping the Supply Pipeline Filled.

a. Program objectives.

(1) US replenishment programs keep the supply pipeline formed during initial provisioning filled and automatically adjusted in magnitude to remain responsive to demands caused by normal field unit operations. (54)

(2) IL CLSSAs should, during peacetime, meet the same objectives for IL customers as replenishment programs do for US forces by permitting common IL and US use of the US replenishment system on a reimbursable basis. (14)

b. Requirements determination and asset management.

(1) US initial provisioning wholesale level replenishment requirements evolve into replenishment requirements objectives (Figure A-6). Requirements objectives change in reaction to changes in field demands, supported inventory magnitudes, or administrative production, or transportation activity times. Total requirements are machine computed in the CCSS Requirements Determination and Execution System (RDES). RDES operates automatically on all parts recognizing only the historical average monthly demand, program change factor, and the months of time restraint represented by each segment of the requirements objective. Supply managers can intervene on special occasions in the RDES process by "freezing" various computational parameters in the material management decision file (MMD). All replenishment assets are maintained in a general purpose stock account from which any authorized customer may draw. Issue limitations are based on the customer IPD as shown in Figure A-4. Combining US and IL demands and inventories supported as provided for under the CLSSA program potentially increases requirement determination accuracy and asset distribution flexibility permitting at least partial satisfaction of all customer demands.

(2) The IL CLSSA program is the replenishment program preferred by the US. However, it remains the program with the most serious policy and procedural shortfalls. Because of intricate RDES computational technique situations, some policies are not implementable. Additionally,

REPLENISHMENT REQUIREMENTS OBJECTIVE AND TOTAL REQUIREMENT DETERMINATION (54)

Total Requirement = (Requirements Objective + Additive Requirements) - (Assets On Hand or Due In From Previous Buys/Repairs)

OTHER ADDITIVE REQUIREMENTS

. Satisfies "other" demands generated from non-recurring demands connected with daily operations, special programs, or small additional equipment deployments.

Requirements Objective Level for Replenishment

PROCUREMENT CYCLE REQUIREMENT (PCR)

. Satisfies demands expected between procurement actions. Based on economic order quantity (EOQ).

. PCR = (EOQ in months) x (demand rate) x program change factor (PCF).

Reorder Point Level

PROCUREMENT CYCLE LEADTIME REQUIREMENT (PCLTR)

. Satisfies demands expected between time necessary to administratively let contract (ALT) and contractor production leadtime (PLT).

. PCLTR = (ALT + PLT) x (demand rate) x PCF.

and/or

REPAIR CYCLE REQUIREMENT (RCYR)

. For reparable parts, this increment is divided in a PCLTR for new parts and an RCYR based on repair times to get "fixed" parts.

REQUIREMENT DETERMINATION TIME REQUIREMENT (RDTR)

. Satisfies forecasted demand between time reorder point is reached and procurement work directive is issued (RDT).

. RDTR = RDT x (demand rate) x PCF.

. RDT cannot exceed 7 days for buys based on computer decision and 15 days based on manual human decision process.

VARIABLE SAFETY LEVEL (VSL)

. May be increased based on combat essentiality of item. See Figure 4-6, AR 710-1. (54)

. Described in months of supply.

PROTECTABLE WAR RESERVE MATERIAL OBJECTIVE (PWRMO)

. See CAA study reference. (89)

. This quantity is not pertinent to this study.

Figure A-6

the current effort to force the pipeline not created in the CSP into the replenishment program creates confusion. The reader should note that DA must place a high priority on revising the CLSSA program.

(3) CLSSA requirements are divided into two categories: foreign military sales orders one (FMSO1) and two (FMSO2). The FMSO1 theoretically augments the US supply pipeline to satisfy IL demands without taxing US assets. FMSO1 stocks are then replenished based on actual repair part consumption generated by FMSO2 orders. The FMSO1 and FMSO2 cases are signed simultaneously. Requisitions may be submitted against the FMSO2 case immediately. FMSO2 asset issue restraints exist for the first 14 months of the case.

(a) The FMSO1 is an attempt to form the wholesale level replenishment requirement never developed in the CSP. This attempt is destined to failure for two reasons. First, the CLSSA is usually negotiated after the customer has the equipment in use and has already used some of the CSP stocks. As noted earlier, the CSP was probably already too small--further aggravating the situation. The US initial provisioning "pipeline" works because it is ready for use when end items are issued. Conversely, the CLSSA "pipeline" does not work because the attempt to fill it is made months after the equipment is issued. Secondly, the FMSO1 is calculated on the basis of a 17-month standard regardless of the actual leadtimes needed to obtain the part (e.g., the

average MICOM part has a 27-month leadtime). Disregarding actual leadtimes results in a high potential for turbulent stock positions in all long leadtime parts. The solution to this second problem is partially provided by a 29 December 1976 Assistant Secretary of Defense (ASD) (Comptroller) memorandum authorizing, if justifiable, FMSO1 computations based on more than 17 months of supply. Section IV of this annex develops a comprehensive solution to this problem as part of an ESG recommendation for forming a "total" support program.

(b) FMSO1 computation problems.

1. It is important to note that FMSO1 stocks are not now "additive" to the requirements objective. The actual incremental increase to US stocks described symbolically by the FMSO1 is activated by adding the CLSSA inventory to the program data file (PDF) of RDES. This action causes an increased program change factor (PCF) which is applied to the average monthly demand (AMD) over the entire requirements objective (i.e., PCLTR, RDTR, PCR, and VSL). RDES performs this operation automatically on all parts common to the support weapon system. Requirements to support an additional deployment of US equipment, equal to or less than 25 percent of the existing supported inventory, would be computed in the same manner. US supply system requirements determinations are considered "flexible" enough for the US to accept the risk that the "extra" US demands can be accommodated. The sensitivity of the RDES process may be illustrated by the example that increasing the number of

TOWs and M113s currently supported by 100 would result in a PCF increase of .03 and .004, respectively. This would justify requirement increases of only 3 percent and .4 percent. Although these are small changes, the US must decide if it wants to continue accepting the extra risk of stock shortages caused by new CLSSAs. If the US does not want to accept this extra risk, and there is no reason it should, the FMSO1 quantity should be made additive to the requirements objective. The US would thereby purchase assets for a true additional equipment deployment.

2. Current proposals for FMSO1 computation would direct the MSC to compute a full requirements objective for each part, and then, based on unit price, convert the quantities into a dollar value. This is the same procedure used to establish and justify US budget funding levels. New FMSO1s are to be based on US demand rates or engineered estimates and FMSO1s over 2 years old are based on actual customer demand rates. The IL customer is presented the FMSO1 dollar value contract and an information listing of the parts and unit prices which were summed to form the FMSO1 value. At that time, the IL customer may mark the FMSO1 value up or down based on economic restraints or personal judgments. The economy-minded customer can be expected to mark the FMSO1 value down by the value attributable to repair parts producible or reparable in-country at low cost. RDES cannot recognize these individual part value adjustments or "across the board" price cuts. As a

result, RDES may compute a requirement that is too big--causing US funds to be spent in anticipation of IL demands--or too small, potentially resulting in short supply if the customer really does order increased amounts. FMSO1 computation problems are detailed in Figure A-7.

(c) The FMSO2 computation sums the value of customer requirements forecasted for the next 12 months. Requirements for new CLSSA customers are based on US demand rates. Actual customer demand rates are used for established CLSSA customers. A dollar value FMSO2 contract is offered to the CLSSA customer who may raise or lower the value as is permitted with the FMSO1.

1. Permitting FMSO2 value reductions/increases based on selected parts or permitting "across the board" reductions/increases on the surface imposes potential turbulence on the US supply system. If the customer's ordering pattern really does decrease, the US supply system may end up in long supply for all parts with leadtimes of over 12 months. If ordering patterns increase, short supply may occur. A similar degree of turbulence would occur in the US supply system if USAREUR independently, without warning dramatically changed its ordering patterns.

2. Theoretically, CLSSA contract provisions protect the US from sudden drops in FMSO2 activity by permitting the US to force-issue assets to an IL customer if the asset was procured in anticipation of an IL demand which did not materialize. However, it is almost

FMSO1 REQUIREMENT DETERMINATION PROBLEMS

Problem	Possible Solutions
Preface Note: Rigid legal interpretations are not logically made here because RDES and budgeting are estimating processes and are not implemented precisely as estimated. Additionally, the legal worry in this case is not that we are giving away assets bought with US funds--the CLSSA customer pays for everything received in the FMSO2 case--but rather, restraining US financial flexibility because some funds may be used to buy assets in anticipation of IL demands. These extra assets stay in the US system and are eventually used by the US or paid for by a reimbursable customer.	
1. The policy and procedure for computation of initial FMSOIs need to be clarified. Off-line computation of a symbolic customer FMSO1 requirement may vary from the actual RDES incremental requirement increase because of rounding rules and variances between the US/IL AMD and the actual customer AMD. Under a strict legal interpretation, such actions could result in DA using US funds to procure stocks in anticipation of IL demands.	a. The solution to this problem should ensure that the FMSO1 computation reflects the value of the "highest possible" requirement. This requires calculating the FMSO1 value on the basis of the largest AMD (i.e., either the RDES AMD or the actual customer AMD). Such a solution protects the US because the entire FMSO1 value backs the procurements. The CLSSA customer is marginally affected because the only money actually paid is 5/17ths of the total FMSO1.
2. The policy and procedure concerning the IL customer's option to change FMSO1 values based on consideration of specific parts or "across the board" economy cuts need to be clarified.	a. Individual item managers could be notified to "freeze" the AMD or PCF in the MMD permitting an appropriate adjustment of the RDES requirement. This solution is marginally implementable for specific parts although considerable confusion in documentation trails would result. However, it is impractical and defeats the purpose of dollar management in the "across the board" case. b. Scale the customer inventory loaded into the PDF up or down by a ratio of the actual accepted FMSO1 value to the computed FMSO1 value. In effect, this applies a PCF to the customer inventory

(Figure A-7 Continued on Next Page)

FMSO1 REQUIREMENT DETERMINATION PROBLEMS--Continued

Problem	Possible Solutions
	before it is loaded into the PDF. This solution also injects confusion in the US supply system if the change is not carefully connected with the FMSO2 case. In effect, this procedure also denies the validity of all field usage history and amplifies the effects on the US system of any poor planning on the part of the IL customer. c. The simplest policy is to require the IL customer to accept the full FMSO1 value. The effect on the customer is minimal because a cash payment is made on only 5/17ths of the FMSO1 value. The US supply system is saved from confusing change documentations which would be revised every year and potentially result in a serious contamination of US data files. If the customer really does not order at the full rate, RDES will "level" out the initial procurements in later runs because the AMD will not increase as expected.
3. A policy and procedure clarification is needed for computation and acceptance of FMSO1 changes resulting from the addition of another weapon system or an increased inventory to an existing CLSSA.	a. Simply require the customers to purchase a properly computed CSP with each new or additional equipment deployment and enforce the policy for FMSO1 computation identified above. In this manner, an additive quantity of parts is purchased before the IL customer submits any requisitions in support of the additional weapons. This is the same practice which would be used for US forces. Good visibility of the country's total support program will permit implementation of these policies.

Figure A-7

impossible to "unroll" a "rolled-up" RDES computed procurement requirement to determine what portion was activated by the IL customer. The problem becomes even more complex for long leadtime parts (e.g., MICOM 27-month average leadtime). Potential adverse impacts on US and other IL customers occur because limited funds are obligated to procure assets for demands that do not occur. This leaves potentially inadequate funds available to buy parts that really are needed. Realistically, however, periodic RDES runs should minimize the effects of such sudden fluctuations as long as most IL customers do not suddenly change their FMSO2 case values. With this RDES "self-leveling" effect in mind, it appears the solution to this problem simply lies in the US country desk officer providing good advice to the CLSSA customer. If the customer refuses to cooperate in good faith after realizing the turbulence caused to the US supply system, the CLSSA contract should be terminated. However, to accomplish this full visibility of how a country supports a system is necessary at MSC level.

(4) CLSSA asset management problems.

(a) To protect assets bought for US forces and other established IL customers, a new CLSSA customer (i.e., new may mean a customer who never had a CLSSA before or a customer adding a new weapon system to an existing CLSSA) must be prevented from prematurely drawing against US general purpose stocks. The severity of the potential US stock draw-down is related to the quality of the CSP originally purchased.

The current policy of having the CSP "provide initial stocks until sustaining support is established" has been loosely interpreted to mean stocks "to hold the customer over" until a sustaining support program is selected and not until it is ready to use. As such, the customer may need repair parts urgently and wish to submit requisitions against the FMSO2 immediately.

1. To prevent premature IL intrusion into US general purpose stocks, current procedures provide for USAILCOM-NCAD to automatically code any requisition for a CLSSA case not yet 12 months old with a CRDD 14 months away. Theoretically, the MSC will then replace the 14 CRDD with a date based on the real leadtime of the part and issue the part according to the logic in Figures A-3 and A-4. However, there is no standard MSC procedure for having the CRDD changed. Of course, neither 12 nor 14 months has anything to do with the real leadtime necessary to augment US stocks. The IL customer must wonder why high-priority requisitions submitted on the day after the 12-month limit can be filled immediately, while requisitions submitted the day before that 12-month limit are coded with a CRDD 14 months away. The problem becomes even more complex when dealing with the case where a new weapon system is added to an existing CLSSA case. There is no automated test available to prevent the immediate fill of CLSSA requisitions against a new weapon system as long as the general CLSSA case has been in existence over 12 months.

2. Solution of the new weapon system case is relatively simple if a separate case is established for each weapon system and if the customer is required to enter the weapon system designator code on the requisition. A machine check can then be made to prevent the new requisitions from prematurely competing with US stocks by testing the age of the case designator. Obviously, since no available machine test can determine if a requisition under a case is for a specific system, it is possible that a customer could pass a requisition for the new system under an established case designator. The effort to establish such an elaborate check would be prohibitive, especially when a part is common to several systems. But, there is another simple solution because such an action adversely impacts on US forces only when short supply exists. If it is generally assumed that no customer will deliberately try such an abuse of the system, the supply manager can manually check the country authorization to draw against parts only in cases of short supply. This check is easily implementable because manual processing of requisitions for parts in short supply is a common US practice. Requiring weapon system designator code entries on requisitions is more than just a symbolic gesture. It keeps customers conscious of what is ordered for a weapon system and helps the US monitor IL impact on a weapon system.

3. It is more complex to solve the basic problem of when requisitions will be honored (e.g., 12 or 14 months). Reason dictates the customer should be permitted to receive parts as soon as

possible. Part accessibility should, therefore, be related to actual procurement leadtime. However, a CCSS issue test to permit such a phased access schedule cannot be developed for long leadtime parts without considerable difficulty. The 29 December 1976 ASD (Comptroller) memorandum on CLSSA attempted to resolve this problem by directing that no requisitions be accepted until the FMSO1 on-hand requirement is physically on hand. (11) This absolute rule fails to solve the problem because it does not recognize that parts have significantly different leadtimes and that FMSO1 requirements are not now considered "additive" requirements, thus making it impossible to identify an on-hand portion. The simplest solution for this problem is in ideal total support program planning. This solution, discussed in Section IV, would require signing the CLSSA and starting US stock augmentation before end item delivery.

(b) An FMSO2 asset management problem area concerns management of cases in which the customer's actual demand values exceed the FMSO2 case value. Currently, USAILCOM-NCAD codes these requisitions with a 14-month CRDD. This code notifies MSCs to suspend the customer's privilege of receiving stock issues on the same basis as US forces. The issue privilege suspension remains in effect until the annual renewal of the CLSSA. This policy is not rationally implementable. It also adversely impacts on the US supply budget. A customer's FMSO2 funds will not normally run out until the end of the contract year. Thus, the renewed CLSSA contract allows the IL customer to submit high-priority requisitions

within 2 or 3 months which will be filled immediately even though they are for assets that supposedly could not be made available for 14 months. Aside from creating a turbulent demand pattern, this policy undermines the US supply system's "business-like" image in the IL customer's eyes. The US supply budget is adversely affected because the IL orders are being prefinanced during this "unfunded IL period" with US funds, thus reducing the US financial flexibility for buying needed US assets.

(c) The final CLSSA asset management topic deals with reconciliations of requisitions. A using unit will never know if it is uselessly waiting for parts delivery, and the wholesale supply manager will never know if he should take extraordinary efforts to obtain assets, unless reconciliations are performed to validate the existence, quantity, and urgency of requisitions. Currently, reconciliations are conducted semiannually only with CLSSA customers that want to participate. The reconciliation is aimed more at correcting unit prices than validating demands. Periodic (e.g., USAREUR does it quarterly) reconciliations should be made mandatory.

(5) CLSSA problems related to "reparable" parts require special mention. As equipment becomes more sophisticated, more components will be "reparable." RDES cannot recognize an IL customer has not elected to use the "exchange of reparable" provisions of the CLSSA. As a result, inaccurate part quantities may be periodically ordered from procurement or repair vendors until the IL customer sets a definite

demand pattern. This area should receive special review by technically qualified supply managers.

c. Financial management.

(1) Budgeting for US replenishment requirements is an integral part of RDES. The total projected budget is designed to satisfy recurring requirements. Minor nonrecurring demands (e.g., order-ship time stockage changes, etc.) are absorbed in the RDES computed budget. The US Army accepts this risk since the budget is only an estimate. Every time an RDES run is made, it produces an estimate of funds required during the remainder of the apportionment year and the next budget year. Based on this forecast, supply managers plan ahead to ensure funds are available at the right time to permit procurement of RDES-determined requirements.

(2) CLSSAs present a difficult financial management problem because they are integrated into the RDES budget stratification process. As a result, financial management problems cannot be solved until CLSSA requirement determination problems are resolved. In June 1976, MICOM notified USAILCOM that CLSSA problems disrupt the US budget stratification and requirements determination and even possibly cause illegal fund obligations. In December 1976, having not received an adequate answer, MICOM stopped buying CLSSA pipeline requirements for six new CLSSA cases. This action will probably cause short supply conditions for US forces when the new IL customers begin competing on an equal basis with US forces for available assets.

d. Performance measurement.

(1) US replenishment program effectiveness is measured using MILSTEP criteria discussed in Appendixes A-1 and A-2.

(2) IL CLSSA supply performance measurement was difficult prior to January 1976 because of the oddities of FMSO/non-FMSO item classifications. Soon CLSSA performance can be compared directly to US replenishment programs in MILSTEP. No other management study of the CLSSA was found. As this is the "preferred" US program, a significant increase in the management review of this program is warranted. Business trends in commodity volumes, cash flow, customer distribution, US weapon systems affected, and competition with other IL programs should be determined. Each performance measurement should be superimposed on US supply performance and readiness reports to permit early identification of any adverse impacts on US forces possibly resulting from CLSSA activity. Any of the special ESG indicators and indexes displayed in Tab A and Tab B of Appendix A-2 could be immediately adopted. All information used in the special ESG indicators is currently available in MILSTEP.

11. <u>US Special Programs Compared to the FMS Defined-line Case Program--Adding a Little Extra to the Pipeline</u>.

a. Program objectives.

(1) US special programs satisfy explicitly definable demands generated by other than recurring daily activities. An example of a special program would be a Joint Chiefs of Staff (JCS) project or controlled equipment test.

(2) FMS defined-line programs are intended to satisfy the same type of demands as US special programs. Several distinct terms have developed to identify types of FMS defined-line cases that frequently occur (Figure A-8).

FMS DEFINED-LINE CASE TITLES

Common Terms Used	Description
Follow-on spares or FMS defined-line case	Customer buys exact number of a specific part at a fixed price for delivery on a definite commitment date. Such parts are normally used to start in-country depot overhaul operations or to significantly change in-country stockage levels for some other reason.
Life of type buy	Customer buys a lifetime supply of repair parts to support equipment the US is dropping from its inventory. Consolidation of these buys permits all customers to receive a better price. Future support must be arranged between the customer and a contractor under a commercial direct sale (CDS).
Concurrent Spare Parts (CSP)	Current practice permits incorporating the CSP case line in an FMS defined-line case. As a result of this practice, visibility of CSP case activity is almost completely obscured.
End-item cases	Since end items are listed as separate lines, such cases are also included in this category.

Figure A-8

b. Requirements determination and asset management.

(1) US special program requirements can normally be determined more accurately than replenishment requirements. Computations are based on a definite customer program implemented in a controllable environment. Special requirements are "additive" to the requirements objective. Program assets are reserved in a special ownership purpose code on or about the required delivery date. Since the program is implemented within the framework of the total US supply system, any inaccuracies in requirement determinations causing short supply can be corrected by diverting other US assets. Long supply can be corrected by redistributing assets to other US accounts. This practice is reasonable considering the severe "penalties" for delaying a special program (e.g., depot work stoppage). The current USAREUR M60/M60A1 exchange program is an example of a special program whose requirements were misestimated as evidenced by the high actual and low estimated tank overhaul requirement.

(2) IL FMS case requirements are determined by the IL customer. Advice on such items as program design and demand rates may be provided by the US. The final decision, however, remains with the foreign government. If the customer overbuys, the US may buy back any excess it can use. If the customer underbuys, shortages can be filled only by diverting existing in-country stocks, negotiating another defined-line case, or submitting requisitions against another US program the

country has contracted to use. Defined-line requirements are additive to the US requirements objective. MSCs establish a CRDD using the same potentially inaccurate procedures as in the CSP program.

(3) IL FMS defined-line assets are either released from OP A directly to the customer or put on direct vendor to customer delivery order. Asset issue is made using the logic shown in Figures A-3 and A-4. The requisition IPD is entered by USAILCOM-NCAD. The least urgent IPD (i.e., IPG3) is always applied. Since assets are released from OP A, the US buffers the FMS customer from the risks of procurement turbulence by giving the IL customer access to all US general purpose stocks. If there is a problem with replacement procurement where the FMS demand was included, the resulting shortage is shared by the IL and US customer. If the FMS requisition was filled from assets above the reorder point and then something goes wrong with the replacement procurement, the US alone would bear the adverse impact. Annex B cites several incidents of this occurrence. The FMS customer does not pay any extra charge for this protection.

c. Financial management.

(1) US special programs are normally funded as separate lines and not "lumped" into another budget category. Special programs must be budgeted for during the annual PPBS budget cycle. The only way a special program can be implemented "ASAP" is to divert assets bought with other funds and then use the funds allocated for the special program to buy "pay back" assets later.

(2) IL FMS funding should be simple. It should not affect the US budget. Funds are matched to specific requisitions in the same manner as in the CSP program. The only possible problem area is the COCP. This is discussed in detail in the CSP program analysis.

d. Performance measurement.

(1) US programs are "rolled up" at DA level into other supply performance statistics and evaluated under MILSTEP criteria. At lower levels and in action offices, the individual programs can be monitored against MILSTEP criteria and program schedule.

(2) Comments in the CSP discussion about the lack of visibility of specific types of FMS programs are applicable here. No organizational level was found to have a monitoring effort for identifying the quantity, quality, or accuracy of repair part sales under a defined-line case. Effective implementation of total support program planning will require visibility of individual programs to better advise the IL customer on how to integrate several programs into a complementary scheme.

12. US Depot Overhaul Programs Compared to Maintenance Support Agreements (MSA)--The "Recurring" Special Program. This comparison is not made here to avoid presenting details of the US depot parts explosion process. But, it is assumed the same conditions exist in the MSA program because real time operational constraints have been violated in all other IL programs through the imposition of artificial standard times. No management review information was found which indicated the magnitude,

successfulness, or development of trends in the MSA program. It is recommended that the Logistics Support Division, Directorate for International Logistics, CDCSLOG, in consort with the Directorate for Supply and Maintenance, ODCSLOG, review the MSA.

13. Blanket Open End (BOE) Programs--The Discount SSA.

a. Program objective.

(1) There is no comparable US program.

(2) IL BOEs provide an "open end" contract enabling the IL customer to purchase secondary items, tools, miscellaneous service, etc., from DOD sources without negotiating a separate FMS case for each transaction. Since only 21 countries have CLSSAs and they do not support all weapon systems with the CLSSAs and since 69 countries have BOEs, it may be concluded that BOEs are frequently used and possibly preferred as a replenishment program.

b. Requirements determination and asset management. IL BOE requirements are not established until the customer submits requisitions. Requisitions may be submitted against any weapon system at any time during the 12-month life of the BOE. BOE requirements are considered nonrecurring and counted "additive" to the US requirements objective. The customer selects the requisition IPD based on the FAD authorized. USAILCOM-NCAD automatically places an 18-month CRDD on BOE requisitions and forwards them to the MSC. Theoretically, each MSC corrects the 18-month CRDD to coincide with the real leadtime for the part.

No evidence could be found at MSC level that the 18-month CRDDs were being corrected. Asset issues are made in accordance with the logic in Figure A-3. MICOM has just discovered a CCSS programing flaw that releases assets for all BOE orders for a part when the earliest CRDD is reached. This means many BOE orders at all MSCs are receiving assets without waiting a full leadtime. An emergency SCR is being sent to ALMSA to correct this program flaw. The comments made in the FMS analysis about the US assuming procurement risks, at no extra charge to the IL customer, also apply here.

c. Financial management. BOE funding should not affect the US budget. Pricing and processing comments made about the COCP program in the CSP analysis apply to BOE programs. The BOE was named the "discount SSA" because BOE customers pay only for the part received, but receive full protection from procurement turbulence risks just as CLSSA customers who have made extra capital investments (FMS01) and paid higher surcharges to buy this protection.

d. Performance measurement. The BOE program receives no performance measurement or management review. Since repair parts, services, training, publications, etc., can all be purchased under one BOE, visibility of BOE repair part sales activity cannot be developed at DA or DARCOM/USAILCOM level. MSCs are not involved with the negotiation of the BOE since the customer can requisition against any weapon system. Although preferable, BOE customers need not identify the commodity area

or weapon system where requisitions will be concentrated. It is not unusual for the MSC to receive requisitions from the BOE customer before official notification is even received from USAILCOM-NCAD that the case exists. BOE activity is rolled up in the "FMS" category in MILSTEP reports. Since the BOE is possibly the prime CLSSA competitor, it probably would be of management interest to determine why IL customers would be drawn to BOE use rather than the CLSSA preferred by the US.

14. Grant Aid (GA) Programs. This program operates in the same general manner as a BOE. The exception is that the MAP bill extract authorizes funding of requirements. GA program performance is measured as a separate item in MILSTEP reports and in the USAILCOM quarterly review.

15. The Total Repair Part Support Program--Integrating the Individual Support Programs.

a. No single organization in the IL system is currently charged with formulating a country's total support program and maintaining its management visibility. This point can be confirmed by reviewing how a support program is actually negotiated from the bottom up.

(1) USAILCOM notifies the MSC responsible for a weapon system to prepare a letter of offer and acceptance (LOA) for an IL contract. At MSC level, data consolidation responsibility rests in the IL directorate. Actual computations or requirements are made in other MSC directorates which perform this IL work in addition to their primary

task of supporting US forces. No standardized procedures or checklists govern the collection and evaluation of case data. For example, the IL directorate does not transmit standard information on the total country program (e.g., inventory already on hand, existing support contracts) to other MSC offices. As a result, cases are prepared "in a vacuum." No one knows if special tools and test sets were already provided or if actual demands on the last CSP were so low that the new case requires only a small CSP. MSC directorates simply provide the earliest date the end item or part can be available. Sometimes end-item cases provide only "canned" comments that repair part support should be considered. The MSC information is consolidated by the IL directorate country desk officer and forwarded to USAILCOM. Thus, the IL sales case leaves the MSC, the organization with the most specialized expertise, without being integrated into a "total support program."

(2) Before climbing to USAILCOM level, several specific comments about repair part cases must be made. First, CSP development occurs with little, if any, review of previous end item sales cases. Second, CLSSA cases are not always the responsibility of the country desk officer. In MICOM, a separate office monitors CLSSA cases. Third, defined-line cases are seldom compared to other support actions active in the country. The general attitude is, "If he can afford it, let him have it." Fourth, BOEs are not even negotiated at MSC level. Since the customer is buying a "blanket" authority to requisition against any

system, the BOE is negotiated at USAILCOM level. Finally, CDS cases are not considered part of a total support program. CDS is a perfectly acceptable method through which an IL customer can obtain repair part support. Thus, this program must also be monitored to ensure the IL customer an adequate support program and to prevent such sales from adversely impacting on a US weapon system. The concern of MSC-level workers was expressed as "getting the case back to USAILCOM on time." Development of a <u>total country support program for the weapon system</u> provided by the MSC was never considered more important than meeting the case suspense date.

(3) USAILCOM has a similar dispersion of responsibility. CLSSAs are the responsibility of the Cooperative Logistics Division, Program Management Directorate, USAILCOM. All other contracts are the responsibility of the regional and country desk officers in the regional directorates. It should also be noted that people at this level require much less detailed knowledge on how a weapon system must be supported. The desk officer is dealing with all weapon systems in the US Army and the IL country and not just a few peculiar to an MSC. As a result, the quality of the final contract and any support considerations vary with each individual country desk officer's personal initiative.

(4) Status does not change at the DA level. In fact, a country's total support program is potentially less visible because the DA-level workers are dependent on information from the USAILCOM level.

b. Total support for modern weapon systems is expensive. The only way DA can encourage IL customers to accept this package is to present it in such a logical manner that it cannot be reasonably refused. Providing customer cost planning data in advance will prepare the stage for a total program presentation. Including logistical support forecast data as a backup to the Security Assistance Master Planning and Phasing Worksheets (SAMPAP) is a good start in collecting planning data. However, ODCSLOG cannot make any further significant progress towards efficient support program operations until it comprehensively reviews IL program policies, procedures, and functional responsibilities.

16. Defense Logistics Agency Interfaces.

a. A description of IL involvement in the US supply system would not be complete without a comment on the resulting IL interfaces with the Defense Logistics Agency (DLA). The MSCs act as the IL customer's agent in all DLA-related actions. DLA policies are presented below by IL program.

(1) FMS defined-line cases: DLA considers CSPs, BOEs, and FMS defined-line cases all in one category because each program generates nonrecurring demands that are individually reimbursable. The DLA requirements determination computation is different from that used in the US Army. In the US Army system, an IL demand under these programs is counted as additive to the US requirements objective. DLA, however, rolls up either all or part of the nonrecurring demands with recurring demands depending on the item's management intensity rating. This

aggregated demand is then operated on by an exponential smoothing computation to produce a final requirement. DLA releases assets immediately if assets are on hand above the reorder point. If not, the IL demand is included in the next DLA procurement and designated for direct vendor-to-customer delivery. The IL customer is charged the current item price, not the replacement price.

(2) CLSSA cases are also handled differently at DLA. When a new CLSSA starts, each MSC notifies DLA of the quantity of parts required. Inventory information is not used by DLA. DLA then procures an additive quantity of 90 days of supply which is placed in general purpose code assets. Any other stockage changes caused by the customer are driven by actual demands received. DLA uses its own funds for this 90-day additive procurement. The MSC and the IL customers are never tasked with providing reimbursement until the item is sold. This constrains DLA financial flexibility for ordering US parts because DLA has obligated US monies budgeted for other purposes.

b. The DLA comptroller is now examining the policies of not charging the IL customer a replacement price on orders and of obligating DLA money to purchase the CLSSA pipeline quantities. For all practical purposes, the US Army has benefited from these DLA practices because it has not had to pass on as much IL money as it should have. ODCSLOG must, therefore, be prepared to coordinate with DLA on these pending changes to ensure they can be smoothly integrated into US Army operations.

IV. IL PROGRAM REVISIONS

17. The Rationale.

a. The US wholesale supply level activity procures parts from a producer. Based on weapon system combat essentiality, decisions are made to spend funds to reduce the risk of not having parts available when needed. The supply system, acting as the buyer, executes these risk-reducing decisions by increasing on-hand and on-order stock levels (i.e., increasing the VSL and PCR of the requirements objective) or by assigning high priorities to procurement work directives to obtain quick deliveries from producers. The producer, acting as the supplier, charges the buyer extra fees for ensuring parts are available. The buyer may be required to pay the cost of equipping the producer's plant to ensure adequate production capacity is available or may be required to pay extra fees for expedited delivery.

b. The IL wholesale supply level activity also acts as a buyer. The supplier engaged may be a US commercial firm or the US supply system. As with the US supply system, the IL buyer must decide how much it is willing to pay to reduce the risk of not having parts available. In turn, the US supply system resembles the supplier in that it must decide how much extra to charge to ensure parts are available.

c. The buyer-supplier risk and insurance cost analogy may be directly applied to IL programs. The IL buyer receives a certain basic level of benefit from dealing with the US supply system. These benefits

include the US Government promise to provide quality parts incorporating the newest technological improvements. Any benefit or insurance of part availability above this level should "cost" the IL buyer extra.

18. The New Policy.

a. It is impossible to discuss IL repair part support programs independently. Each one represents a portion of a total support program or system. Therefore, each program must be integratable with other programs.

b. Current IL programs will continue to cause US supply system turbulence and potential adverse impacts on US forces until changed. At the simplest level, two directives must be issued immediately. One must require standardization of CRDD determination procedures in CSP, BOE, and FMS defined-line programs to prevent premature IL competition for US assets. The other must require FMS01 computations be made equal to a full requirements objective for each part and IL customers must be told the FMS01 case value cannot be changed. These two directives, however, are only "quick fixes." More are needed to address integrating programs into a total support package.

c. Development of effective repair part support programs requires a restatement of the objectives of each program. The new statement of objectives must permit development of a support program from the bottom up. Total programs can be easily developed if each IL program is brought in line with its comparable US program.

(1) The new CSP. This program must be the cornerstone of each repair part support program. In quantity it must be analogous to the AOQ and IIQ portion of US initial provisioning and be compatible with the replenishment program selected. If the customer decides to manipulate in-country stocks to reduce risks of short supply, then the replenishment program should be the FMS defined-line case and the WLRR must be set equal to the full-time delay for part delivery (i.e., RDTR, PLCTR, PCR plus COCP and shipping delays and an in-country VSL). If the customer decides to invest more capital to have the US ensure parts availability, then a CLSSA should be used. The WLRR should then equal the FMSO1 requirement. A CLSSA must be selected at the time of the end item sale. If the customer decides to purchase a CLSSA at a later date, the CSP must be reconstituted prior to CLSSA implementation. These policies ensure that the IL customer receives adequate initial stocks and establishes the customer's relationship to the US supply system for replenishment. In addition, package shipments should be made mandatory if it is found that warehousing costs are not excessive. This results in an orderly introduction of equipment and parts in-country and improves US quality control over the shipment. Since it is important to successfully start a country program for a weapon system, assets procured for the case should be reserved in OP N until the CRDD. Proper CRDD determination will prevent this IL requirement from impacting on US force support. If an unforeseen procurement problem develops with the contract including the CSP assets, the IL

customer should be permitted to penetrate US assets only to the PROT-IPD-H level. This policy constitutes a reasonable US attempt to provide the CSP parts while still adequately protecting US readiness. Policies for IPD assignment should provide for use of an IPD that is appropriate when considered in light of US Security Assistance objectives in the customer country and JCS-authorized FAD (see Figure A-9).

(2) The new CLSSA. The CLSSA gives the IL buyer a high level of insurance (i.e., reduces risks) that parts will be available. Protection from procurement turbulence is achieved by making US general purpose assets available for IL use. The US supply system must charge the buyer "extra" for ensuring parts availability. This extra charge should take the form of requiring the CLSSA customer to accept FMSO1 and FMSO2 cases at full value. This prevents US requirements determination process turbulence. Such turbulence adversely impacts on both US and other CLSSA customers. Another "extra charge" is developed by requiring customers to have a properly constituted CSP initial provisioning package at the time of CLSSA implementation. Figure A-10 makes specific recommendations for CLSSA on initial sale of a weapon system (Case 1); implementation of a CLSSA after the weapon system has been in the field (Case 2); increasing equipment inventories supported under CLSSA (Case 3); and use of "exchange of reparable" CLSSA provisions (Case 4) with Cases 1 through 3. Note: the BOEs are recommended only as a "transition program" during CSP reconstitution in Case 2.

RECOMMENDED POLICIES
CONCURRENT SPARE PART PROGRAM

1. Program Objective	. Restate--Identify the CSP as the cornerstone of repair part support programs providing initial stocks of repair parts, special tools, and test equipment. The CSP, representing US initial provisioning AOQ and IIQ must be tailored to the specific replenishment program selected by the IL customer (i.e., CLSSA or FMS defined line).
2. Requirements Determination and Asset Management	
a. Requirements Determination	. Direct priority implementation of CSP computation SCR at ALMSA. This SCR brings CSP computations in line with US initial provisioning computations. . CSP requirements should remain additive to US requirements objectives.
b. Asset Management	. Standardize CRDD determination procedures. . CRDD must be longest expected delivery leadtime (see pages A-16 and A-51). . Customer-caused CSP procurement delays should result in increased CRDD, thus penalizing the customer and not the US. . Make package shipments mandatory if storage costs are not found exorbitant. This prevents in-country customer inefficiencies from negating the benefits derived from a good CSP computation. . Before CRDD, issue only excess US assets. After CRDD, issue to PROT-IPD-H level. Reserve assets in OP N.
3. Financial Management	. Priority must be placed on efficient COCP operation. The COCP must support the material manager, not delay him for the convenience of the COCP. Adopt MICOM replacement pricing procedures (see pages A-21 and A-22).
4. Performance Measurement	. Give CSP cases individual identity by weapon system. . Measure supply performance on a CSP MILSTEP line. . Program trend measurements should be selected by USAILCOM as required to monitor problem areas.

Figure A-9

RECOMMENDED POLICIES
COOPERATIVE LOGISTIC SUPPLY SUPPORT AGREEMENT

1. Program Objective	Restate--Identify CLSSA as integral element of a repair part support program. Encourage all customers to select this program.
2. Requirements Determination and Asset Management	
a. Requirements Determination	Case 1: FMSO1--Compute equal to US initial provisional wholesale level replenishment requirement. The FMSO1 quantity should be additive to the US requirement objective. Sign case at time of end item sale (also see Figure A-7, page A-30). FMSO2--Compute as a proportional share of total forecasted US annual requirement based on inventory supported. When equipment is deployed, sign case and increase RDES PCF. Case 2: Exercise MICOM "Visibility" "what if" option to assess impact on US. a. If no adverse impact on US is expected, implement CLSSA case immediately. Compute FMSO1 equal to a full requirement objective for part and procure as additive quantity. Compute FMSO2 as in Case 1 and raise RDES PCF immediately. The impact evaluation protects the US from accepting any undue risk. This condition will probably occur only in high-density systems. b. If adverse impact on US is expected, require reconstitution of CSP before CLSSA implementation. Until CLSSA implementation date, customer may continue obtaining parts through a BOE. Implement CLSSA as in Case 1. Case 3: Increase FMSO1 and FMSO2 in direct proportion to inventory increase. Procure assets as in Case 2 (also see Figure A-7, page A-30).

(Figure A-10 Continued on Next Page)

RECOMMENDED POLICIES
COOPERATIVE LOGISTIC SUPPLY SUPPORT AGREEMENT--Continued

	Case 4: Require customer make an "all or nothing" decision on "exchange of reparable" option and freeze MMD final recovery date accordingly.
b. Asset Management	Case 1: On equipment delivery date, immediately issue assets to IL customer on same priority as US. Case 2a: As a safety precaution to protect US forces, do not issue assets below PROT-IPD-H until the first annual CLSSA renewal. Case 2b: On CLSSA implementation date, issue as in Case 1. Case 3: Issue as in Case 1. Case 4: If exchange of reparable option is used, issue only if part is recovered. If part is not recovered, make conscious change of final recovery rate before issuing replacement. If exchange of reparable option is not used, issue as in Case 1. All Cases: . Conduct periodic reconciliations. . Do not permit IL use of NORS requisitions. . Require customer to accept full FMSO1 and full FMSO2. . Conduct special review of "exchange of reparables" provisions. . Do not accept orders from customers who have exceeded their FMSO2 dollar limit until they provide more funds.
3. Financial Management	Use guidance in 29 Dec 77, ASD (Comptroller) Memorandum. Ensure COCP operation supports supply manager in timely manner.
4. Performance Measurement	. Give each weapon system case a distinct identity. . Measure supply performance on a CLSSA MILSTEP Line. . Program trend measurements should be selected by USAILCOM as required to monitor problem areas.

Figure A-10

(3) The new FMS Defined-line Case. If the IL buyer does not wish to incur extra costs to reduce short supply risks, the US should provide the buyer only the basic "quality guarantee" level of benefit. The buyers should make procurement decisions under the FMS defined-line program based on their own experience and/or interpretation of US historical data. Any internal mismanagement and any unforeseen procurement risks should be borne by the buyer. Unforeseen procurement risks are transferred to the IL buyer alone by ordering direct vendor-to-customer delivery. In this manner, the burden of a contractor default or other procurement problem is borne by only the IL buyer and not shared by the US and other IL customers who were willing to make increased CLSSA capital investments to reduce such risks. See Figure A-11 for more details.

(4) The new BOE. Since the BOE is not comparable to any US program, it should not be used on a continuous basis. BOEs as currently used make all US general purpose assets available to BOE customers. Thus, the BOE customer is both protected from unforeseen procurement risks and relieved of the responsibility of making orderly planned procurements from the US supply system. The BOE customer incurs no extra charge for these benefits. In fact, the US supply system alone incurs the BOE-related extra charges in the form of budget turbulence. Somehow, while keeping a running balance, USAILCOM must attempt to reimburse each MSC for BOE orders placed against it. Although not that difficult for ASF parts, it becomes a complex process to ensure an inflated replacement cost for PAA

RECOMMENDED POLICIES
FMS DEFINED-LINE PROGRAMS

1.	Program Objective	Restate--Identify FMS defined-line case as the only continuing method for IL customer to order replenishment supplies through US supply system when CLSSA is not used. In this case, IL customer wholesale level supply activity uses the US supply activity as if the US activity was a vendor. Full responsibility for adequate advance planning rests with the IL customer.
2.	Requirements Determination and Asset Management	
	a. Requirements Determination	. Requirement is explicitly defined by IL customer based on economy considerations. The customer must be advised that actual requirements should be representative of the US initial provisioning wholesale level replenishment requirement and safety level and compatible with the CSP computation. . FMS defined-line requirements should remain additive to US requirements objectives.
	b. Asset Management	. Determine CRDD as in CSP program. . Place all assets on direct vendor-to-customer delivery. Direct vendor to send last portion of total order to IL customer. In this manner, IL customer alone enjoys benefit or suffers hardship of individual vendor's performance. . If US long supply exists, issue assets immediately. . Assign IPD using current procedures. . Conduct periodic reconciliations.
3.	Financial Management	. Priority must be placed on efficient COCP operations that support, not constrain, the supply manager. . Standardize replacement price determination procedures. Use MICOM method.
4.	Performance Measurement	. Give FMS defined-line cases individual identity on MCS and weapon system basis. . Measure supply performance on an FMS MILSTEP line. . Program trend measurements should be selected by USAILCOM as required to monitor problem areas.

Figure A-11

parts. Use of BOEs should be a special privilege to minimize a customer's costs while transitioning to CLSSA operations. BOE customers should be permitted to penetrate US asset levels only to PROT-IPD-H level. This policy provides the customer with protection from procurement turbulence but still protects US readiness and other CLSSA customers. Figure A-12 shows detailed recommendations for BOEs.

d. Total support programs should be developed around a weapon system. Preparation of the total support program at MSC level ensures the maximum US technical expertise is concentrated on the program to produce a high-quality product. Considering the US philosophy of "fighting a weapon system," this policy provides MSCs with a proper level of visibility of potential IL impacts on a weapon system to ensure the quality of US support is not degraded. Visibility of an IL customer's total involvement with the US should, however, stay with the USAILCOM desk officer. This policy provides greater financial flexibility to the IL customer and protects US financial flexibility. For example, an IL customer may want to support tactical cargo trucks through an FMS defined-line replenishment program because the majority of the simple parts can be produced in-country. However, the same IL customer may have to support HAWK missiles with a CLSSA because of the technical complexity of the parts. US financial flexibility can be protected by providing each IL program a distinct set of case identifiers and then assigning each country a separate case number for each weapon system. This policy facilitates

RECOMMENDED POLICIES
BLANKET OPEN END AGREEMENTS

1. Program Objective	Restate--Identify as an interim program usable only when IL customer is transitioning from an FMS defined-line case method of replenishment program to a CLSSA. Restrict each case for use against one weapon system.
2. Requirements Determination and Asset Management	
a. Requirements Determination	. Requirement is explicitly defined by IL customers. . BOE requirements should remain additive to US requirements objective.
b. Asset Management	. Determine CRDD as in CSP program. . Until CRDD is past, issue only excess US assets. . After CRDD is past, issue assets based on customer-entered IPD to PROT-IPD-H. . Conduct periodic reconciliations.
3. Financial Management	. Priority must be placed on efficient COCP operations that support, not constrain, the supply manager. . Standardize replacement price determination procedures. Use MICOM method.
4. Performance Measurement	. Give BOE repair part cases individual identifiers by weapon system. . Measure supply performance on a BOE MILSTEP line. . Program trend measurements should be selected by USAILCOM as required to monitor problem areas.

Figure A-12

reimbursement of the proper MSC, permits easy identification of the customer's ordering patterns to protect US budget and requirements forecasts from turbulence, and provides a reference point for automated checks before asset release.

19. The Vehicles.

a. Three vehicles are necessary to comprehensively revise IL support program policy and expedite implementation. These vehicles include an expert policy-making panel, a consolidated policy document, and a standardized procedural guide.

b. ODCSLOG-DIL should immediately establish an expert IL repair part support policy panel to exploit this study. Using this ESG study as a guide, the panel should review each IL support program and prepare revised policy statements that can be realistically implemented. Panel membership should include representatives from the ODCSLOG IL and US supply directorates, USAILCOM IL policy offices, DARCOM secondary items management offices, select MSC material management and IL directorate members, ALMSA system designers, Central Integrated Systems International Logistics (CISIL) system designers, and an Inventory Research Office member. Comptroller representatives should be present to advise the ODCSLOG program managers on legal matters and ensure audit trails are adequate. The panel must be action-oriented and technically self-confident to permit policy publication with an absolute minimum of additional staffing. After initial policy revisions the panel should be disbanded. However, if the panel proves an effective method of

expediting IL policy-making, it should meet semiannually to revise and improve/correct IL support policy.

c. The natural product of an action-oriented expert policy-making panel would be a consolidated policy document maintained by ODCSLOG-DIL. Guidance centralized in the DOD MASM (Military Assistance Sales Manual) could be tailored for US Army use in an AMASM without the repetitious "boiler plate" sections found in ARs. Basic statements on program objective, requirements determination, asset management, financial management, and performance measurement would be consolidated making it virtually impossible to change one policy element without realizing the impact on another. Designating the AMASM a regulation would eliminate the need for both an ODCSLOG- and DARCOM-level regulation, thus saving time and effort. Contractor effort expended to date by SNYOPTICS would not be wasted. SYNOPTICS provided the valuable service of untangling and updating many FMS policies. Therefore, this ESG study, the SYNOPTICS products, and the decisions of the expert policy panel could be easily restructured into an effective AMASM. An important benefit of creating an AMASM is the reestablishment of the program manager's dominance over the Comptroller.

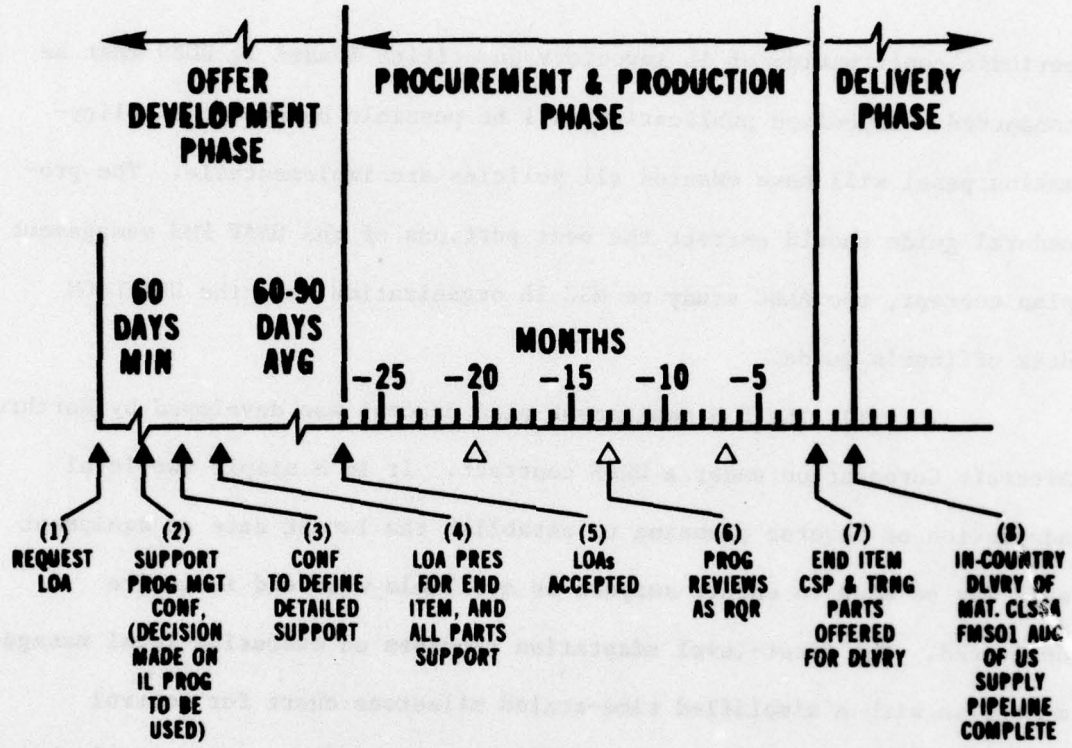
d. USAILCOM would be responsible for publishing the IL support program standardized procedural guide. Procedures should be oriented towards creating total support programs on a weapon system basis. Critical procedures should have built-in or periodic checks. For example,

periodic confirmation of IL inventory quantities loaded in RDES must be conducted. Expedited publication will be possible because the policy-making panel will have ensured all policies are implementable. The procedural guide should extract the best portions of the USAF FMS management plan concept, the ALMC study on MSC IL organization, and the USAILCOM desk officer's guide.

(1) The FMS management plan concept was developed by Northrop Aircraft Corporation under a USAF contract. It is a simple two-level adaptation of reverse planning to establish the latest date an equipment sale may be made to ensure support is available when end items are delivered. The first-level adaptation provides an executive-level management plan with a simplified time-scaled milestone chart for control purposes. Figure A-13 is an adaptation of the USAF executive-level chart. The second-level adaptation provides a detailed management plan with a detailed activity schedule for use by case managers at the MSC and USAILCOM level (see Figure A-14). (41)(42)

(2) The ALMC study on MSC IL organization includes an IL responsibility assignment grid. Incorporating this grid into the new standard procedural guide would facilitate future coordination and information exchange. In addition, the grid would make it almost impossible to change any procedure without immediately realizing the impact it would have on other offices. At the end of the ALMC study, a lengthy list of reports and regulations dealing with IL is compiled. Whenever

EXECUTIVE-LEVEL MILESTONE CHART FOR FMS MANAGEMENT PLAN



NOTE 1. The support program management conference (Milestone 2) is designed to have the IL customer select the type of support programs on which a total country support program for the weapon system will be developed. For example, the IL customer will agree in concept that a CSP plus a CLSSA will be used.

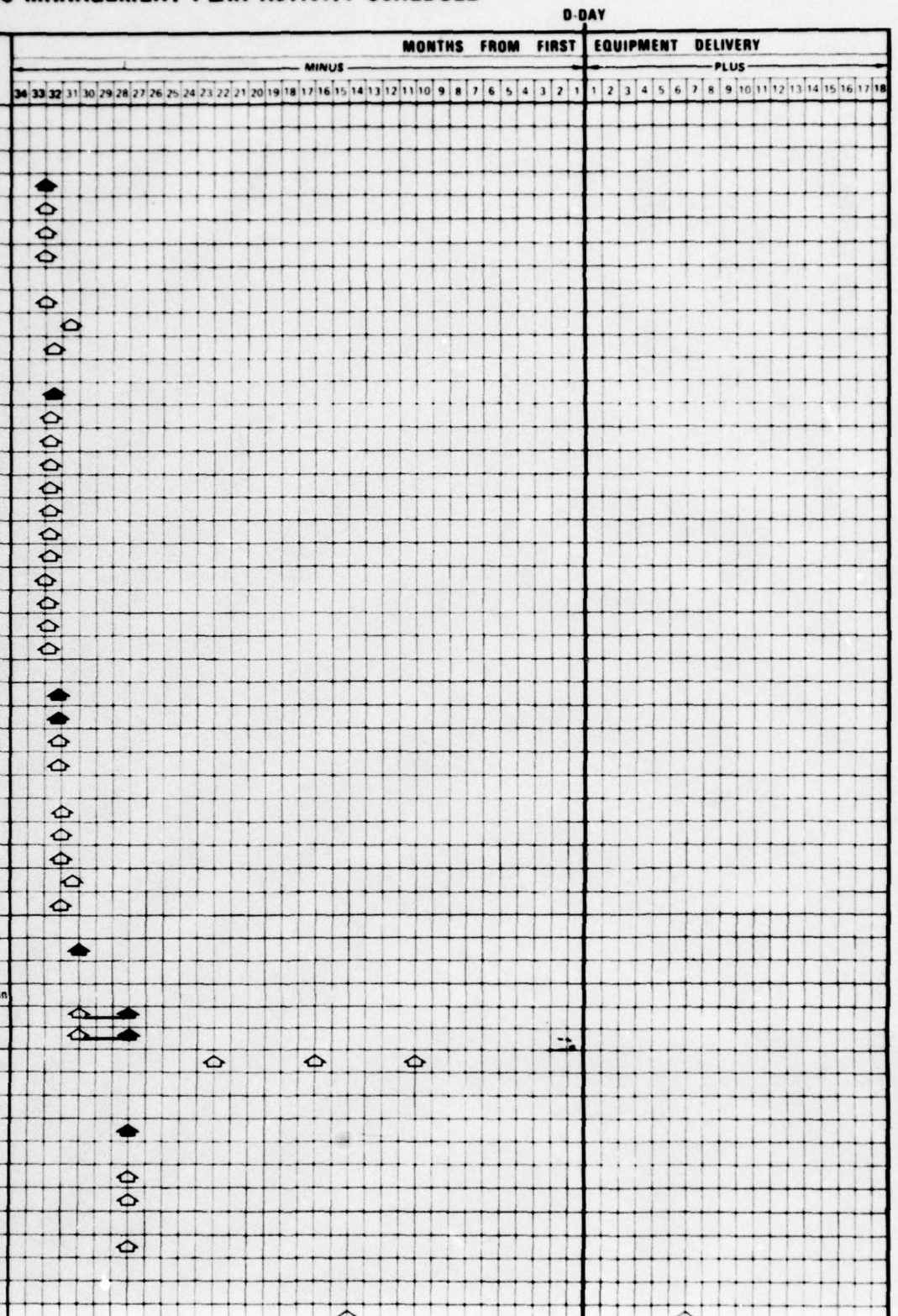
NOTE 2. The conference (Milestone 3) charges IL customer and MSC technical representatives with developing case specifics.

NOTE 3. Cases must be constructed to permit immediate execution of long leadtime part procurement when the contract is signed (Milestone 5).

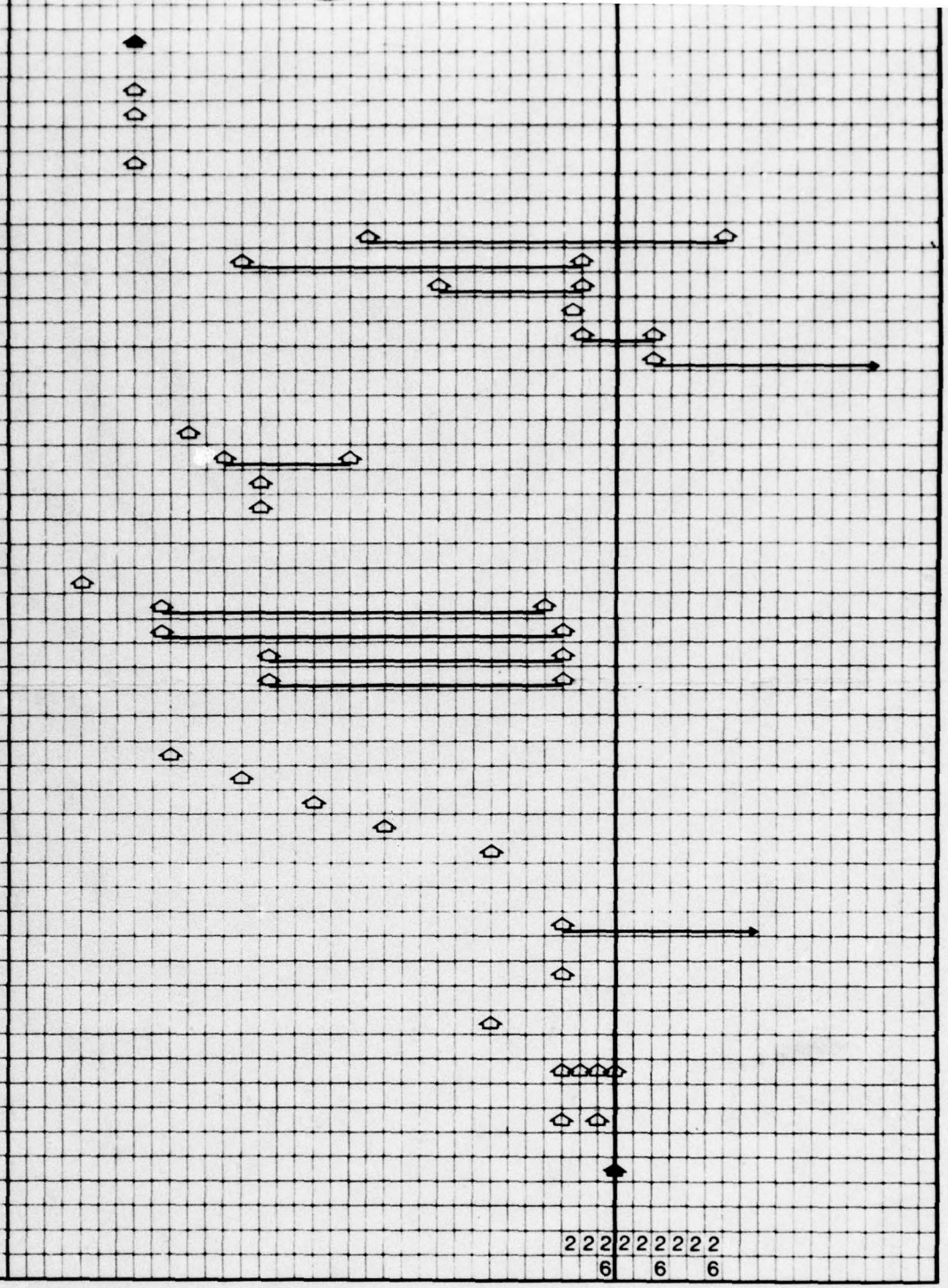
Figure A-13

FMS MANAGEMENT PLAN ACTIVITY SCHEDULE

ACTIVITY	RESPONSIBLE AGENCIES
PROGRAM NEGOTIATION	CNTRY/USAILCOM
LETTER OF OFFER REQUESTED	CNTRY/USAILCOM
P&A DATA REQUESTED	(MSC develops LOA)
CONFIGURATION DEFINED	
DELIVERY SCHEDULE ESTABLISHED	
LONG LEAD SPARES & SUPPORT	
EQUIPMENT LIST PREPARATION	
P&A DATA SUBMITTAL	
IN COUNTRY SURVEY	
SUPPORT PROGRAM MGT CONFERENCE	USAILCOM (MSC provides
EQUIPMENT DEPLOYMENT DEFINED	technical advisors)
MAINTENANCE CONCEPT DEFINED	
TRAINING PROGRAMS ESTABLISHED	
OPERATOR TRAINING REQUIREMENTS	
TECHNICIAN TRAINING RQMTS	
TRNG MAT'L REQUIREMENTS	
TRNG TM REQUIREMENTS	
PUBLICATIONS REQUIREMENTS ESTIMATE	
EQUIP DEL'V SUPT RQMTS ESTIMATE	
MUNITIONS REQUIREMENTS ESTIMATE	
PERSONAL EQUIPMENT RQMTS ESTIMATE	
REPAIR PART & EQUIP SUPPORT DEFINED	MSC (USAILCOM provides
DEFINITIZATION CONFERENCE	advisor)
INITIAL SPARES DEFINITIZED	
SUPPORT EQUIPMENT DEFINITIZED	
PECULIAR SPARES/SUPPORT EQUIPMENT	
PROC METHOD ESTABLISHED	
FOLLOW-ON SUPT METHOD EST	
FREIGHT FORWARDER IDENTIFIED	
AIR SHIPMENT AUTHORIZATION	
SSA NEGOTIATIONS INITIATED	
LETTER OF OFFER PRESENTATION	
INTEGRATED LOGISTICS SUPT PLANS	USAILCOM extracts mgt plan
FMS SPT MGT PLAN & PRESENTED/APPROVED	from MSC ILS plan
DETAILED ILS PLAN PRESENTED/APPROVED	
ILS PLAN UPDATES	
LETTER OF OFFER APPROVAL	USAILCOM (MSC executes)
PROGRAM INITIATION	
LONG LEAD SUPPORT PROCUREMENT	
AUTHORIZED	
CASE DIRECTIVE/FUNDING ISSUED	
LONG LEAD SPARES/SUPPORT EQUIPMENT	
PROCUREMENT INITIATED	
TRAINING PROGRAMS	USAILCOM
OPERATOR TRAINING	



LETTER OF OFFER APPROVAL	USAILCOM (MSC executes)
PROGRAM INITIATION	
LONG LEAD SUPPORT PROCUREMENT AUTHORIZED	
CASE DIRECTIVE/FUNDING ISSUED	
LONG LEAD SPARES/SUPPORT EQUIPMENT PROCUREMENT INITIATED	
TRAINING PROGRAMS	USAILCOM [1]
OPERATOR TRAINING	
TECHNICIAN TRAINING (CONUS)	
INSTRUCTOR TRAINING (CONUS)	
TRNG MAT'L DELIVERY(IN-COUNTRY)	
TRNG TM IN-COUNTRY	
FOLLOW-ON TRAINING	
TECHNICAL MANUALS	USAILCOM [1]
ESTABLISH TECH ORDER CASE	
ORDER REQUIRED TECH ORDERS	
ESTABLISH TECH ORDER FILES (LIBRARIES)	
DISTRIBUTE TECHNICAL ORDERS	
FACILITIES DEVELOPMENT	COUNTRY (US advises by
FINALIZE PLANNING	means of FMS mgt plan)
OPERATIONAL FACILITIES PREPARATION	
MAINTENANCE FACILITIES PREPARATION	
STORAGE FACILITIES PREPARATION	
TRAINING FACILITIES PREPARATION	
PROGRAM REVIEWS	USAILCOM
COUNTRY FMS MGT PLAN REVIEW	
INTERIM PROGRAM REVIEW	
INTERIM PROGRAM REVIEW	
INTERIM PROGRAM REVIEW	
PRE-ACTIVATION READINESS REVIEW	
TECHNICAL REPRESENTATIVES	USAILCOM [1]
ASSIGNED IN-COUNTRY	
SITE ACTIVATION	USAILCOM [1]
PREACTIVATION READINESS REVIEW CONF (IN-COUNTRY)	
SITE ACTIVATION CHECK OUT– –90–60–30–D-DAY	
INITIAL SPARES/SUPPORT EQUIPMENT IN-COUNTRY	
CLSSA FMSO I AUGMENTATION TO US PIPELINE COMPLETED	
EQUIPMENT DELIVERY	
DEPOT DELIVERY	
IN-COUNTRY DELIVERY	



[1] COORDINATES WITH APPLICABLE ACTION AGENCY

Figure A-14

possible, items on that list should be replaced by the standard procedural guide and the AMASM. It is expected this list could be decimated.

V. CONCLUSIONS AND RECOMMENDATIONS

20. Conclusions.

a. IL repair part sales have had adverse impacts on repair part support to US forces. Impact severity, although not serious enough to reduce US readiness, decreased US readiness improvement rates.

b. IL repair part sales have caused adverse impacts on support to US forces in three ways. First, US assets have been prematurely released. Second, US financial flexibility in material management processes has been restricted. Third, turbulent IL demand patterns have disrupted US requirements forecasts and diverted management attention from general supply system activities to IL-peculiar "firefighting." Impact intensity varies significantly between MSCs.

c. Present DARCOM and USAILCOM management indicators cannot directly identify IL impacts on the US supply system. In order to identify IL impacts, it was necessary for ESG to develop special indicators and indexes which generated visibility by fund category of IL activity in the US supply system.

d. IL support program management must improve before adverse IL impacts on support to US forces can be stopped. Areas requiring improvement include IL support program designs, functional responsibility

assignments, and management information. These improvements can be accomplished using existing resources.

21. Recommendations.

a. IL programs and functional responsibility assignments should be revised as soon as possible. Revisions should be accomplished as described in Section IV of this annex. MSAs should be evaluated as indicated in paragraph 12, page A-42.

b. ODCSLOG should conduct management reviews using the ESG special indicators for a 1-year trial period. Examining supply system demand and performance data on a fund category basis will provide more management insights into MSC operations than the present method of rolling up all funds. Periodic reviews of all customer programs, IL, and other US customers should be conducted to determine if any customer program adversely impacts on the US Army direct program.

c. CDS programs should be revised as indicated in Appendix A-3. Since CDS is a perfectly acceptable method for IL customers to obtain repair part support, it should be routinely included in total support program planning.

LAST PAGE OF ANNEX A

APPENDIX A-1

US REPAIR PART PROGRAM CONCEPTS DESCRIBED FOR NONLOGISTICIANS

Paragraph		Page
1	Purpose	A-1-2
2	Scope	A-1-2
3	The Military Standard Supply System--How Can All Services Successfully Use the Same System?	A-1-2
4	Requirements Determination--How Many Parts Are Needed?	A-1-4
5	Budgeting--How Much Money Is Needed?	A-1-16
6	Management Intensity--Where Should We Concentrate Our Efforts?	A-1-19
7	The Commodity Command Standard System (CCSS)--How Does the Computer Support the Supply System?	A-1-28

Figure		
A-1-1	The Impact of Time on Requirements Determination	A-1-7
A-1-2	Initial Provisioning Requirements Determination	A-1-10
A-1-3	Replenishment Requirements Objective and Total Requirement Determination	A-1-11
A-1-4	Typical Positive US Army Logistics Activities	A-1-14
A-1-5	The Army Stock Fund (ASF)	A-1-18
A-1-6	Stratification of Procurement Appropriations Budgets	A-1-18
A-1-7	US Army Supply System Management Hierarchy	A-1-20
A-1-8	Requisition Life Cycle	A-1-23
A-1-9	Issue Priority Designators	A-1-25
A-1-10	Permitted Customer Penetrations of General Purpose Assets	A-1-26
A-1-11	CCSS Key Functional Features	A-1-29

1. Purpose. This appendix describes basic US repair part program concepts so that nonlogistician planners can better understand how various actions affect US supply system performance.

2. Scope. Requirements determination is described and established as the critical supply system activity. Organizational design, managerial hierarchy, management indicators, and computer assistance are discussed to demonstrate how adequate levels of management intensity are focused on select repair parts.

3. The Military Standard Supply System--How Can All Services Successfully Use the Same System?

a. The US Army supply system is not unique. It is an element integrated into a military standard supply system. By applying the same operational rules, an infinite number of customers--either US military services or foreign--can use the same supply system with equal effectiveness. This is possible because each customer shares the common goal of providing maximum military effectiveness at minimum cost.

> During the past 25 years technological advances have influenced all logistics systems development significantly. Along with these developments, important policy and procedural changes have occurred in management of the Defense effort of the United States.
>
> Military logistics has been in an evolutionary process since World War II. The development of new management strategies has resulted in many actions to centralize common supply functions and to improve and standardize supply procedures and practices. Standardization and automation have resulted in a better capacity for a joint response in military operations and an improved overall state of combat readiness.

> The trend in supply management has been directed toward integration of operations. First, there was coordinated procurement and interservice supply support; next, there was the single manager concept; and then the establishment of a unified supply and services activity--the Defense Supply Agency (DSA). These incremental improvements in the Defense supply system have evolved into the concept of integrated materiel management.
>
> These developments are making it possible to eliminate long pipelines, many depots, and large stocks of supplies in overseas areas. The use of scientific management techniques applied to procurement, inventory management, maintenance and other related functions is enabling the Department of Defense (DoD) to procure better equipment, and to distribute and maintain it with a higher degree of proficiency and at comparatively lower costs. Continual management attention is being directed toward increasing the effectiveness and responsiveness of the DoD supply system to meet the materiel readiness objectives of the Military Services. (36)

b. Maximum military effectiveness depends on having equipment on hand (i.e., end item requirements determination) and operating (i.e., repair part requirement determination) at the right time. Repair parts generate roughly 20 percent of DA procurement costs but constitute over 80 percent of the supply line items managed and over 85 percent of the depot system workload. Procedural standardization is the only viable method of facing such a management challenge. (88)(129)

4. Requirements Determination--How Many Parts Are Needed?

a. Requirements determination is the heart of the supply function. Requirements for each repair part program can be described explicitly. Total requirements are calculated (i.e., forecasted) by multiplying program demand rates by program magnitude and are restrained by real time considerations. Requirement calculations justify funding programs at specific levels in the DA budget. (54)

b. All repair part support programs can be stratified in one of three requirement determination categories: initial provisioning, replenishment, and special requirements. To meet the supply system objective of fully supporting every weapon system, the programs in each category are designed to be complementary. Initial provisioning should fill a supply "pipeline" from user to wholesaler. The pipeline is "filled" by determining the stockage of repair parts required at user, retail supply level (i.e., direct support unit/general support unit (DSU/GSU), intermediate supply level (i.e., overseas depot), and the backup on-hand and on-order quantity required at wholesale level (i.e., national inventory control point (NICP)/commodity command). Projected replenishment requirements keep the pipeline filled and automatically adjusted in size by reacting to daily field unit operations. Special requirement determinations satisfy the needs of specific projects (e.g., war reserve stocks, current USAREUR M60/M60A1 exchange program) and thus are "additive" to normal replenishment requirements.

c. Demand rates are described as quantities of repair parts required per month(s). Engineered estimates of demands (e.g., parts per 100 failing in 12 months) are called maintenance factors and are used until about 2 years of real demand history is collected. Field unit average monthly demand (AMD) and depot maintenance overhaul factors (e.g., parts required per 100 vehicles of annual program) are developed from the historical data and used to estimate future needs. (51)(54)

(1) Equipment usage rates, terrain, climate, and operator and mechanic training influence demand rates. Supply managers can justifiably practice "benign neglect" towards such variables until an exception creates a need for more intensive management. This is because collecting data on such variables is so expensive in instrumentation and reporting costs and because any particular variable effect on AMD is dampened as equipment inventories increase.

(2) The AMD represents demands generated in "recurring" field operations. Only demands coded by field users as "recurring" are counted. "Nonrecurring" demands generated from stock level changes, equipment modifications, and additional equipment deployments are counted separately and considered "additive" to replenishment requirements calculated on an AMD basis. Depot maintenance requirements are a slight exception because of differences in depot and field unit environments. Depot demands, although "recurring" in depot programs, are coded "nonrecurring"

and are not counted in the AMD. Annual depot requirements are calculated separately to support this special program (i.e., depot repair parts explosion). (54)

d. Program magnitude is stated in terms of equipment inventory supported. A program increase from 1,000 to 1,100 inventory units generates a program change factor (PCF) of 1.1 and justifies funding a 10 percent requirement increase. After a new AMD for 1,100 vehicles is established, the PCF returns to 1.0. As the size of the supported inventory increases, the PCF has less significance and approaches 1.0 permanently. The PCF, as the AMD, is historically based. Thus, the 1,000-vehicle inventory denominator represents the average inventory which existed when the AMD was established. Field inventory increases are, therefore, added to the PCF numerator at the time the additional inventory is fielded. By regulation, the PCF must be updated annually. In practice, it is updated before every requirement determination for intensively managed items.

e. The time it takes to bring a repair part to a user dictates when a requirement determination must be made and funded to ensure repair part delivery on or about a desired date. Activity durations used in calculating requirement determinations are based on historical records. They reflect a best estimate of future activity durations. A short example will best describe how time restrains requirement determinations (Figure A-1-1).

THE IMPACT OF TIME ON REQUIREMENTS DETERMINATION

Admin Time[a/]		Production Time[b/]		Shipping Time[c/]		
4.75 mo	+	25 mo	+	.75 mo	=	30.5 mo

a/ Includes time to determine requirements, process requisition, and let a contract.

b/ Includes time to buy material, "tool-up," manufacture, and deliver to the depot.

c/ Includes time to move from depot, through all subordinate units, to the user.

. . . . . .

EXAMPLE CALCULATIONS:

Basic Requirement:

30.5 mo ÷ 11 mo/part = 2.77 parts required.

Unrestrained procurement case--3 parts purchased:

.23 parts excess x 11 mo/part = 2.5 mo safety level.

Restrained procurement case--2 parts purchased:

.77 parts short x 11 mo/part = 8.5 mo of deadline.

$$\frac{30.5 - 8.5 \text{ mo of deadline}}{30.5 \text{ max available mo}} = 72\% \text{ operational readiness}$$

Figure A-1-1

(1) In an ideal case, it takes 30.5 months to deliver an essential part which fails once every 30.5 months. Based on a deployment decision made 30.5 months ago, the end item and an initial stock of one part are made available on the same day. When the on-vehicle part fails, the spare is put on, and a replenishment order is placed. Exactly 30.5 months later--when the part fails again--the replenishment part is delivered, and the replenishment cycle continues.

(2) Now consider the case of a part which has a failure interval (i.e., demand rate) of once every 11 months but still requires 30.5 months for delivery. To guarantee uninterrupted parts availability (i.e., 100 percent equipment operational readiness), three parts must be on hand or on order. Fulfilling a requirement of three establishes a 2.5-month safety level to protect against demand fluctuations. Demand fluctuations may be expected because the demand rate was only a "best estimate." If only two parts can be funded, the vehicle could remain deadlined for 8.5 months at the degradation of military effectiveness (i.e., 72 percent operational readiness).

(3) The total requirement is equal to the monthly demand rate per program multiplied by the number of months required for delivery and increased or decreased by changes in program size. The requirement estimate can be made more accurate by recalculating it at ever decreasing intervals and correcting the resultant procurement actions. Shortages (i.e., "short supply") can be partially prevented by expediting administrative, production, or shipping activities. Overages (i.e., "long

supply") can be partially prevented by cancelling procurement contracts. These efforts are all directed at prudently minimizing supply system expenditures.

f. Initial provisioning requirement determinations formally define a worldwide provisioning quantity (Figure A-1-2). Deployment is prohibited until 90 percent of required operating stocks are on hand. This permits a smooth introduction of equipment into the field. After deployment, replenishment requirement determinations based on a requirements objective become dominant (Figure A-1-3). (51)

(1) The core of the requirements objective is the wholesale level replenishment requirement and safety level established during initial provisioning. As the MSC collects historical data on a weapon system, the WLRR and SL are converted into the replenishment PCLTR, RCYR, and VSL; a PCR is developed; and an RDTR is administratively added. The actual transition to full replenishment operations is subtle. It depends on the severity of problems encountered while the weapon system is being fielded.

(2) The total requirements objective is automatically adjusted due to changes in field operation trends (i.e., AMU changes), small additional deployments (i.e., PCF changes), or administrative/production time changes (i.e., requirements objective (RO) time increment changes). This computation method minimizes supply costs by <u>not</u> increasing purchases until a need is historically established. The US Army has consciously accepted this operational risk.

INITIAL PROVISIONING REQUIREMENTS DETERMINATION (35)

Worldwide Provisioning Objective	Remarks
OTHER SPECIAL REQUIREMENTS	. Provides for special explicitly defined demands.
AUTHORIZED OPERATING QUANTITY (AOQ)	. Provides initial operating stock to the user. . AOQ (initial operating stock quantity in months) x (demand rate) x (support program).
INITIAL ISSUE QUANTITY (IIQ)	. Provides initial stockage to all intermediate and retail level stockage points. . IIQ (order-ship time to bring part forward from wholesale level) x (demand rate) x (support program).
WHOLESALE LEVEL REPLENISHMENT REQUIREMENT[a] (WLRR)	. Provides on-hand and on-order wholesale level backup stocks . For consumable parts, this is equal to the replenishment procurement cycle leadtime requirement (PCLTR). . For reparable parts, this is equal to the replenishment repair cycle requirement (RCYR).
SAFETY LEVEL (SL)	. Objective of requirement is to prevent minor interruptions of replenishment caused by demand fluctuations. . SL = (safety level in months) x (demand rate) x (support program).
PROTECTABLE WAR RESERVE MATERIAL OBJECTIVE (PWRMO)	. See CAA study reference. (89) . This quantity is not pertinent to this study.

a/ This quantity is procured for the initially programed equipment deployment and for additional deployments in excess of 25 percent of the original program.

Figure A-1-2

REPLENISHMENT REQUIREMENTS OBJECTIVE AND TOTAL REQUIREMENT DETERMINATION (54)

Total Requirement = (Requirements Objective + Additive Requirements) - (Assets On Hand or Due In From Previous Buys/Repairs)

OTHER ADDITIVE REQUIREMENTS	. Satisfies "other" demands generated from non-recurring demands connected with daily operations, special programs, or small additional equipment deployments.
Requirements Objective Level for Replenishment	
PROCUREMENT CYCLE REQUIREMENT (PCR)	. Satisfies demands expected between procurement actions. Based on economic order quantity (EOQ).
	. PCR = (EOQ in months) x (demand rate) x program change factor (PCF).
Reorder Point Level	
PROCUREMENT CYCLE LEADTIME REQUIREMENT (PCLTR) and/or REPAIR CYCLE REQUIREMENT (RCYR)	. Satisfies demands expected between time necessary to administratively let contract (ALT) and contractor production leadtime (PLT).
	. PCLTR = (ALT + PLT) x (demand rate) x PCF.
	. For reparable parts, this increment is divided in a PCLTR for new parts and an RCYR based on repair times to get "fixed" parts.
REQUIREMENT DETERMINATION TIME REQUIREMENT (RDTR)	. Satisfies forecasted demand between time reorder point is reached and procurement work directive is issued (RDT).
	. RDTR = RDT x (demand rate) x PCF.
	. RDT cannot exceed 7 days for buys based on computer decision and 15 days based on manual human decision process.
VARIABLE SAFETY LEVEL (VSL)	. May be increased based on combat essentiality of item. See Figure 4-6, AR 710-1.
	. Described in months of supply.
PROTECTABLE WAR RESERVE MATERIAL OBJECTIVE (PWRMO)	. See CAA study reference. (89)
	. This quantity is not pertinent to this study.

Figure A-1-3

(3) Small nonrecurring demands (e.g., operating stock level changes) are absorbed within the requirements objective. The US Army is willing to accept the risk that small "unprogramed" nonrecurring demands will not disrupt the "programed" recurring demand forecast since it is based only on a "best estimate." This overall policy tends to keep the US Army asset position "lean."

(4) Large special requirements are always counted as "additive" to the requirements objective. This results in a one-time increase in procurement.

(5) Total procurement quantities are shown as single numbers. Incremental requirements caused by individual customers lose identity in this figure. The total figure is stratified again only for shipping purposes to identify delivery destinations and ownership purpose code groups (i.e., depot programs).

g. The supply manager assigns a procurement priority to each "buy" decision based on the magnitude of the requirement objective shortfall. This authorizes the procurement agent to expedite procurement. Previously qualified contractors may thus be used in lieu of long competitive bid procedures with first-item quality tests. Expedited procurement cannot, however, always satisfy demands. While AMD is increasing forecasted demands, sudden changes in field operation concepts can cause short-term supply shortages which will justify increased future funding.

The funding, however, is based on increased demands already experienced. Thus, if initial provisioning is not carefully managed and if planning for field operating concepts changes does not consider supply system reaction time, "short supply" of various intensities is inevitable even with expedited procurement.

h. Supply managers control asset distribution. Most assets are placed in a large general purpose account. The management tools discussed later in this appendix will help distribute assets to the satisfaction of all customers. Special customer orders may be shipped directly from vendor to customer. The supply manager, however, has little control over what portion of procurement is applied towards the special delivery. The first and last articles produced have an almost equal chance of being applied to the special delivery.

i. Unexpected demand pattern changes invalidate requirement determinations and can result in degraded military effectiveness. Many positive DA activities strive to minimize the effects of demand fluctuations (Figure A-1-4) and defend equipment operational readiness rate stability. There is no defense, however, against decisions that disrupt demand patterns by causing unprogramed "early" delivery (i.e., less than PCLTR) of repair parts. Early deliveries directly violate real time restraints. They can be satisfied only by diverting assets from other programs. The resulting degradation in military effectiveness is not due to an inadequate production base but to the violation of time

TYPICAL POSITIVE US ARMY LOGISTICS ACTIVITIES[a/]

DA Program	Responsible Organization	Description
Short-term Impacts:		
Unit Readiness Report (50)	ODCSOPS/ ODCSLOG	Monthly report reflecting unit logistic readiness condition in terms of equipment on hand and serviceable.
Material Assistance Designator (MAD) Report (52)	DARCOM	Complements unit readiness report. Units provide document order number (DON) of each unfilled requisition degrading unit readiness. One-month end items (DONs) are sent in. One-month repair part DONs are sent in.
Equipment Operational Readiness (56)	ODCSLOG	Quarterly report showing percent of equipment operational for period. Reasons for equipment being nonoperational are stratified into nonoperational for supply (NORS) and nonoperational for maintenance (NORM).
Command Logistics Review Team Extended (CLRTX)	ODCSLOG/ DARCOM	On request, team will help requestor correct operational supply problems.
Report of Supply Constraint	DARCOM AR 710-2	Army commander finding inadequate funds on hand for supplies notifies the next higher commander. Within 2 days, a solution must be provided or the report must be passed higher. Each level has 2-day suspense.
New Equipment Training Teams	DARCOM	Training team arrives before or with new equipment to train operators and mechanics.
Selected Item Management System Extended (SIMS-X) (71)	DARCOM	A method of providing high management intensity to a supply line. Every transaction is studied. Worldwide assets are controlled on a daily basis.
Mid-term Impacts:		
Red Team/System Assessment (107)	DARCOM	MSC and Maint Mgt Ctr, Lexington, KY must make a detailed annual evaluation of all areas affecting system supportability. MSC formulates corrective action plan.
Long-term Impacts:		
Reliability, Availability, Maintainability, and Dependability (RAM-D) Improvements	DARCOM	Provides engineering improvements to equipment. Increases "meantime between failure" of parts and system.
MODLOG 77	ODCSLOG	Streamlining of USAREUR logistics pipeline. All supplies will be flown from CONUS to retail level reducing order-ship time from 60 to 20 days.

a/ These typical positive DA activities reduce supply demand fluctuation and stabilize equipment operational readiness rates.

Figure A-1-4

restrictions. A contractor establishes a plan to economically satisfy the requirements DA decides to fund. Minor requirement changes are compensated for by varying VSL, PCLTR, and PCR portions of the requirements objective (Figure A-1-3) to the mutual advantage of DA and the contractor. Major changes (e.g., diverting repair parts for 200 TOWs in 1/2 normal availability time) cannot physically be accomplished without asset diversions. A contractor cannot be expected to maintain dormant extra capacity waiting for "special" orders without charging huge surcharges for such a service.

j. Whenever possible, a repair part that is reparable is fixed and returned to use. Costs to fix a part are much less than to purchase a new one. MICOM uses a 90 percent return rate of nonoperational "reparable" repair parts as a base (i.e., adjusted to a final recovering quantity based on a history of reparable "washouts") for determining how many demands can be satisfied with "fixed" parts instead of new parts. MICOM believes using a return rate of less than 90 percent would equate to asking US taxpayers to fund US Army inefficiencies. If a 90 percent return rate is not met, future repair part shortages are unavoidable unless an emergency buy of new parts is made. MICOM has often met the 90 percent return rate by refusing to issue replacement parts unless evidence is received that an inoperable part was recovered and is being returned.

k. Modification of current requirement determination procedures is under study for the IRO of the US Army ALMC. The modified procedures introduce more detail into initial provisioning calculations and a more sophisticated mathematical weighting and curve smoothing technique in replenishment calculations. In neither case, however, are the basic parameters changed. Anticipated cost savings generated by these procedural changes were $1.8 million annually on a 10,000-part sample. Managers using this new method should be able to more accurately procure what customers want--preventing the commitment of limited funds to the purchase of unneeded assets. (110)(111)

5. Budgeting--How Much Money Is Needed?

a. Three categories of funds are used to provide assets required for each program. MSCs need Army Stock Fund (ASF) and Procurement Appropriations, Army (PAA) for secondary items to buy new parts or pay contractors to "fix" parts. Depot Support Command (DESCOM), another DARCOM subordinate command, uses operation and maintenance, Army (O&MA) funds to operate depot overhaul programs. ASF and PAA funds are used to provide the repair parts to the depot overhaul programs. O&MA funds are used to hire workers and operate the plant. All budgets go through DARCOM to ODCSLOG where a complete DA supply budget is prepared.

b. Budget stratifications for repair parts are based on the value of total assets required minus the value of assets on hand and minus the value of required assets for which reimbursement from non-Army

customers will be received (e.g., other US services, FMS). The resulting net value describes the budgeted amount. The original total requirement value is developed by each MSC based on the cumulative value of all expected demands. The value of demands for specific parts is developed by multiplying the number of parts required by the unit price. Each unit price is a representative price for the parts. Fund requirements are not stratified by weapon system. (54)

c. DARCOM designates if a part is ASF or PAA funded. Generally, ASF parts are consumable (i.e., not reparable), low-cost items and PAA parts are reparable/recoverable items costing in excess of $1,000 each.

d. The ASF is simply a revolving fund of constant value. At any time, ASF value is described by the total worth of assets and cash on hand (Figure A-1-5). Inventory turnover rates determine how successful a supply manager has been in procuring "wanted" items. If items will not sell, cash will not be available to procure critically needed items. Each MSC prepares an ASF budget which is applied as equitably as possible across all MSC requirements regardless of weapon system. The MSC obligates "extra" ASF cash above their budget to buy parts for non-DA customers using obligation authority established in the specific customer order program from which the customer reimburses DA.

e. PAA secondary item funding is more rigidly controlled. Seventeen separate PAA budgets based on commodity groups are prepared annually (Figure A-1-6). By law, funding limits may not be exceeded in

THE ARMY STOCK FUND (ASF)

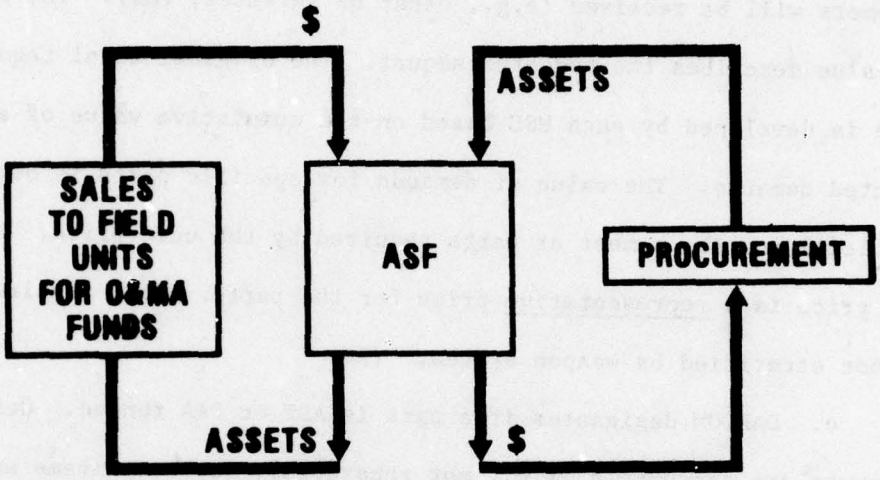


Figure A-1-5

STRATIFICATION OF PROCUREMENT APPROPRIATIONS BUDGETS[a/]

Procurement Appropriation Group	MSC					
	ARMCOM[b/]	AVSCOM[c/]	ECOM	MICOM	TARCOM	TROSCOM[d/]
Aircraft	X	X	X	X	--	--
Missiles	X	--	--	X	--	--
Munitions	X	--	--	--	--	--
Wpns/Tracked Cbt Veh	--	--	--	--	--	--
Act No. 1	X	--	--	--	X	X
Act No. 2	X	--	--	--	--	--
Other Act No. 1 (Wheeled Vehicles)	--	--	--	--	X	--
Act No. 2 (Electronics/Commo)	--	--	X	--	--	--
Act No. 3 (Other Spt)	X	--	X	--	X	X

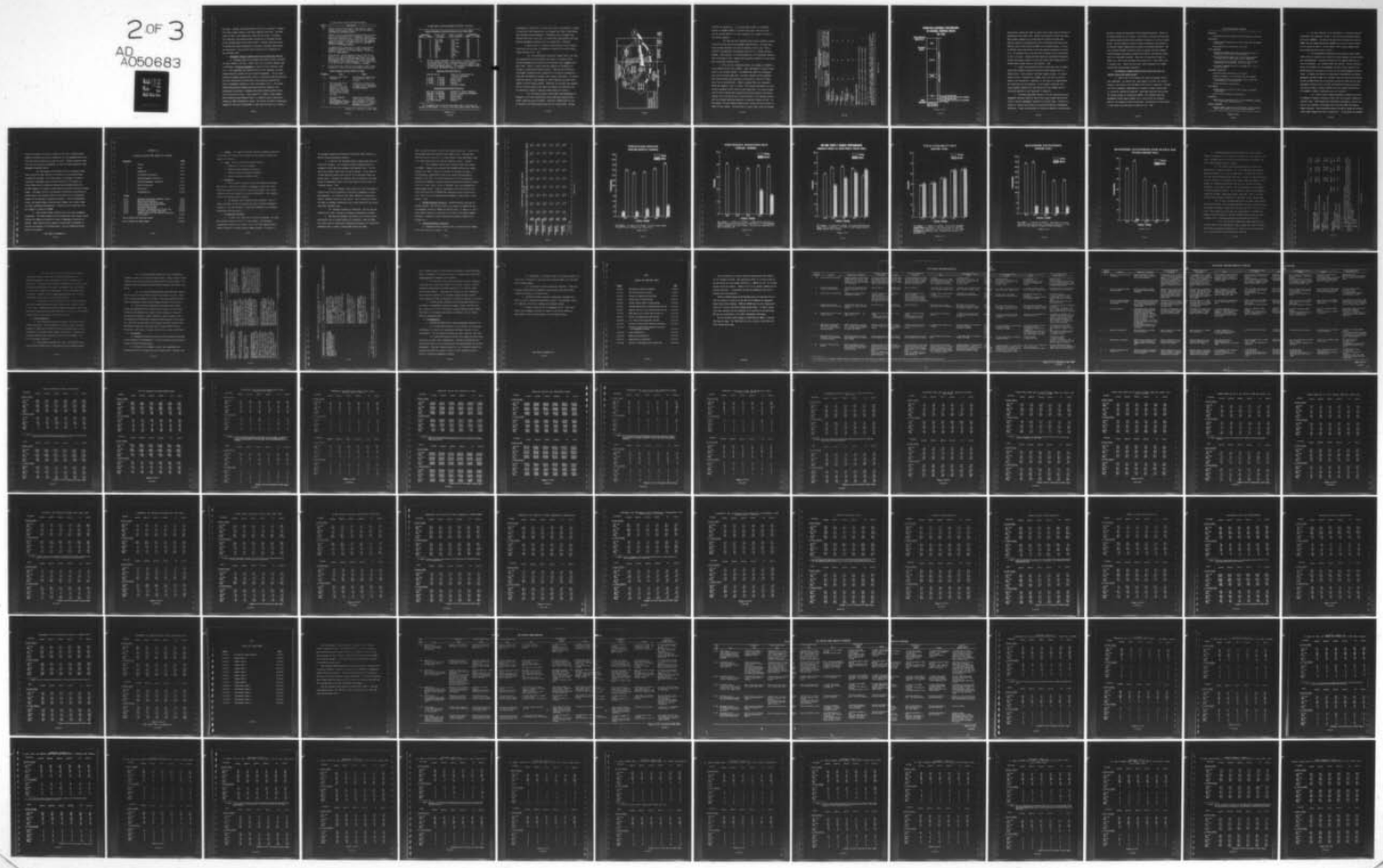
a/ Prepared for consolidation into total DA supply budget.
b/ ARMCOM = US Army Armaments Command.
c/ AVSCOM = US Army Aviations Command.
d/ TROSCOM = US Army Troop Support Command.

Figure A-1-6

AD-A050 683 OFFICE OF THE CHIEF OF ENGINEERS (ARMY) WASHINGTON D --ETC F/G 15/5
SECURITY ASSISTANCE REPAIR PART SUPPORT. VOLUME II. ANNEX A.(U)
APR 77 W K GAY, W J BURKE, J H TATE

UNCLASSIFIED T-27787-VOL-2 NL

2 OF 3
AD A050683



any group. Specific fund redistribution actions are required to reapportion funds between budgets on the same commodity group line. PAA funds cannot be used to buy supplies for other than US forces. To prevent law violations, each non-DA customer requisition is processed through an MSC customer order control point (COCP). Customer fund availability is checked there before permission is granted to obligate funds against the requisition. This positive control ensures DA is reimbursed for each customer order.

6. Management Intensity--Where Should We Concentrate Our Efforts?

a. Managing repair parts programs calculated on "best estimates" of future demand is not easy. Repair parts are, therefore, managed under a philosophy of selective management to ensure the most important items (i.e., those demanding high funding levels or those essential to weapon system operation) receive the most intensive management. This is accomplished by grouping similar supply items to concentrate technical expertise and avoid duplication of effort and by then applying an appropriate level of management intensity to each item (Figure A-1-7). The related DARCOM organizational design decentralizes decision authority thus minimizing the duration of damaging time delays between problem discovery and corrective action. Items "migrate" to higher or lower management intensity groups whenever there is a change in type or quantity of funding or combat essentiality coding. As a result, an item is intensively managed all the time if justifiable or only when the item is in "trouble."

US ARMY SUPPLY SYSTEM MANAGEMENT HIERARCHY

Level	Description
1[a/]	ODCSLOG--Supervises development of Army logistics organizations, systems, plans, doctrine, policies, and standards. The DCSLOG is a Lieutenant General.
2	DARCOM, as part of its material readiness function, is responsible for accomplishing inventory management, procurement, warehousing, distribution, etc. In addition, DARCOM is responsible for the effective interface between material readiness functions and material development functions. The Commander, DARCOM is a General. The deputy director for each main function is a Lieutenant General.
3	Six DARCOM MSCs are responsible for weapon system readiness and material management of parts in distinct industrial commodity groups (e.g., ECOM, MICOM, TARCOM). The MSC Commander is a Major General.
4	Within the MSC, items are grouped by weapon system whenever possible (e.g., improved HAWK, M60 tank family, etc.). The grade of the weapon system program manager ranges from Brigadier General to GS-13, depending on the "combat essentiality" of the system. Actual supply management is the responsibility of the MSC Director of Material Management, a Colonel.
5a	At operating levels, parts are first grouped by type of funds required (i.e., ASF or PAA) and then grouped as shown below:

Supply Management Grouping Designators (SMGD)

Designator	Group	Remark
R	Reparable (depot level)	Identifies parts which should be recovered for repair or salvage.
C	Consumable	
V	Very High Dollar Value (over $500,000)	Groups parts by dollar value of supply activity identifying the lowest level of management intensity assignable.
H	High Dollar Value (over $50,000 up to $500,000)	
M	Medium Dollar Value (over $5,000 and up to $50,000)	
L	Low Dollar Value ($5,000 and under)	
1	Very High Management Intensity	Groups parts by combat essentiality, security classification, temporary stock availability problem, etc., possibly raising the level of management intensity assigned.
2	High Management Intensity	
3	Medium Management Intensity	
4	Low Management Intensity	

(Figure A-1-7 Continued on Next Page)

US ARMY SUPPLY SYSTEM MANAGEMENT HIERARCHY--Continued

Supply Management Grouping Designators and Codes (SMGC)

Reparable SMGD	Reparable SMGC	Dollar Value Grouping	Degree of Management Intensity	Consumable SMGD	Consumable SMGC
RV1	A	Very High	Very High	CV1	M
RV2	B	Very High	High	CV2	N
RH1	C	High	Very High	CH1	P
RH2	D	High	High	CH2	Q
RM1	E	Medium	Very High	CM1	R
RM2	F	Medium	High	CM2	S
RM3	G	Medium	Medium	CM3	T
RL1	H	Low	Very High	CL1	U
RL2	J	Low	High	CL2	V
RL3	K	Low	Medium	CL3	W
RL4	L	Low	Low	CL4	X

5b Within a supply management group, action is further restricted by type and dollar value. The management action control chart shown below is used at MICOM. Inventory managers range in grade from GS-05 to GS-11. Low management intensity items may be almost 100 percent computer managed.

Approval-Procurement/Rebuild

$200,000 and Up	Director of Directorate for Materiel Management
$ 75,001 - $200,000	Division Chief
$ 50,001 - $ 75,000	Branch Chief
$ 35,001 - $ 50,000	Section Chief
$ 10,001 - $ 35,000	Reviewer
$ 0 - $ 10,000	Inventory Manager

Approval-Disposal/Excess Retention

More than $1,000,000	Commander or Deputy Commander
$500,000 - $1,000,000	Director of Material Management
$200,000 - $ 500,000	Division Chief
$ 50,000 - $ 200,000	Branch Chief
$ 10,000 - $ 50,000	Section Chief
Less Than $10,000	Reviewer

a/ Management-level identification shown here is used only for clarity in this figure. It is not a universal supply system identifier.

Figure A-1-7

Approximately 2 percent of all repair part lines, representing 77 percent of repair part fund expenditures, are assigned very high or high management intensity group designators. Considering that DA manages over 300,000 repair part item lines, it becomes more comprehensible that most material management problems are truly "exceptions." (88)(129)

b. Quick review of a typical requisition life cycle diagram illustrates the intricacy of managing the support of an entire weapon system (Figure A-1-8). (97)

(1) The DARCOM major subordinate command (MSC), with overall responsibility for development and support of a weapon system, actually manages about 30 percent of the system's total stocked repair part lines. (Note: A repair part must qualify for stockage on an economic or essentiality analysis basis.) Important data affecting requirement terminations must, therefore, be accurately transmitted to other MSCs and DSA/GSA to prevent "short supply" conditions. To further complicate matters, items managed by "other" agencies are more likely common to several weapon systems. Therefore, all involved item managers may not be fully aware of the "sense of urgency" the responsible MSC is directing to support a specific weapon system in "trouble."

(2) The direct support system (DSS) being implemented is designed to fill more requisitions faster from area-oriented depots (AODs) supporting specific MACOMs. Eventually, DARCOM plans to fill 90 percent of all MACOM requisitions from the related AODs. Savings

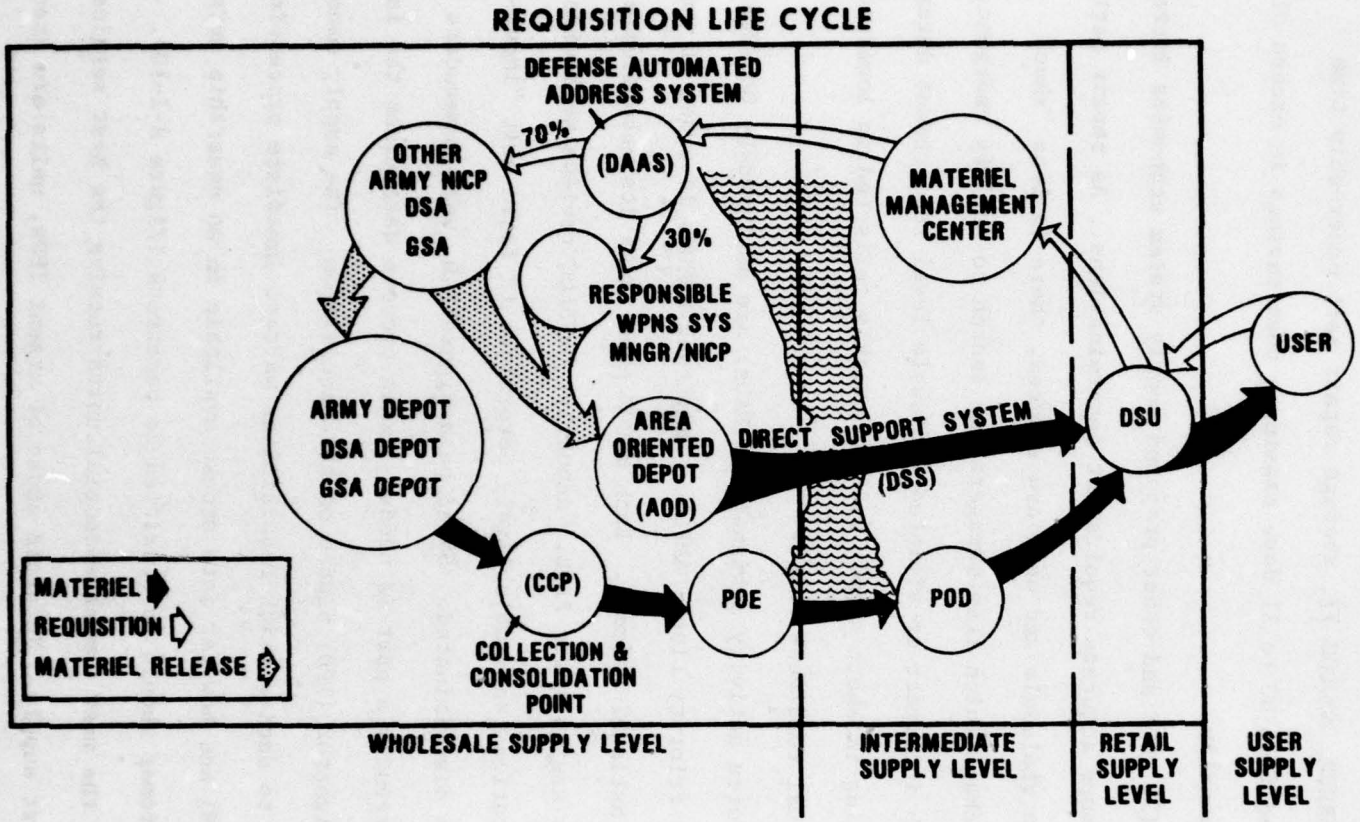

REQUISITION LIFE CYCLE
DEFENSE AUTOMATED ADDRESS SYSTEM
70%
(DAAS)
OTHER ARMY NICP DSA GSA
30%
RESPONSIBLE WPNS SYS MNGR/NICP
MATERIEL MANAGEMENT CENTER
USER
ARMY DEPOT DSA DEPOT GSA DEPOT
AREA ORIENTED DEPOT (AOD)
DIRECT SUPPORT SYSTEM
(DSS)
DSU
(CCP)
POE
POD
COLLECTION & CONSOLIDATION POINT
MATERIEL
REQUISITION
MATERIEL RELEASE
WHOLESALE SUPPLY LEVEL
INTERMEDIATE SUPPLY LEVEL
RETAIL SUPPLY LEVEL
USER SUPPLY LEVEL

Figure A-1-8

from DSS are substantial. In the associated project to streamline support to USAREUR, MODLOG 77, average repair part order-ship time will be reduced from 60 to 21 days causing a cost savings in excess of $20 million annually.

(3) DSS and other proposed supply system economies increase the need for more accurate requirement determinations. As repair part stocks between wholesale and user are reduced, there is less "shock absorber" stockage which item managers can search to satisfy emergency demands. Each incorrect or violated wholesale level requirement determination resulting in short supply will be quickly reflected in lower equipment operational readiness rates.

c. Force activity designators (FADs) are assigned by ODCSOPS in the DA Master Priority List (DAMPL). They rank MACOMs in order of importance to our national defense. Each MACOM then ranks its subordinate units and may assign lower FADs. Annually, ODCSLOG reviews worldwide FAD stratifications and subjectively determines if field unit "importance" can be discriminated. Based on assigned FAD, unit commanders decide how urgently a part is needed. This process determines the issue priority designator (IPD) placed on the requisition. The supply manager uses the IPD to decide which requisitions warrant immediate processing (Figure A-1-9) and how far into stocks available in an ownership purpose code the customer should be permitted to penetrate (Figure A-1-10). In this manner, the most combat essential units receive the best service in times of short supply. To avoid abuse of urgent IPDs, units are checked

ISSUE PRIORITY DESIGNATORS

Force/Activity Designator	Urgency of Need Designator Reason for Need A Equipment and Repairs Necessary for Mission Accomplishment	B Equipment and Repairs Impairing Operational Capability/Replacement for Issues	C Administrative; Not Essential to Operational Effectiveness; and Routine Replenishment
I General War or Special Project	01	04	11
II Ready for Combat	02	05	12
III Ready to Deploy (D+30)	03	06	13
IV Planned for Deployment (D+30 to D+90)	07	09	14
V All Others (D+91)	08	10	15

Issue Priority Groups (IPG)

IPG1[a/] - 01 to 03. Process in 7 days for CONUS; 11 to 12 days for overseas.

IPG2 - 04 to 08. Process in 11 days for CONUS; 15 to 16 days for overseas.

IPG3 - 09 to 15. Process in 29 days for CONUS; 67 to 82 days for overseas.

a/ Not operationally ready, supply (NORS): Adding a NORS code to an IPG1 requisition implies that lack of this part has already caused a degradation in a unit's ability to accomplish its mission. NORS requisitions are processed ahead of all other IPG1 requisitions.

Figure A-1-9

PERMITTED CUSTOMER PENETRATIONS OF GENERAL PURPOSE ASSETS (BY IPD)

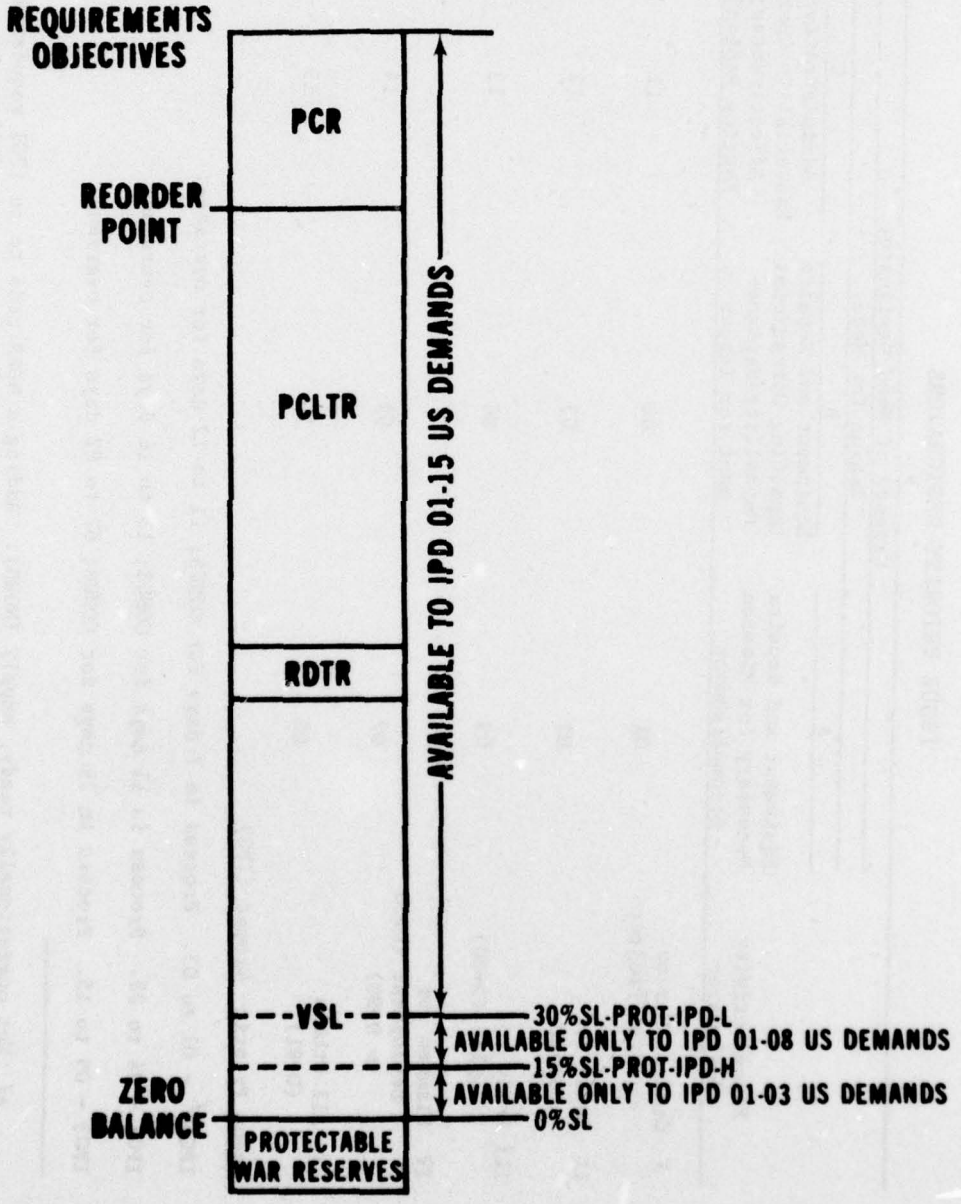


Figure A-1-10

during annual inspections (AGI) to ensure that no more than 25 percent of requisitions have urgent IPDs. Unless large numbers of units have their FADs suddenly changed, as occurred when all Reserve unit FADs were suddenly changed to correspond with their affiliated Active Army units, FADs will have little short-term impact on the supply system. In fact, the ODCSLOG annual FAD review is not made against any explicit criteria (i.e., no standard--such as no more than 20 percent of all units should be FAD I--is used). Large-scale FAD changes are potentially disruptive because the sudden increase in units with urgent IPDs "competitive" for limited assets draws stocks to zero balance. (84)

d. Supply reconciliations require requesting units to compare requisition document records with the next higher supply level on a monthly basis. This procedure "purifies" supply records. If a requisition is lost or cancelled at a higher level, the user can quickly submit a new requisition. Similarly, if the item is no longer needed, the requisition can be cancelled. In this manner, wholesale level supply managers expend effort satisfying only valid demands and are accurately apprised of how "important" a demand is.

e. Preceding paragraphs establish that the organizational and management hierarchy design of the US Army supply system should permit focus of adequate management intensity on critical items. Decisions to sustain or redirect such focus are activated by analysis of management indicators. Proper interpretation of indicators depends on understanding

the basic concepts and parameters of the measured operation. Basics of the supply system are not complex. They appear so because each operation is repeated several million times annually in support of the total supply system. Detailed monthly reviews of supply performance are produced in the Military Supply Transportation Evaluation Procedures (MILSTEP). The four principal MILSTEP evaluation areas are demands received, demands requiring manual processing, availability analysis, and material obligation (i.e. backorder) analysis. Each area is stratified by type of funds (i.e., ASF or PAA secondary) and customer (i.e., Army CONUS, Army IL Program, etc). Within the last year, some information on a weapon system basis has been made available.

7. The Commodity Command Standard System (CCSS)--How Does the Computer Support the Supply System?

a. CCSS is one of the largest ADP system development efforts ever undertaken. In January 1977, when TARCOM is on-line, the initial phases of the project to put all MSCs on CCSS will be completed. Although the CCSS is amazingly comprehensive, it remains a dynamic system which is constantly expanded and improved. Functional operating instructions for system changes are prepared by DARCOM. The Automated Logistics Management Systems Agency (ALMSA) in St. Louis writes the programs. MSCs put the program on-line and load data. Key features of CCSS related to this study are illustrated in Figure A-1-11. (98)

CCSS KEY FUNCTIONAL FEATURES

CATALOGING:

- Establishes initial and updated parts identification in all files.

PROVISIONING:

- Generates initial "pipeline" provisioning repair parts and special tool lists.
- Establishes bulk of initial master data record.

SUPPLY MANAGEMENT:

- Determines requirements and executes buys (in some cases) for mobilization, provisioning, and replenishment.
- Prepares DOD-required budget stratification, including price recomputations for apportionment year and budget year.
- Recomputes admin and procurement leadtimes so funds and asset requirements will be married at the correct time.
- Data display recommends actions to item manager (i.e., buy or dispose of excess).

PROCUREMENT & PRODUCTION:

- Prepares and funds procurement work directives.
- Signals item manager if no procurement funds are available.
- Provides advanced notice of procurement action to buyers and notifies depots of future deliveries.
- Accepts procurement status inquiries.

STOCK CONTROL:

- Provides requisition control for asset release or backorder establishment.
- Conducts physical inventory reconciliations.

MAINTENANCE:

- Establishes parts requirements for all depot maintenance programs (i.e., depot repair parts explosion).

FINANCIAL MANAGEMENT:

- Maintains ledgers, executes fund certification, controls program funds, bills customers, and provides financial reports.

Figure A-1-11

b. All data pertinent to the management of a specific item are consolidated and constantly updated in the national stock number master data record (NSNMDR). All subroutine operations draw base data from the NSNMDR and then update appropriate NSNMDR sectors so the latest information is always on record. In this manner, PLTs, prices, demand rates, and stockage records are kept accurate.

c. The requirements determination and execution system (RDES) within CCSS is a powerful tool used by the supply managers to make requirement determinations. Activated automatically by demands, RDES runs as often as necessary. At a minimum, RDES runs monthly. Generally procurements occur annually for low management intensity items, quarterly for medium intensity, and monthly for high and very high management intensity items. To improve the quality of requirement determinations for medium management intensity items, four customer areas can be discretely defined. Fifteen customer areas can be discretely defined for high and very high management intensity items. Customer discrimination permits requirement calculations based on separate demand rates and program identification for USAREUR or CONUS or individual units or countries.

(1) Items of low or medium management intensity need never be examined by humans if parameter limits have been properly loaded into computer files. RDES automatically determines requirements, decides how much to buy, produces a procurement work directive (PWD), and updates budget forecasts. Other subroutines ensure the PWD is funded and automatically sends requests for bids to contractors. If exceptions to parameter

limits are sensed, the action is pushed off-line for a human decision. Computer "decisions" are fully documentable in item management plan printouts which can be called at any time for audit. Adequate personal attention can thus be given to management of items that have migrated to high management intensity levels.

(2) The manager controls RDES output by "freezing" parameters such as PLT, AMD, the PCF, or variables in the equations which calculate VSL and EOQs. Such action permits the manager to produce a "corrected" requirement based on human evaluation of the impact of future events such as fielding an engineering improvement which will decrease demand, or a change in field operating concepts which may increase demand. The degree to which this managerial flexibility is exercised is limited only by the personal ability and motivation of the responsible manager or the foresight of high-level planners. After reviewing RDES output, the supply manager, using personal judgment, may further change the final requirement determination. Changes are then loaded back into the computer to update the NSNMDR.

d. CCSS provides almost unlimited access to supply management information. The supply manager who fully appreciates basic supply system concepts can design as extensive an array of management indicators as desired. Each indicator may be measured continuously if warranted, or only for the duration of a problem period. Lack of information should never be "an excuse."

LAST PAGE OF APPENDIX A-1

APPENDIX A-2

IL IMPACTS ON REPAIR PART SUPPORT TO US FORCES

Paragraph		Page
1	Purpose	A-2-2
2	Scope	A-2-2
3	Background	A-2-2
4	US Readiness Indicators	A-2-2
5	DARCOM Management Indicators	A-2-4
6	USAILCOM Management Indicators	A-2-4
7	Special Indicators	A-2-14
8	Conclusions	A-2-15
9	Recommendations	A-2-18

Figure		
A-2-1	Equipment Operational Readiness Trends	A-2-5
A-2-2	Requisitions Received	A-2-6
A-2-3	High-priority Requisition Rate	A-2-7
A-2-4	On-time Supply Source Performance	A-2-8
A-2-5	Stock Availability Rate	A-2-9
A-2-6	Backorders Outstanding	A-2-10
A-2-7	Backorders Outstanding Over 90 Days Old	A-2-11
A-2-8	IL Repair Part Program Trend Data	A-2-13
A-2-9	Summary Analysis of ESG Special Indicators and Indices	A-2-16

TAB A--SPECIAL ESG INDICATOR CHARTS A-2-A-1

TAB B--SPECIAL ESG INDEX CHARTS A-2-B-1

1. Purpose. This appendix analyzes logistics management indicators to determine if IL repair part programs have any impact on repair part support to US forces.

2. Scope. Indicator categories analyzed include:

a. Readiness of units and equipment.

b. DARCOM standard management indicators.

c. USAILCOM standard management indicators.

d. Special indicators developed by ESG.

3. Background.

a. After extensive document research and numerous interviews, ESG could not conclusively determine if routine IL repair part sales caused any impacts on the quality of repair part support to US forces. Subjective interview comments were seldom substantiated. Most comments fell in the "popular myths" category.

b. The apparent lack of objective data on which to base IL impact statements led ESG to question the value of current management indicators. ESG thus decided to review these indicators and recommend improvements when appropriate.

4. US Readiness Indicators.

a. IL repair part sales did not reduce US readiness. US readiness steadily improved from FY 75 to the present. Two indicators independently validate this finding. One is the Unit Readiness Report submitted monthly to ODCSOPS through command channels. The other is

the Equipment Operational Readiness Trends Report (EOR) submitted to ODCSLOG through maintenance channels.

b. A specific Unit Readiness Report category deals with unit logistical readiness. The category stratifies readiness based on equipment on hand (EOH) and equipment serviceability (ES). Poor US repair part support would result in low ES ratings. It was found ES ratings improved steadily since late FY 75 in both major combat and support units. Although this indicator does not identify if IL sales reduced US improvement rates, it at least shows IL did not lower US readiness overall. (50)

(1) Unit readiness report quality is often challenged on grounds that "political pressure" is exerted on commanders to report high readiness. As a result of this claim, ODCSLOG is revising the logistic readiness portion of this report. New ES reporting criteria are based on equipment availability over a month instead of the current single-day "snapshot" base.

(2) Readiness ratings are classified. They are not published in this study. Records of ratings are maintained in ODCSLOG.

c. EOR indicate equipment availability over a 90-day period. Nonavailable time is charged against two categories: NORS and NORM. Since this report is completed by maintenance personnel, it is generally recognized that it tends to inflate NORS rather than NORM.

Thus, the report presents a "worst case" supply system test. Since FY 75, EOR and NORS scores have improved (see Figure A-2-1). Although this indicator does not identify if IL sales reduced US EOR improvement rates, it at least shows IL did not lower US readiness overall. (56)(80)

d. One readiness "popular myth" concerns repair part support to USAREUR. Comments have been made that USAREUR receives poor support because of IL sales. There is no evidence to validate this myth. A well-developed, comprehensive study of the matter was undertaken by ODCSLOG in July 1976. The study showed only 12 of 502 requisitions identified by USAREUR as keeping equipment deadlined had reached the MSCs. Of the 12, 9 were filled, 2 were on backorder, and 1 was suspended for supply manager action. Logistic Intelligence File (LIF) records indicated that 89 percent of USAREUR NORS requisitions were filled at that time. Thus, if IL was indeed depriving USAREUR of repair parts, it was minimal. (102)

5. DARCOM Management Indicators. DARCOM indicators are based on standard MILSTEP. MSC MILSTEP reports are rolled up at DARCOM and used for management reviews at DARCOM and ODCSLOG level. IL impacts on the US supply system could not be surfaced in a review of the standard DARCOM indicators. Comments on select indicators are shown in Figures A-2-2 through A-2-7.

6. USAILCOM Management Indicators.

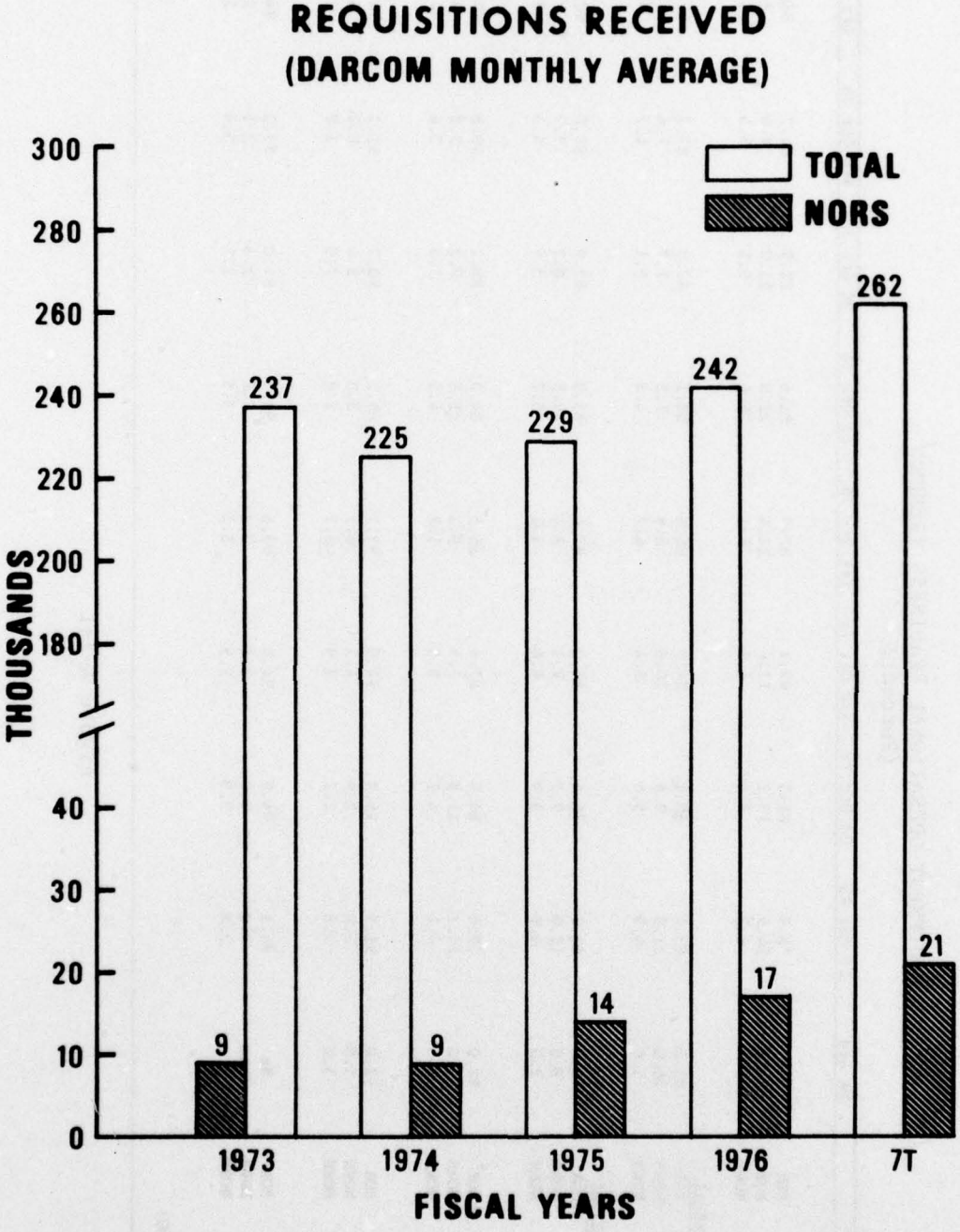
a. USAILCOM standard indicators did not identify any IL impacts on US force repair part support. (96)

EQUIPMENT OPERATIONAL READINESS TRENDS[a/]
(Percent)

Command		DA Std	2d Qtr 75	3d Qtr 75	4th Qtr 75	1st Qtr 76	2d Qtr 76	3d Qtr 76	4th Qtr 76	Qtr TT
Combat Vehicles										
Worldwide	EOR	No	78.9	81.5	82.2	82.5	81.6	82.9	84.7	86.1
Active Army	NORS	Data	14.9	13.1	11.6	11.4	12.0	11.0	9.8	8.9
	NORM		6.2	5.4	6.2	6.1	6.4	6.1	5.5	5.0
Tank Combat 105 mm, M60A1										
Worldwide	EOR	85.0	83.2	85.4	84.0	86.8	88.1	87.2	87.7	89.5
Active Army	NORS	10.0	11.9	9.6	10.6	8.5	7.5	7.7	7.6	6.2
	NORM	5.0	4.9	5.0	5.4	4.7	4.4	5.1	4.7	4.3
Carrier Pers Armd, M113A1										
Worldwide	EOR	90.0	84.2	86.4	86.3	87.4	85.3	87.9	88.0	90.5
Active Army	NORS	8.0	11.0	9.7	9.1	8.4	9.5	8.2	7.7	6.0
	NORM	2.0	4.8	3.9	4.6	4.2	5.2	3.9	4.3	3.5
GM System TOW										
Worldwide	EOR	92.0	79.6	84.4	87.4	85.5	84.0	88.2	90.8	93.2
Active Army	NORS	5.0	14.7	11.5	7.3	9.3	11.5	8.3	5.8	4.3
	NORM	3.0	4.1	4.1	5.3	5.2	4.5	3.5	3.4	2.5
GM System HAWK										
Worldwide	EOR	92.0	91.2	95.9	94.0	93.1	89.2	90.7	91.1	93.0
Active Army	NORS	5.0	5.0	2.9	4.1	6.2	8.0	2.4	6.0	4.8
	NORM	3.0	3.8	1.2	1.9	0.7	2.8	7.0	2.9	2.2
Radio Equipment										
Worldwide	EOR	No	94.1	94.0	94.0	93.6	93.3	94.0	93.1	94.3
Active Army	NORS	Data	3.1	3.0	3.1	3.3	3.2	3.4	3.5	2.9
	NORM		2.8	3.0	2.9	3.1	3.5	2.6	3.4	2.8

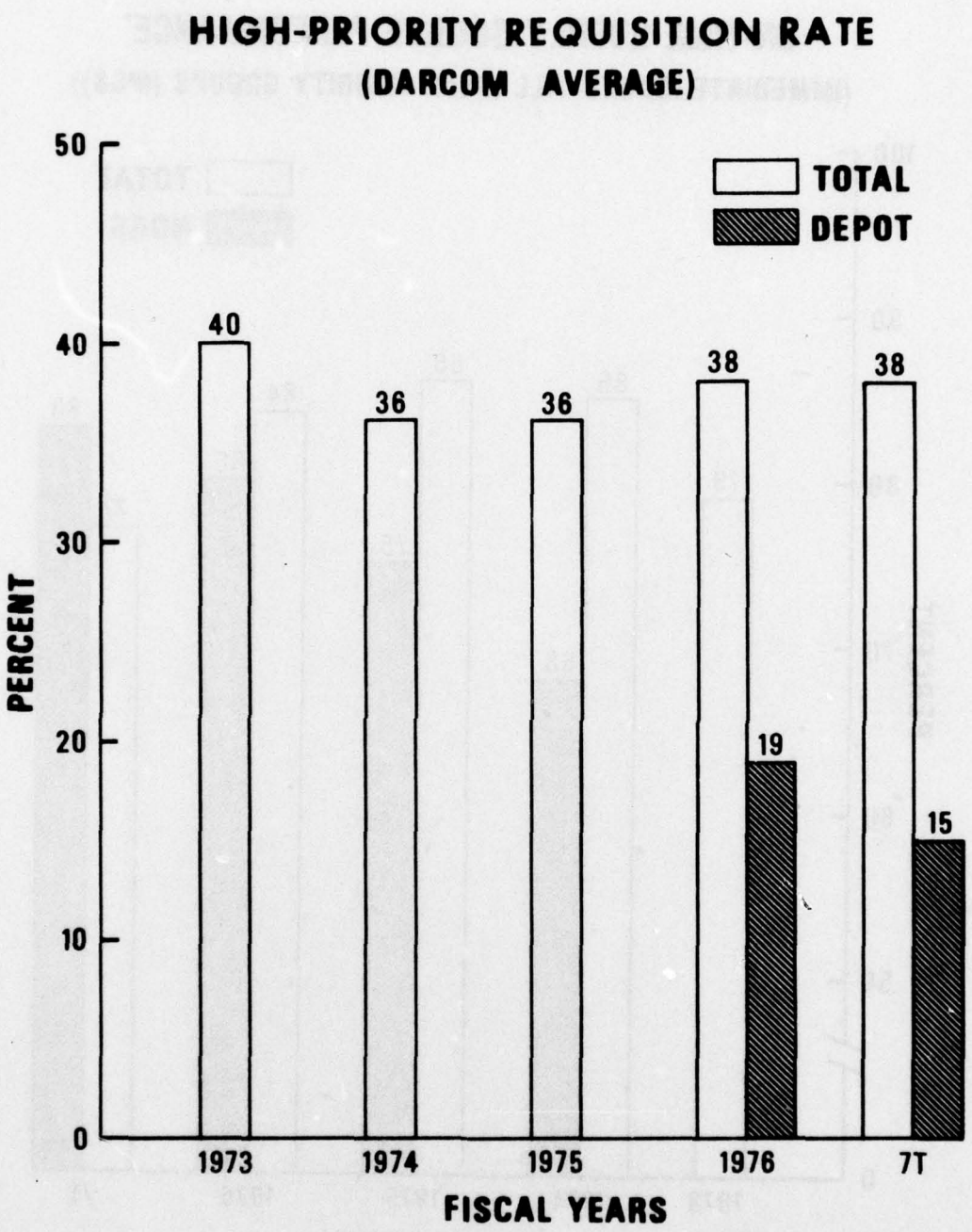
a/ Source: (80)

Figure A-2-1



ESG Comment: IL impact not evident. US DSS program caused requisition rate increase over same period.

Figure A-2-2

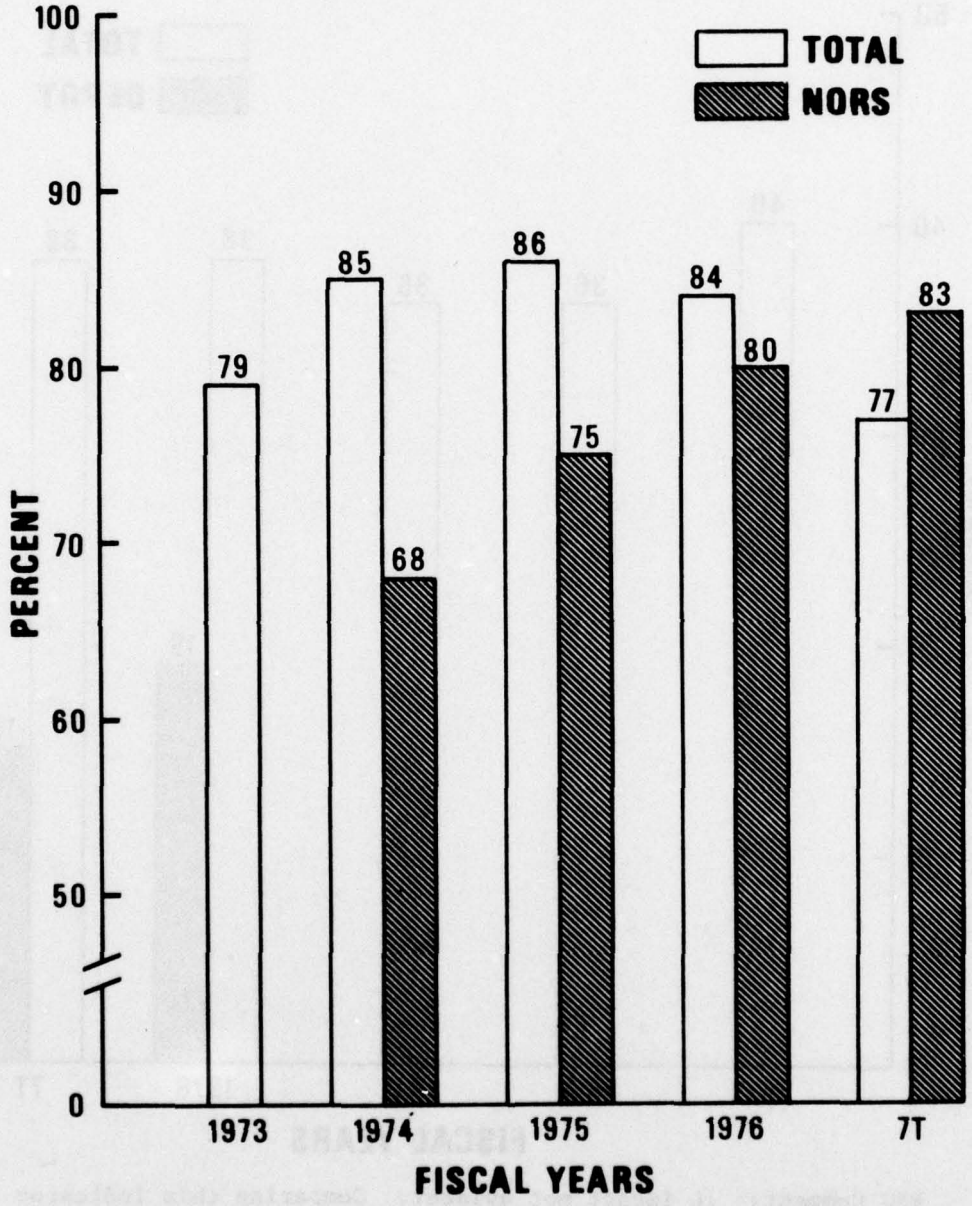


ESG Comment: IL impact not evident. Comparing this indicator to ODCSLOG annual FAD stratification review and JCS IL FAD assignment shows IL probably has little impact. FAD data are classified and kept in ODCSLOG. (84)

Figure A-2-3

ON-TIME SUPPLY SOURCE PERFORMANCE

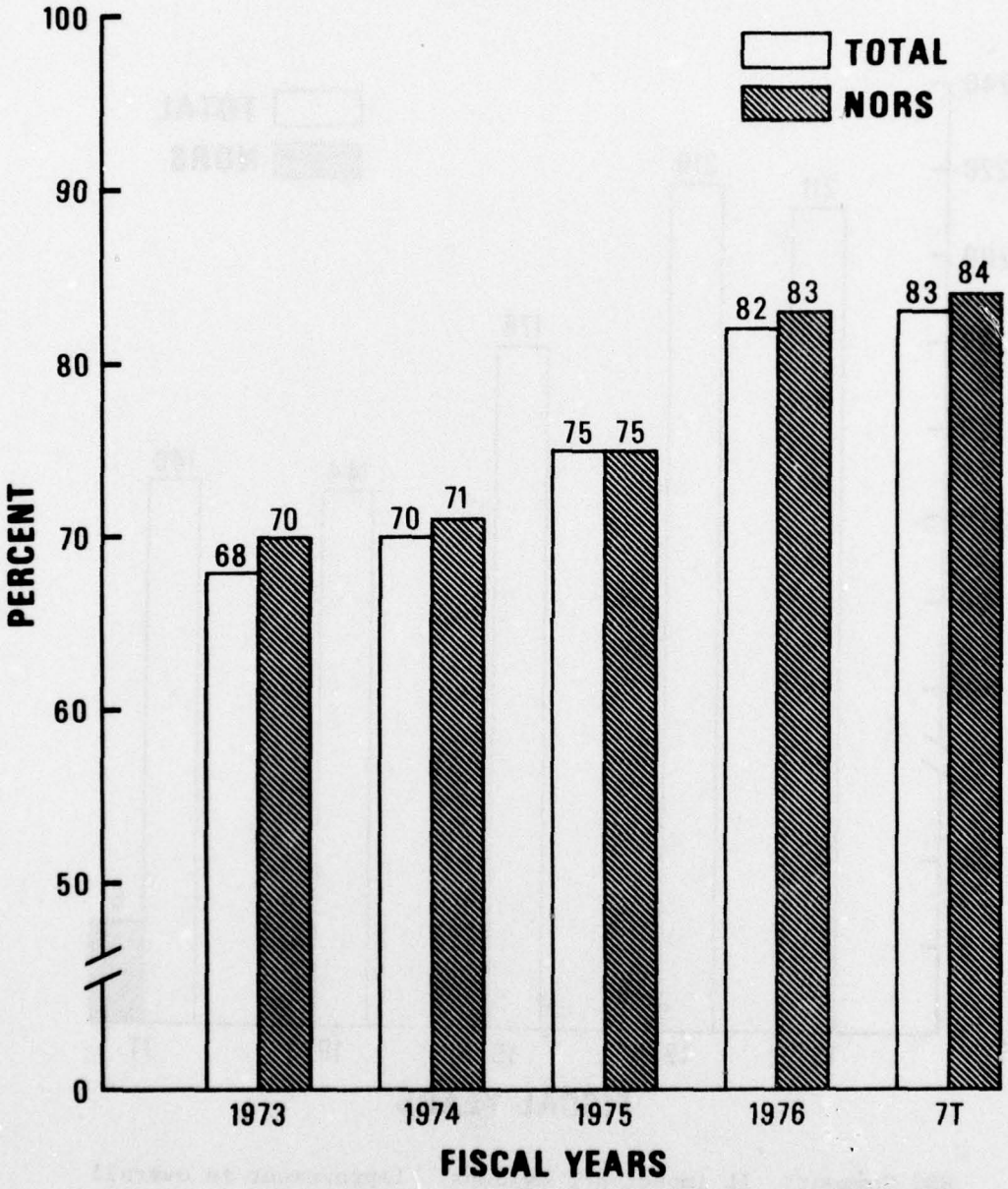
(IMMEDIATE ISSUES--ALL ISSUE PRIORITY GROUPS (IPGS))



ESG Comment: IL impact not evident. US supply system performance trend is improving. FY 76-FY 7T trend change caused by DARCOM concentration on NORS.

Figure A-2-4

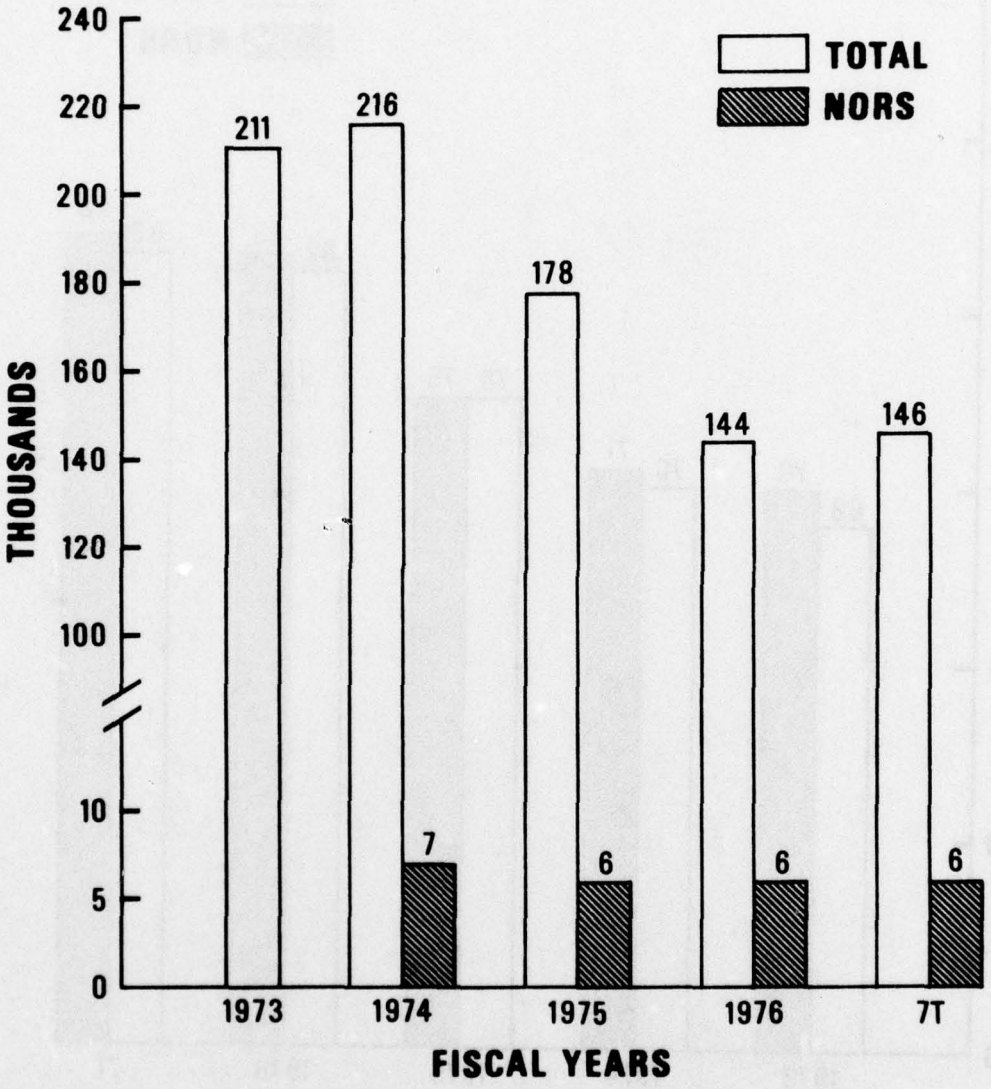
STOCK AVAILABILITY RATE
(DARCOM TOTAL)



ESG Comment: IL impact not evident. Accounting "gimmicks" degrade indicator quality. All requisitions off line for review or not immediately due are counted as "filled," thus increasing availability rate. Compare this indicator to backorder data.

Figure A-2-5

BACKORDERS OUTSTANDING
(DARCOM TOTAL)



ESG Comment: IL impact not evident. Improvement in overall backorder reductions and age of backorders indicates at least that IL did not degrade US supply system performance.

Figure A-2-6

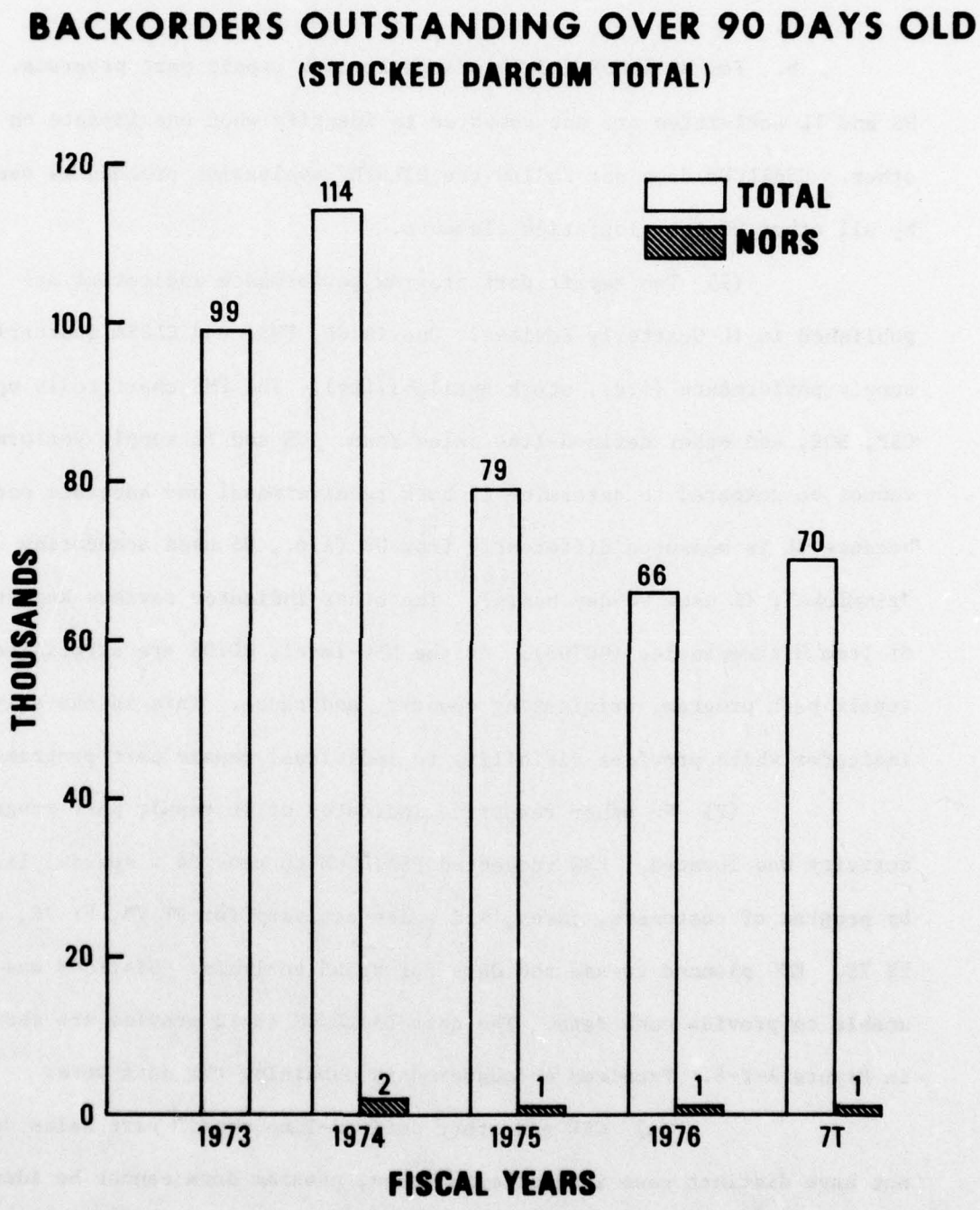

BACKORDERS OUTSTANDING OVER 90 DAYS OLD
(STOCKED DARCOM TOTAL)
TOTAL
NORS
THOUSANDS
120
100
80
60
40
20
0
99
114
2
79
1
66
1
70
1
1973
1974
1975
1976
7T
FISCAL YEARS

Figure A-2-7

b. Few USAILCOM indicators dealt with repair part programs. US and IL activities are not compared to identify when one impacts on the other. USAILCOM does not follow the MILSTEP evaluation procedures used by all other US Army logistics elements.

(1) Two repair part program performance indicators are published in IL Quarterly Reviews. One is GA, FMS, and CLSSA quarterly supply performance (i.e., stock availability). The FMS chart rolls up CSP, BOE, and other defined-line sales data. US and IL supply performance cannot be compared to determine if both receive equal and adequate service because IL is measured differently from US (i.e., US uses accounting "gimmicks"; IL uses 90-day basis). The other indicator reviews Reports of Item Discrepancies (ROIDS). At the MSC-level, ROIDS are stratified by repair part program, originating country, and cause. This is the only indicator which provides visibility to individual repair part programs.

(2) No other recurring indicator of IL repair part program activity was located. ESG requested USAILCOM to provide a special listing by program of customers, cases, and sales activity for FY 75, FY 76, and FY 7T. ESG planned to use the data for trend analysis. USAILCOM was unable to provide such data. The data USAILCOM could provide are shown in Figure A-2-8. Problems encountered in obtaining the data were:

(a) CSP and other defined-line repair part sales do not have distinct case identifiers. Thus, program data cannot be identified without an extensive manual search. Figure A-2-8 data include all (i.e., end item sales also) defined-line case data.

IL REPAIR PART PROGRAM TREND DATA[a/]

		FY 75	FY 76	FY 7T
FMS Defined-line Cases				
Dollar Value of Cases (millions)		2,585.6	2,704.4	427.7
Number of Customers		69.0	66.0	55.0
Number of Cases Accepted and Implemented		1,627.0	1,444.0	476.0
BOE Cases				
Dollar Value of Cases (millions)		216.8	128.8[b/]	50.0
Number of Customers		40.0	35.0	18.0
Number of Cases Accepted and Implemented		165.0	136.0	56.0
	Aug 76	Apr 76	Oct 76	Jan 77
CLSSA Cases				
Dollar Value of Cases (FMS01 and FMS02 in millions)	276.0	246.0	289.7	336.0
Number of Customers	18.0	18.0	18.0	21.0
Actual CLSSA Sales (millions)[c/]			89.9[d/]	21.1[e/]

a/ See extensive data qualifications in report.

b/ Example: In FY 76, 136 BOE cases involving 35 countries and valued at $128.8 million were accepted and implemented. The actual number of active BOE cases in FY 76 was probably higher because of the "free floating" 12-month BOE life permitting cases from FY 75 to overlap into FY 76.

c/ Source: MILSTEP.

d/ FY 76.

e/ FY 7T.

Figure A-2-8

(b) BOE cases have distinct identifiers; however, they may be used for repair parts, services, publications, etc. USAILCOM attempted to remove nonrepair part cases from the data in Figure A-2-8. The term "cases accepted and implemented" was used in BOE and FMS defined-line data to provide a measurement base. Both types of cases can be "accepted and implemented" at any time during the US fiscal year. However, they may remain open for years until the last item ordered on the case is delivered and paid for.

c. CLSSA case data were available only on a "snapshot" basis. Cases are renewed at different times during the year, making it hard to fix a base. CLSSA data displayed on USAILCOM management charts show CLSSA case values as combined FMS01 and FMS02 case values. This practice grossly inflates actual annual CLSSA sales activity.

7. Special Indicators.

a. Before developing special indicators, ESG reviewed basic MILSTEP principles. Almost immediately it became evident the major weakness of indicators analyzed in preceding paragraphs was a lack of sensitivity to US supply system funding restrictions. Therefore, ESG designed indicators which would show trends by fund category (i.e., ASF and secondary item PAA).

b. Two separate approaches were used. Both involved reconfiguring basic MILSTEP data by fund category and IL program category.

(1) The first approach examined US and IL trends simultaneously as part of the total US supply system. Changes within customer categories and within the overall supply system were thus sensed. This approach simply redisplayed standard MILSTEP indicators differently (see Tab A).

(2) The second approach generated some additional indices. The US portion of each MILSTEP indicator was fixed as the base. Then the IL portion was compared to the base. Each index generated directly shows incremental US supply system changes caused by IL (see Tab B).

c. The 29 specially developed ESG indicators and indices proved very informative when viewed on an MSC basis. The first page of Tabs A and B presents the results of ESG's analysis of these new indicators and indices. Summary comments are made in Figure A-2-9. Two shortfalls in MILSTEP data reduced the effectiveness of this analysis. The first is the practice of rolling up CSP, BOE, and other FMS defined-line repair part sales data into a single MILSTEP FMS line. The second is the lack of IL sales visibility on a weapon system basis.

8. Conclusions.

a. Management indicators presently used by DARCOM and USAILCOM are not adequate for determining if IL and US customers receive adequate service from the US supply system.

b. MSC level is the highest level of data aggregation permitting detection of IL impacts on the US supply system. However, fund

SUMMARY ANALYSIS OF ESG SPECIAL INDICATORS AND INDICES
(Demand Pattern Analysis)

Requisition Workload Basis	Dollar Value Basis	Supply Performance Analysis
. IL impacts vary greatly by MSC. For example, IL generates considerable turbulence in MICOM workload. . CLSSA requisitions increase MSC workloads by less than 5 percent. . FMS requisition workload is erratic. This is especially true at MICOM. . IL causes a manual processing workload increase of up to 100 percent at some MSCs. Although this figure is slightly inflated because of MILSTEP accounting "gimmicks," it is still significant. The "extra" IL workload reduces the time item managers have available for vital supply management tasks such as coordinating closely with procurement officers. Adding the extra "shadow" manual workload caused by ROIDS to this workload increases IL impacts.	. IL impacts vary greatly by MSC. . IL caused an average increase of 17 percent in the US system. FMS caused the majority (i.e., 13 percent) of increase. Therefore, inaccurate CRDD determinations, inefficient COCP operations resulting in loss of fund reimbursements, and nonstandard replacement pricing procedures may have severely affected availability of assets and funds for US forces. Low US stock availability on a dollar value basis tends to confirm this negative conclusion. . CLSSA implementation problems may not yet have had serious impact on US forces. CLSSA sales were only 5 percent of total US supply system business. However, when coupled with FMS-related impacts, CLSSA policy flaws probably contributed to US supply system turbulence.	. An adequate MILSTEP method of comparing US and IL stock availability does not exist. Accounting "gimmicks" inflate US and obscure IL supply performance. . IL impacts on the US systems are probably of short duration (i.e., 90-180 days). This comment is based on decreasing backorder counts; the ability to fill 50 percent of US backorders within 90 days; and the 85+ percent fill-rate of FMS requisitions reflected by the USAILCOM absolute requisition count supply performance rate.

(Figure A-2-9 Continued on Next Page)

SUMMARY ANALYSIS OF ESG SPECIAL INDICATORS AND INDICES--Continued
(Demand Pattern Analysis)

Requisition Workload Basis	Dollar Value Basis	Supply Performance Analysis
. A very high percentage of IL PEMA2[a/] requisitions are manually processed for management control indicating parts requested are in critical supply.	. IL ordering pattern is substantially different from US forces. The average value of a CLSSA and FMS order is 2-4 times more than a US order. CLSSA orders peak at 6-month intervals. When cross referenced with other indicators and indices, these data indicate IL probably "buys ahead" in ASF and concentrates on high-technology items in PEMA2. . IL does not appear to represent an increasing share of US supply system activity. This indicator is more significant than noting IL dollar activity increased. . IL orders do not always appear where expected. For example, IL PEMA2 orders are large at TARCOM, and IL ASF orders are large at MICOM. The converse would have been expected.	

a/ PEMA2 (procurement of equipment and missiles, Army) is a shorthand notation for Procurement Appropriations, Army for secondary items. This fund category was previously known as PEMA secondary.

Figure A-2-9

and IL program category stratification is necessary to detect MSC-level impact. Visibility of IL sales activity on a weapon system basis would vastly improve MSC management effectiveness.

c. ESG indicators alone could not directly surface IL impacts on the quality of repair part support to US forces. However, the ESG indicators significantly increased visibility of IL activity at MSC level by fund category. Comparing this activity to other information, such as specific shortfalls in IL support program designs, permits supply managers to draw conclusions on IL impacts on support to US forces.

d. The ESG special indicators hold considerable promise as a new method of evaluating US supply performance. These indicators may meet a majority of the FY 79-83 Defense Program Planning Guidance (DPPG) instruction to link supply performance to funding in the new Program Objective Memorandum (POM).

9. Recommendations.

a. ODCSLOG and DARCOM should improve management indicators by:

(1) Stratifying indicators by fund category and evaluating the indicator in light of the operational restraints inherent in each fund category. The ESG special indicators are well suited for this task.

(2) Reviewing indicators on MSC level except for select indicators such as gross dollar expenditures. Each MSC has different business patterns that must be considered when developing methods of improving performance. Different business patterns are not a reason to adopt non-standard procedures but rather a reason to select different areas in which to concentrate management intensity.

(3) Reviewing, on a periodic basis, all customer groups (i.e., US and IL) to determine if any group has an adverse impact on the US Army direct supply program.

(4) Purifying the stock availability indicator. Orders not actually filled should be separately counted rather than artificially counted as filled as is currently done.

b. USAILCOM indicators should be improved by providing visibility to each IL program using MILSTEP criteria. This provides a basis for comparison of US and IL demand and performance trends.

c. Conduct a joint US and IL management review. This would permit early flagging of adverse IL impacts on US forces through an appreciation of how IL participates in the US supply system.

LAST PAGE OF APPENDIX A-2

TAB A

SPECIAL ESG INDICATOR CHARTS

Figure		Page
A-2-A-1	ESG Special Indicator Analysis	A-2-A-3
A-2-A-2	Valid Requisitions Received	A-2-A-7
A-2-A-3	Percent of Requisitions Received	A-2-A-9
A-2-A-4	Dollar Value of Requisitions	A-2-A-11
A-2-A-5	Percent Dollar Value of Requisitions	A-2-A-13
A-2-A-6	Average Dollar Value of Requisitions Due Now	A-2-A-15
A-2-A-7	High Pri Req as a % of Total Req by Cust Cat	A-2-A-17
A-2-A-8	NORS Req as a % of Total Req by Cust Cat	A-2-A-19
A-2-A-9	Percent of Requisitions Not Due Now	A-2-A-21
A-2-A-10	% of Total Dollar Value Not Due Now	A-2-A-23
A-2-A-11	Percent of Requisitions Manually Processed	A-2-A-25
A-2-A-12	Percent of Requisitions Manually Processed for Management Control	A-2-A-27
A-2-A-13	Stock Availability	A-2-A-29
A-2-A-14	NORS Stock Availability	A-2-A-31
A-2-A-15	Requisitions on Backorder	A-2-A-33
A-2-A-16	Percent of Backorders Over 90 Days Old	A-2-A-35

This tab presents 15 special indicators developed by ESG (Figures A-2-A-2 through A-2-A-16). The indicators reflect IL activity within an MSC and within the total supply system (i.e., DARCOM roll-up), by customer category and fund category. Figure A-2-A-1 is an analysis summary of the special indicators. It describes the type of information that can be obtained from each indicator.

MICOM and DARCOM demand and performance data are displayed first to show how dramatic IL impacts in one MSC can be dampened in aggregated supply system data displays. ECOM and TARCOM data are then displayed to show how IL activity intensity changes between MSCs. IL impact evaluations must consider both the intensity of IL activity at the particular MSC and the peculiarities of the MSC's management environment.

The PAA secondary fund category is identified as PEMA2 to coincide with popular usage. The "FMS Only" line is a roll-up of CSP, BOE, and other defined-line cases.

	Type of Indicator	Indicator	Explanation of Indicator	Potential Significan of Indicator
1	M[a/]	Valid requisitions received.	. Represents number of valid requisitions received. Not all requisitions must be filled now. Any quantity of a part can be ordered on a requisition.	. Indicates changing MSC w and ordering trends by c . Fund stratification indi impacts on US budget pre tion and COCP operation.
2	M	Percent of requisitions received (total MSC base).	. Stratifies MSC requisition workload by customer and fund category.	. Same as Indicator 1.
3	M	Dollar value of requisitions.	. Represents the dollar value of requisitions received.	. Indicates changing MSC w load by customer. . Fund stratification indi impacts on US budget pre tion, availability of fu and impacts from COCP op
4	M	Percent dollar value of requisitions (total MSC base).	. Stratifies MSC repair part expenditures by customers and fund category.	. Same as Indicator 2.
5	ESG	Average dollar value of requisitions due now.	. Same as Demand Index 3. (See Figure A-2-A-11.)	. Indicates IL CLSSA order trends. . Indicates type of FMS it filled immediately by MS
6	M	High-priority requisitions (IPD 01-08) as a percentage of total requisitions by customer category.	. Reflects percentage of requisitions submitted in each category that have more urgent priority indicators (IPD 01-08).	. Indicates extent and loc of IL/US "competition" f assets.
7	M	NORS requisitions as a percentage of total requisitions by customer category.	. Reflects percentage of requisitions submitted in each category that are NORS.	. Indicates extent and loc IL/US "competition" for
8	ESG	Percent of requisitions not due now.	. Reflects percentage of total valid requisitions received that are not due to be filled until some future date.	. Indicates quantity of FM sitions that have not be diately filled from US s system assets above the point. . Note: ESG comments deal reciprocal of this indic orders filled now.

a/ On this chart, "M" denotes a MILSTEP indicator reconfigured by ESG; "ESG" denotes a new combination o

ESG SPECIAL INDICATOR ANALYSIS

licator	Potential Significance of Indicator	Interpretation of Data ECOM	MICOM	
valid requi- all requi- now. Any be ordered	. Indicates changing MSC workload and ordering trends by customer. . Fund stratification indicates impacts on US budget preparation and COCP operation.	. IL stable. . US dropping especially in PEMA2. . COCP PEMA2 workload erratic; however, quantity is very small (i.e., averages 569 a quarter).	. IL pattern erratic. . COCP workload very erratic. Excluding UPZ, IL ranges from 770 to 4,879 a quarter. . US trend is up.	. IL . US . COC (29 sta
tion work- fund cate-	. Same as Indicator 1.	. IL averages only 4 percent of MSC load. IL trend is almost level.	. IL averages over 25 percent of MSC load. IL trend is almost level.	. IL loa
value of	. Indicates changing MSC workload by customer. . Fund stratification indicates impacts on US budget preparation, availability of funds, and impacts from COCP operations.	. IL PEMA2 orders increasing while US drops. . IL increasing mostly in FMS.	. IL PEMA2 orders increasing. . CLSSA peaks at 6-month interval.	. FMS dec . CLS . US
part ex- s and fund	. Same as Indicator 2.	. FMS orders have no pattern. . CLSSA orders may be decreasing.	. FMS orders have no pattern. . CLSSA peak at 6-month intervals. . IL averages 30 percent of sales.	. FMS . CLS . IL
3. (See	. Indicates IL CLSSA ordering trends. . Indicates type of FMS item filled immediately by MSC.	. IL orders more per requisition than US.	. IL orders in last year are over 2 times larger than comparative US orders.	. IL PEM
requisi- h category priority).	. Indicates extent and location of IL/US "competition" for assets.	. IL high-priority orders are increasing.	. IL and US high-priority requisition increasing slightly. . Increase is in PEMA2.	. CLS in . FMS inc . US 68 hav
requisi- h category	. Indicates extent and location of IL/US "competition" for assets.	. Sporadic NORS activity shows in FMS.	. IL CLSSA PEMA2 NORS are increasing. . US NORS are stable.	. IL . US
total ceived that led until	. Indicates quantity of FMS requisitions that have not been immediately filled from US supply system assets above the reorder point. . Note: ESG comments deal with reciprocal of this indicator: orders filled now.	. Over 60 percent of FMS orders filled on the spot, yet US stock available (Indicator 13) is low. . Could indicate ECOM has bought wrong items and is pushing assets to IL to generate funds.	. Decreasing number of IL orders being filled on the spot. Overall less than 20 percent IL filled; less than 10 percent of IL PEMA2 filled. . US stock availability is stable.	. Ove fil . US

y ESG; "ESG" denotes a new combination of MILSTEP data developed by ESG.

SIS

Interpretation of Data		Total US Supply System (DARCOM Roll-up)
MICOM	TARCOM	
. IL pattern erratic. . COCP workload very erratic. Excluding UPZ, IL ranges from 770 to 4,879 a quarter. . US trend is up.	. IL increasing in ASF. . US trend is up. . COCP PEMA2 workload is small (292 quarter average) and stable.	. US system trend is up. ASF is up. PEMA2 is stable. . US increase probably due to DSS. . IL ASF and PEMA2 increasing. PEMA2 increase signals growing importance of COCP and CLSSA policy.
. IL averages over 25 percent of MSC load. IL trend is almost level.	. IL averages 6 percent of MSC load. IL trend is almost level.	. Simultaneous US and IL growth hides IL growth rate in this indicator.
. IL PEMA2 orders increasing. . CLSSA peaks at 6-month interval.	. FMS PEMA2 increasing; ASF decreasing. . CLSSA peaks at 6-month interval. . US pattern more stable.	. US system trend is up. . US ASF is up; PEMA2 is stable. . IL PEMA2 trend is up. However, with US PEMA2 drop, IL has more impact. . Both COCP and CLSSA policy have growing importance.
. FMS orders have no pattern. . CLSSA peak at 6-month intervals. . IL averages 30 percent of sales.	. FMS orders have no pattern. . CLSSA peaks at 6-month intervals. . IL averages 25 percent of sales.	. IL fluctuations by MSC are dampened in roll-up. . Excluding UPZ, IL averages 15 percent of sales; FMS portion is 10 percent; CLSSA portion is 5 percent.
. IL orders in last year are over 2 times larger than comparative US orders.	. IL orders 2 to 3 times more per PEMA2 requisitions.	. IL tendency to order more per requisition may indicate IL orders "ahead" or concentrates orders on expensive high-technology items. . Cross reference to Indicator 11 would indicate IL concentrates on "hard to get" PEMA2 items.
. IL and US high-priority requisition increasing slightly. . Increase is in PEMA2.	. CLSSA PEMA2 high priorities are in 50 percent range. . FMS PEMA2 high priorities are increasing. . US PEMA2 high priorities are in 68 percent range. This could have caused Israel to go CDS.	. US system trend appears stable. . Cross reference to Indicator 1 and 2 indicates IL impact is minimal. . MSC stratification indicates US/IL competition is keener in critical weapon systems.
. IL CLSSA PEMA2 NORS are increasing. . US NORS are stable.	. IL uses few NORS. . US PEMA2 NORS high.	. US system up slightly. . IL barely registers. . US trend is up slightly. This probably is due to stress on readiness and O&MA fund restraint.
. Decreasing number of IL orders being filled on the spot. Overall less than 20 percent IL filled; less than 10 percent of IL PEMA2 filled. . US stock availability is stable.	. Over 70 percent of IL orders are filled on the spot. . US stock availability is good.	. US system trend shows fewer IL orders are being filled immediately. . PEMA2 cutback is most significant.

(Figure A-2-A-1 Continued on Next Page)

	Type of Indicator	Indicator	Explanation of Indicator	Potential Significance of Indicator
9	ESG	Percent of total dollar value not due now.	. Reflects percentage of order dollar value that is satisfied by future procurements.	. If percentage is low, IL orders are being filled from existing assets. If US stock availability is high, this is acceptable. . If US stock availability is low, this indicates MSC is either buying the wrong assets or is unwisely releasing US assets to IL.
10	M	Percent of requisitions manually processed.	. Reflects percentage of valid requisitions that are manually processed.	. Indicates extent of MSC manual workload. Time expended on this activity could have been used for other management actions. . Fund category stratification indicates attention directed to PEMA2 orders.
11	M	Percent of requisitions manually processed for management control.	. Reflects percentage of valid requisitions manually processed because of a critical supply position or because item is controlled for other reasons.	. Indicates extent of IL orders for repair parts the US supply system has difficulty obtaining or cannot afford to stock in large quantities.
12	M	Stock availability.	. Traditional method of depicting requisitions satisfied without being placed on backorder. . Accounting "gimmicks" degrade quality of indicator. All requisitions off line for review or not due for delivery now are counted as filled. . Thus, US availability is inflated and FMS availability is not really determinable. . Old CLSSA FMSO/Non-FMSO item accounting was in effect during this period.	. Indicates by fund category how well funds are matched against forecasted demands to bring assets on hand when needed.
13	M	NORS stock availability.	. Same as Indicator 12 for NORS only requisitions.	. Same as Indicator 12 for NORS only requisitions.
14	M	Requisitions on backorder.	. Reflects actual numbers of backorders. Several independent backorders may be for the same part.	. Indicates magnitude of requisitions on backorder by customer and fund category.
15	M	Percent of backorders over 90 days old.	. Reflects percentage of backorders (over 90 days old) by customer and fund category.	. Indicates types of parts customer is ordering. A high percentage indicates customer is ordering hard to get parts.

ESG SPECIAL INDICATOR ANALYSIS--Continued

Potential Significance of Indicator	Interpretation of Data		
	ECOM	MICOM	TARCO
. If percentage is low, IL orders are being filled from existing assets. If US stock availability is high, this is acceptable. . If US stock availability is low, this indicates MSC is either buying the wrong assets or is unwisely releasing US assets to IL.	. Over 80 percent of FMS orders are filled on the spot, yet US stock available is only 72 percent on requisition basis and 59 percent on dollar basis.	. About 30 percent of FMS orders are filled on the spot. Trend is decreasing. . US stock availability is stable at 77 percent on requisition basis and decreasing slightly to mid-60 percent range on dollar basis.	. 50 percent o filled on th . In 1Q77 when fills droppe availability
. Indicates extent of MSC manual workload. Time expended on this activity could have been used for other management actions. . Fund category stratification indicates attention directed to PEMA2 orders.	. Almost 100 percent of IL PEMA2 orders are manually processed. Indicates COCP is catching them. This workload is small when evaluated by Indicators 1 and 2.	. Almost all PEMA2 orders are manually processed. CLSSA portion is lower than FMS. . Indicates COCP is catching the orders.	. Only 70+ per sitions are . COCP could b
. Indicates extent of IL orders for repair parts the US supply system has difficulty obtaining or cannot afford to stock in large quantities.	. Over 30 percent of IL PEMA2 orders are for critical supply status parts.	. Almost 90 percent of CLSSA PEMA2 orders are for critical supply status parts. . FMS orders have erratic patterns.	. About 45 per orders are f status parts
. Indicates by fund category how well funds are matched against forecasted demands to bring assets on hand when needed.	. IL cannot be compared to US because of requisition accounting "gimmicks." When compared to Indicator 8, one wonders why so many IL requisitions are filled on the spot.	. ECOM IL/US comparison comment applies. . US PEMA2 stock availability low because of dependency on "overhaul" of reparable parts.	. ECOM US/IL c applies. . US stock ava (87 percent)
. Same as Indicator 12 for NORS only requisitions.	. IL impact insignificant. . US NORS availability is lower than overall availability.	. US NORS better than US overall.	. US NORS bet stock avail
. Indicates magnitude of requisitions on backorder by customer and fund category.	. MSC generally improving. . PEMA2 improving most. . Appears items are not out of stock long.	. MSC, US, and FMS trend is up especially in PEMA2. . Prior to UPZ, all customers were improving.	. Trend for a erally leve
. Indicates types of parts customer is ordering. A high percentage indicates customer is ordering hard to get parts.	. Over 80 percent of IL backorders are over 90 days old. . IL may be ordering different parts than US.	. IL getting worse. . US getting better. . Could indicate IL orders are concentrated on very hard to get items.	. More IL tha backorder l . May indicat ordering pa

IS--Continued

Interpretation of Data		Total US Supply System (DARCOM Roll-up)
MICOM	TARCOM	
. About 30 percent of FMS orders are filled on the spot. Trend is decreasing. . US stock availability is stable at 77 percent on requisition basis and decreasing slightly to mid-60 percent range on dollar basis.	. 50 percent of FMS orders are filled on the spot. . In 1Q77 when percent of FMS PEMA2 fills dropped, US PEMA2 stock availability jumped +5 percent.	. Same as Indicator 8. . High FMS fill rate could indicate why IL uses BOE and defined-line sales.
. Almost all PEMA2 orders are manually processed. CLSSA portion is lower than FMS. . Indicates COCP is catching the orders.	. Only 70+ percent of PEMA2 requisitions are manually processed. . COCP could be missing them.	. US system trend is stable. . US trend is stable. . IL trend is stable. . Could indicate COCP operation is becoming more accurate.
. Almost 90 percent of CLSSA PEMA2 orders are for critical supply status parts. . FMS orders have erratic patterns.	. About 45 percent of IL PEMA2 orders are for critical supply status parts.	. Cross reference to Indicator 5 may identify that IL orders large quantity of "hard to get" or "expensive to stock" high-technology items.
. ECOM IL/US comparison comment applies. . US PEMA2 stock availability low because of dependency on "overhaul" of reparable parts.	. ECOM US/IL comparison comment applies. . US stock availability is good (87 percent).	. This indicator must be revised to permit US/IL comparison. . US trend is up slightly. . Low CLSSA rates would indicate customers were not selecting FMS01 items well.
. US NORS better than US overall.	. US NORS better than US overall stock availability.	. Indicator 12 revision comment applies. . US ASF trend up; PEMA2 trend down. . Could indicate IL is concentrating on operationally essential PEMA2 parts. See Indicator 11.
. MSC, US, and FMS trend is up especially in PEMA2. . Prior to UPZ, all customers were improving.	. Trend for all customers is generally level.	. US system trend down. . US trend is down. . IL trend up. . US improvement may result from decrease in IL orders "filled now."
. IL getting worse. . US getting better. . Could indicate IL orders are concentrated on very hard to get items.	. More IL than US orders stay on backorder longer. . May indicate IL has different ordering pattern.	. US system trend is down. . US trend level. . IL trend up, especially in PEMA2. . IL problem could be bad, CRDD determination coupled with less urgent IPDs.

Figure A-2-A-1

VALID REQUISITIONS RECEIVED

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	40068	38237	67560	37486	39063	52410
ASF	28138	26100	40546	24300	24466	35167
PEMA2	11930	12137	27014	13186	14597	17243
U.S. ONLY	29520	28269	25342	30229	29399	33109
ASF	19874	18079	16332	17813	18166	20745
PEMA2	9646	10190	9010	12416	11233	12364
IL ONLY	10548	9968	42218	7257	9664	19301
ASF	8264	8021	24214	6487	6300	14422
PEMA2	2284	1947	18004	770	3364	4879
IL PROGRAM CATEGORY						
FMS ONLY	6134	7612	36542	2660	5664	14214
ASF	4123	5973	19726	2285	2971	9901
PEMA2	2011	1639	16816	375	2693	4313
SSA ONLY	4367	2031	4980 1/	1811	3988	4677
ASF	4098	1735	3843	1458	3316	4173
PEMA2	269	296	1137	353	670	504
GA ONLY	47	325	696	2786	14	410
ASF	43	313	645	2744	13	348
PEMA2	4	12	51	42	1	62

1/ Example: In 3Q FY 76 a total of 4980 CLSSA requisitions were received. Of the total, 3843 requisitions were for ASF-funded repair parts and 1137 were for PEMA2-funded repairs parts.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	671132	642106	639919	679775	711775	712676
ASF	623304	596038	584786	633249	665167	665247
PEMA2	47828	46068	55133	46526	46608	47429
U.S. ONLY	631723	599344	558760	630789	663920	652500
ASF	587387	556582	522551	586126	621852	611192
PEMA2	44336	42762	36209	44663	42068	41308
IL ONLY	39409	42762	81159	48986	47855	60176
ASF	35917	39456	62235	47123	43315	54055
PEMA2	3492	3306	18924	1863	4540	6121
IL PROGRAM CATEGORY						
FMS ONLY	22122	24068	60354	28305	24627	42240
ASF	19594	21873	43076	27364	21283	37295
PEMA2	2528	2195	17278	941	3344	4945
SSA ONLY	13622	10895	14173	10702	15979	13824
ASF	12978	10144	12802	10186	14991	12936
PEMA2	644	751	1371	516	988	889
GA ONLY	3665	7799	6632	9979	7249	4112
ASF	3345	7439	6357	9573	7041	3825
PEMA2	320	360	275	406	208	287

(Figure A-2-A-2 Continued on Next Page)

VALID REQUISITIONS RECEIVED

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	83900	80655	71970	81842	81330	77583
ASF	60206	58259	54491	61176	61218	59031
PEMA2	23694	22396	17479	20666	20112	18552
U.S. ONLY	81170	77272	69742	78218	78750	74384
ASF	58090	55617	52523	58012	59152	56521
PEMA2	23080	21655	17219	20206	19598	17863
IL ONLY	2730	3383	2228	3624	2580	3199
ASF	2116	2642	1968	3164	2066	2510
PEMA2	614	741	260	460	514	689
IL PROGRAM CATEGORY						
FMS ONLY	1456	1745	1082	2133	1363	1930
ASF	1224	1502	995	1946	1072	1599
PEMA2	232	243	87	187	291	331
SSA ONLY	775	1059	742	803	730	905
ASF	587	797	665	756	594	694
PEMA2	188	262	77	47	136	211
GA ONLY	499	579	404	688	487	364
ASF	305	343	308	462	400	217
PEMA2	194	236	96	226	87	147

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	296166	288400	266048	299589	334231	322969
ASF	292150	284557	262477	295663	330037	319035
PEMA2	4016	3843	3571	3926	4194	3934
U.S. ONLY	282007	273810	245823	279595	313864	299474
ASF	278237	270252	242598	275985	309997	295775
PEMA2	3770	3558	3225	3610	3867	3699
IL ONLY	14159	14590	20225	19994	20367	23495
ASF	13913	14305	19879	19678	20040	23260
PEMA2	246	285	346	316	327	235
IL PROGRAM CATEGORY						
FMS ONLY	8523	7225	13657	13609	11054	17235
ASF	8361	7067	13457	13421	10834	17131
PEMA2	162	158	200	188	220	104
SSA ONLY	4573	4048	3437	4016	5747	4742
ASF	4509	3979	3373	3953	5679	4662
PEMA2	64	69	64	63	68	80
GA ONLY	1063	3317	3131	2369	3566	1518
ASF	1043	3259	3049	2304	3527	1467
PEMA2	20	58	82	65	39	51

Figure A-2-A-2

PERCENT OF REQUISITIONS RECEIVED (TOTAL MSC BASE)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	70	68	60	65	63	67
PEMA2	30	32	40	35	37	33
U.S. ONLY	74	74	38	81	75	63
ASF	50	47	24	48	47	40
PEMA2	24	27	13	33	29	24
IL ONLY	26	26	62	19 [1/]	25	37
ASF	21	21	36	17	16	28
PEMA2	6	5	27	2	9	9
IL PROGRAM CATEGORY						
FMS ONLY	15	20	54	7	14	27
ASF	10	16	29	6	8	19
PEMA2	5	4	25	1	7	8
SSA ONLY	11	5	7	5	10	9
ASF	10	5	6	4	8	8
PEMA2	1	1	2	1	2	1
GA ONLY	0	1	1	7	0	1
ASF	0	1	1	7	0	1
PEMA2	0	0	0	0	0	0

1/ **Example:** In 4Q FY 76 19 percent of requisitions received by MSC were from IL customers. This represented 17 percent of the total MSC ASF requisitions and 2 percent of total MSC PEMA2 requisitions. Percentage values were rounded up to next whole number. Therefore some columns may add to over 100 percent.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	93	93	91	93	93	93
PEMA2	7	7	9	7	7	7
U.S. ONLY	94	93	87	93	93	92
ASF	88	87	82	86	87	86
PEMA2	7	7	6	7	6	6
IL ONLY	6	7	13	7	7	8
ASF	5	6	10	7	6	8
PEMA2	1	1	3	0	1	1
IL PROGRAM CATEGORY						
FMS ONLY	3	4	9	4	3	6
ASF	3	3	7	4	3	5
PEMA2	0	0	3	0	0	1
SSA ONLY	2	2	2	2	2	2
ASF	2	2	2	1	2	2
PEMA2	0	0	0	0	0	0
GA ONLY	1	1	1	1	1	1
ASF	0	1	1	1	1	1
PEMA2	0	0	0	0	0	0

(Figure A-2-A-3 Continued on Next Page)

PERCENT OF REQUISITIONS RECEIVED (TOTAL MSC BASE)

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	72	72	76	75	75	76
PEMA2	28	28	24	25	25	24
U.S. ONLY	97	96	97	96	97	96
ASF	69	69	73	71	73	73
PEMA2	28	27	24	25	24	23
IL ONLY	3	4	3	4	3	4
ASF	3	3	3	4	3	3
PEMA2	1	1	0	1	1	1
IL PROGRAM CATEGORY						
FMS ONLY	2	2	2	3	2	2
ASF	1	2	1	2	1	2
PEMA2	0	0	0	0	0	0
SSA ONLY	1	1	1	1	1	1
ASF	1	1	1	1	1	1
PEMA2	0	0	0	0	0	0
GA ONLY	1	1	1	1	1	0
ASF	0	0	0	1	0	0
PEMA2	0	0	0	0	0	0

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	99	99	99	99	99	99
PEMA2	1	1	1	1	1	1
U.S. ONLY	95	95	92	93	94	93
ASF	94	94	91	92	93	92
PEMA2	1	1	1	1	1	1
IL ONLY	5	5	8	7	6	7
ASF	5	5	7	7	6	7
PEMA2	0	0	0	0	0	0
IL PROGRAM CATEGORY						
FMS ONLY	3	3	5	5	3	5
ASF	3	2	5	4	3	5
PEMA2	0	0	0	0	0	0
SSA ONLY	2	1	1	1	2	1
ASF	2	1	1	1	2	1
PEMA2	0	0	0	0	0	0
GA ONLY	0	1	1	1	1	0
ASF	0	1	1	1	1	0
PEMA2	0	0	0	0	0	0

Figure A-2-A-3

DOLLAR VALUE OF REQUISITIONS

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	52393809	59663472	82306092	66104677	76506963 1/	69250620
ASF	13858786	13640499	15911708	15472829	12962134	16932878
PEMA2	38541023	46022973	66394384	50691848	63544829	52317742
U.S. ONLY	39005928	41464827	34100924	57018283	63131402	46919558
ASF	7788155	6991829	5788587	12066042	8465907	9073911
PEMA2	31217773	34472998	28312337	44952241	54665495	37845647
IL ONLY	13393881	18198645	48205168	9146394	13375561	22331062
ASF	6070631	6648670	10123121	3406787	4496227	7858967
PEMA2	7323250	11549975	38082047	5739607	8879334	14472095
IL PROGRAM CATEGORY						
FMS ONLY	9827456	15589468	40621705	6594712	8523651	17447098
ASF	3478360	5206849	7012013	2292053	1787521	5451901
PEMA2	6349096	10382619	33609692	4302659	6736130	11995197
SSA ONLY	3528872	2467653	6969588	2005311	4837929	4606618
ASF	2576240	1350940	2728126	801679	2701933	2381353
PEMA2	952632	1116713	4241462	1203632	2135996	2225265
GA ONLY	37553	141524	613875	546371	13981	277346
ASF	16031	90881	382982	313055	6713	25713
PEMA2	21522	50643	230893	233316	7268	251633

1/ Example: Requisitions worth $76,506,963 were received in FY 7T. Of the total, $12,962,134 involved ASF-funded parts and $63,544,829 involved PEMA2-funded parts. Not all of these requisitions required immediate asset release.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	496526860	463137088	453363270	592347942	615855257	501221709
ASF	252802353	210519192	203689568	300852838	368040016	257610195
PEMA2	243724507	252617896	249673702	291495104	247815241	243611514
U.S. ONLY	430181598	379944455	347931456	512886678	531419842	418998971
ASF	210984947	155392719	151814600	247133200	315008118	215917404
PEMA2	219196651	224551736	196116856	265753478	216411724	203081567
IL ONLY	66345262	83192633	105431814	79461264	84435415	82222738
ASF	41817406	55126473	51874968	53719638	53031898	41692791
PEMA2	24527856	28066160	53556846	25741626	31403517	40529947
IL PROGRAM CATEGORY						
FMS ONLY	40963435	49705980	80743863	49584200	58265637	52876051
ASF	25105277	28542872	37461705	33497728	33661061	20793235
PEMA2	15858158	21163108	43287158	16086472	24604576	32082816
SSA ONLY	20268278	25759530	20418932	23412478	21123189	24470657
ASF	14352417	20666876	11829453	17218645	16325019	17807636
PEMA2	5915861	5092654	8589479	6193833	4798170	6663021
GA ONLY	5113549	7727123	4264019	6464586	5046589	4876030
ASF	2359712	5916725	2583810	3003265	3045818	3091920
PEMA2	2753837	1810398	1680209	3461321	2000771	1784110

(Figure A-2-A-4 Continued on Next Page)

DOLLAR VALUE OF REQUISITIONS

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	64231993	57414865	42054228	97431615	58063277	36612432
ASF	22900851	18383663	24785489	78260622	34754939	19165568
PEMA2	41331142	39031202	17268739	19170993	23308338	17446864
U.S. ONLY	57363114	52913371	36886519	91136695	42437646	32819964
ASF	17279803	15462615	20033091	72686390	26196301	16934450
PEMA2	40083311	37450756	16853428	18450305	16241345	15885514
IL ONLY	6868879	4501494	5167709	6294920	15625631	3792468
ASF	5621048	2921048	4752398	5574232	8558638	2231118
PEMA2	1247831	1580446	415311	720688	7066993	1561350
IL PROGRAM CATEGORY						
FMS ONLY	5471525	3439821	4432056	5504035	14778800	2693036
ASF	4813920	2361831	4212542	5067748	7877756	1708521
PEMA2	657605	1077990	219514	436287	6901044	984575
SSA ONLY	968978	834630	492669	545607	524682	894269
ASF	564210	401772	375298	345650	386480	377207
PEMA2	404768	432858	117371	199957	138202	517062
GA ONLY	428376	227043	242984	245278	322149	205103
ASF	242918	157445	164558	160834	294402	145390
PEMA2	185458	69598	78426	84444	27747	59713

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	133256738	125768697	107504066	128278717	236258722	145148890
ASF	82077171	84488055	65676290	81681865	191139112	93795357
PEMA2	51179567	41280642	41827776	46596852	45119610	51353533
U.S. ONLY	104715197	84855689	78511863	90337102	207123232	108785408
ASF	66351240	55808830	48138232	57666504	172282135	76716719
PEMA2	38363957	29046859	30373631	32670598	34841097	32068689
IL ONLY	28541541	40913008	28992203	37941615	29135490	36363482
ASF	15725931	28679225	17538058	24015361	18856977	17078638
PEMA2	12815610	12233783	11454145	13926254	10278513	19284844
IL PROGRAM CATEGORY						
FMS ONLY	14266625	18403971	19274612	20046428	18216052	21764415
ASF	6532527	9959766	12212058	11863724	9681043	6155020
PEMA2	7734098	8444205	7062554	8182704	8535009	15609395
SSA ONLY	11687448	17210950	7787242	16022227	9106545	11995116
ASF	7977151	14226525	4223192	11503374	7828031	9148543
PEMA2	3710297	2984425	3564050	4518853	1278514	2846573
GA ONLY	2587468	5298087	1930349	1872960	1812893	2603951
ASF	1216253	4492934	1102808	648263	1347903	1775075
PEMA2	1371215	805153	827541	1224697	464990	828876

Figure A-2-A-4

PERCENT DOLLAR VALUE OF REQUISITIONS
(TOTAL MSC BASE)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	26	23	19	23	17	24
PEMA2	74	77	81	77	83	76
U.S. ONLY	74	69	41	86	83	68 1/
ASF	15	12	7	18	11	13
PEMA2	60	58	34	68	71	55
IL ONLY	26	31	59	14	17	32
ASF	12	11	12	5	6	11
PEMA2	14	19	46	9	12	21
IL PROGRAM CATEGORY						
FMS ONLY	19	26	49	10	11	25
ASF	7	9	9	3	2	8
PEMA2	12	17	41	7	9	17
SSA ONLY	7	4	8	3	6	7
ASF	5	2	3	1	4	3
PEMA2	2	2	5	2	3	3
GA ONLY	0	0	1	1	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0

1/ **Example:** In 1Q FY 77, 68 percent of the total MSC requisition dollar value received came from US forces. Of the 68 percent, 13 percent was for ASF-funded repair parts and 55 percent was for PEMA2-funded repair parts. Percentages are rounded off. Therefore some totals do not equal exactly 100 percent.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	51	45	45	51	60	51
PEMA2	49	55	55	49	40	49
U.S. ONLY	87	82	77	87	86	84
ASF	42	34	33	42	51	43
PEMA2	44	48	43	45	35	41
IL ONLY	13	18	23	13	14	16
ASF	8	12	11	9	9	8
PEMA2	5	6	12	4	5	8
IL PROGRAM CATEGORY						
FMS ONLY	8	11	18	8	9	11
ASF	5	6	8	6	5	4
PEMA2	3	5	10	3	4	6
SSA ONLY	4	6	5	4	3	5
ASF	3	4	3	3	3	4
PEMA2	1	1	2	1	1	1
GA ONLY	1	2	1	1	1	1
ASF	0	1	1	1	0	1
PEMA2	1	0	0	1	0	0

(Figure A-2-A-5 Continued on Next Page)

PERCENT DOLLAR VALUE OF REQUISITIONS
(TOTAL MSC BASE)

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	36	32	59	80	60	52
PEMA2	64	68	41	20	40	48
U.S. ONLY	89	92	88	94	73	90 1/
ASF	27	27	48	75	45	46
PEMA2	62	65	40	19	28	43
IL ONLY	11	8	12	6	27	10
ASF	9	5	11	6	15	6
PEMA2	2	3	1	1	12	4
IL PROGRAM CATEGORY						
FMS ONLY	9	6	11	6	25	7
ASF	7	4	10	5	14	5
PEMA2	1	2	1	0	12	3
SSA ONLY	2	1	1	1	1	2
ASF	1	1	1	0	1	1
PEMA2	1	1	0	0	0	1
GA ONLY	1	0	1	0	1	1
ASF	0	0	0	0	1	0
PEMA2	0	0	0	0	0	0

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	62	67	61	64	81	65
PEMA2	38	33	39	36	19	35
U.S. ONLY	79	67	73	70	88	75
ASF	50	44	45	45	73	53
PEMA2	29	23	28	25	15	22
IL ONLY	21	33	27	30	12	25
ASF	12	23	16	19	8	12
PEMA2	10	10	11	11	4	13
IL PROGRAM CATEGORY						
FMS ONLY	11	15	18	16	8	15
ASF	5	8	11	9	4	4
PEMA2	6	7	7	6	4	11
SSA ONLY	9	14	7	12	4	8
ASF	6	11	4	9	3	6
PEMA2	3	2	3	4	1	2
GA ONLY	2	4	2	1	1	2
ASF	1	4	1	1	1	1
PEMA2	1	1	1	1	0	1

Figure A-2-A-5

AVERAGE DOLLAR VALUE OF REQUISITIONS DUE NOW

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	1213	1343	1269	1681	1936	1367
ASF	441	411	436	620	512	461
PEMA2	3219	3375	2929	3655	4607	3261
U.S. ONLY	1319	1429	1318	1861	2143	1398
ASF	393	387	353	677	465	432
PEMA2	3435	3337	3067	3602	4953	3089
IL ONLY	881	1038	1153	836	1259	1236
ASF	569	476	612	446	689	548
PEMA2	2177	3641	2530	4708	4394	4811
IL PROGRAM CATEGORY						
FMS ONLY	951	1009	961	1506	1369	1659
ASF	495	377	505	852	411	560
PEMA2	1922	3599 1/	1746	7311	8231	5099
SSA ONLY	809	1215	1400	1108	1214	986
ASF	629	779	710	549	815	573
PEMA2	3542	3773	3731	3410	3188	4463
GA ONLY	800	341	721	102	999	832
ASF	373	173	555	88	517	45
PEMA2	5381	4569	3458	1637	7269	4055

1/ **Example: In 2Q FY 76 the average value of an FMS category PEMA2 requisition that was to be filled from current assets (i.e., due now) was $3,599.**

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	713	679	667	821	806	644
ASF	382	321	334	453	524	377
PEMA2	5154	5359	5346	5854	5061	4692
U.S. ONLY	678	631	621	782	763	612
ASF	357	278	290	420	497	352
PEMA2	5052	5265	5404	5590	4728	4535
IL ONLY	1399	1551	1293	1436	1580	1145
ASF	885	1103	948	965	999	773
PEMA2	6672	6872	4837	13794	12492	7511
IL PROGRAM CATEGORY						
FMS ONLY	1310	1396	1349	1552	2238	802
ASF	725	770	1091	1049	1150	457
PEMA2	5477	7441	3800	18677	23809	7831
SSA ONLY	1486	2052	1438	1875	1320	1772
ASF	1093	1697	918	1362	1090	1379
PEMA2	9181	6782	6272	12004	4809	7542
GA ONLY	1458	1101	697	648	741	1036
ASF	733	905	438	304	440	608
PEMA2	8644	4657	5918	8577	11273	6214

(Figure A-2-A-6 Continued on Next Page)

AVERAGE DOLLAR VALUE OF REQUISITIONS DUE NOW

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	721	699	584	1183	625	469
ASF	316	304	454	1277	527	320
PEMA2	1755	1722	988	927	1160	940
U.S. ONLY	704	686	529	1165	509	438
ASF	292	278	382	1252	403	296
PEMA2	1751	1734	979	914	828	885
IL ONLY	1261	1053	2542	1829	7480	1371
ASF	1055	974	2665	1872	5068	995
PEMA2	1909	1314	1623	1565	16899	2763
IL PROGRAM CATEGORY						
FMS ONLY	1426	1555	5219	3166	16263	1902
ASF	1187	1456	5391	3242	11343	1386
PEMA2	2548	2156	3037	2513	31156	5037
SSA ONLY	1247	790	666	680	719	960
ASF	954	506	567	458	651	544
PEMA2	2154	1653	1525	4255	1017	2451
GA ONLY	871	400	467	361	728	432
ASF	810	478	358	355	773	452
PEMA2	963	295	806	374	455	404

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	437	399	373	395	688	400
ASF	270	266	229	245	565	287
PEMA2	12600	10282	10988	11678	10389	9562
U.S. ONLY	370	310	319	322	660	363
ASF	238	206	197	208	555	260
PEMA2	10168	8164	9418	9054	9009	8669
IL ONLY	2084	2446	1179	1655	1240	952
ASF	1084	1646	700	900	759	696
PEMA2	61003	41775	29159	46507	31643	25797
IL PROGRAM CATEGORY						
FMS ONLY	1649	2004	932	1223	1255	368
ASF	577	819	586	561	411	255
PEMA2	60370	53602	26669	50810	42166	20584
SSA ONLY	2606	3440	2273	3158	1577	2528
ASF	1770	2737	1254	2063	1379	1965
PEMA2	58674	43253	56589	71728	18503	36617
GA ONLY	2444	1856	729	853	563	1424
ASF	1171	1609	432	296	421	818
PEMA2	68561	14599	10598	19540	12352	16906

Figure A-2-A-6

HIGH PRI REQ AS A % OF TOTAL REQ BY CUST CAT (IPD 01-08)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	36.1	42.0	37.7 [1/]	46.8	36.3	31.8
ASF	31.2	34.6	32.6	36.0	31.1	25.1
PEMA2	47.7	57.9	45.4	66.6	45.0	45.3
U.S. ONLY	43.4	48.7	46.9	54.8	43.3	45.7
ASF	36.9	39.8	40.2	45.3	36.1	36.4
PEMA2	56.8	64.5	59.2	68.5	64.8	61.2
IL ONLY	15.7	23.1	32.2	13.3	14.9	7.9
ASF	17.5	22.9	27.5	10.6	16.4	9.0
PEMA2	9.1	23.7	38.4	35.7	12.2	4.9
IL PROGRAM CATEGORY						
FMS ONLY	8.3	26.6	32.3	17.6	6.2	4.5
ASF	10.8	27.7	27.7	16.7	10.1	5.7
PEMA2	3.1	22.6	37.8	22.9	1.9	1.6
SSA ONLY	25.3	13.2	35.2	27.2	27.3	19.1
ASF	23.5	10.4	31.1	21.0	22.0	17.4
PEMA2	52.0	29.7	49.0	52.7	53.9	32.9
GA ONLY	89.4	1.2	2.3	0.2	14.3	0.7
ASF	88.4	0.0	1.6	0.1	15.4	0.3
PEMA2	100.0	33.3	11.8	7.1	0.0	3.2

1/ Example: In 3Q FY 76, 37.7 percent of all requisitions received by the MSC carried one of the more urgent issue priority designators (i.e., IPD 01-080).

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	35.8	35.8	35.5	37.5	36.6	33.4
ASF	34.4	34.3	33.9	35.4	35.3	31.9
PEMA2	54.1	55.0	52.8	65.1	56.4	54.5
U.S. ONLY	36.4	36.1	36.7	38.3	37.5	34.7
ASF	34.9	34.5	35.0	36.2	36.0	32.9
PEMA2	56.5	57.0	60.4	66.3	60.5	60.9
IL ONLY	26.1	30.9	27.4	26.7	24.1	19.1
ASF	26.3	31.0	24.1	26.3	24.8	19.9
PEMA2	23.2	29.3	38.2	35.7	17.7	12.0
IL PROGRAM CATEGORY						
FMS ONLY	19.6	28.1	28.1	23.1	27.7	18.4
ASF	21.0	28.5	24.2	23.1	31.0	19.9
PEMA2	9.1	23.5	37.8	24.3	7.2	7.4
SSA ONLY	32.6	26.8	28.7	30.5	24.1	18.5
ASF	31.7	26.6	27.1	29.5	22.4	17.5
PEMA2	52.5	29.3	44.1	51.9	51.0	33.0
GA ONLY	40.7	45.3	18.0	32.4	11.8	28.1
ASF	37.3	44.4	17.3	32.0	11.4	28.3
PEMA2	76.3	64.4	32.4	41.6	27.9	25.8

(Figure A-2-A-7 Continued on Next Page)

HIGH PRI REQ AS A % OF TOTAL REQ BY CUST CAT
(IPD 01-08)

ECOM

CUSTOMER CATEGORY	1Q76	2Q76	3Q76	4Q76	7T	1Q77
TOTAL MSC	41.0	39.9	41.5	45.5	45.0	39.2
ASF	36.7	36.4	36.4	39.3	40.8	34.0
PEMA2	52.1	49.1	57.3	63.7	57.8	55.7
U.S. ONLY	41.2	40.6	41.8	46.3	45.4	39.5
ASF	36.9	37.2	36.7	40.0	41.1	34.2
PEMA2	52.1	49.3	57.6	64.5	58.5	56.2
IL ONLY	35.6	24.8	31.3	27.7	32.3	31.2
ASF	31.4	20.1	29.7	27.2	32.8	28.0
PEMA2	50.2	41.8	43.5	31.1	30.2	42.7
IL PROGRAM CATEGORY						
FMS ONLY	29.7	18.3	36.4	21.3	33.8	30.8
ASF	31.6	18.1	34.3	21.3	36.3	28.1
PEMA2	19.4	19.3	60.9	20.9	24.7	43.8
SSA ONLY	34.6	20.0	17.3	41.0	35.2	36.4
ASF	24.2	16.6	18.0	41.7	32.0	33.3
PEMA2	67.0	30.5	10.4	29.8	49.3	46.4
GA ONLY	54.5	53.4	43.3	32.3	23.6	20.3
ASF	44.3	36.7	39.9	28.6	24.8	10.6
PEMA2	70.6	77.5	54.2	39.8	18.4	34.7

TACOM

CUSTOMER CATEGORY	1Q76	2Q76	3Q76	4Q76	7T	1Q77
TOTAL MSC	33.4	33.0	32.0	33.5	34.8	31.4
ASF	33.0	32.6	31.6	33.1	34.4	30.9
PEMA2	62.8	61.8	62.0	65.8	69.2	68.7
U.S. ONLY	33.8	33.0	33.2	34.6	35.3	32.3
ASF	33.4	32.6	32.7	34.2	34.8	31.8
PEMA2	64.2	64.6	66.0	68.2	72.7	71.6
IL ONLY	24.8	33.0	17.4	18.4	27.1	19.9
ASF	24.5	33.1	17.2	18.1	27.1	19.9
PEMA2	41.1	27.0	24.3	38.6	27.5	23.0
IL PROGRAM CATEGORY						
FMS ONLY	13.2	21.3	13.6	9.2	34.1	21.3
ASF	12.8	21.6	13.5	9.0	34.4	21.3
PEMA2	31.5	10.8	25.0	25.5	20.9	28.8
SSA ONLY	43.9	35.4	34.5	41.8	25.9	14.1
ASF	43.7	35.2	34.4	41.1	25.5	14.1
PEMA2	62.5	49.3	40.6	82.5	57.4	13.8
GA ONLY	35.9	55.3	14.8	31.7	7.3	22.3
ASF	35.7	55.5	14.9	31.7	7.2	22.2
PEMA2	50.0	44.8	9.8	33.8	12.8	25.5

Figure A-2-A-7

NORS REQ AS A % OF TOTAL REQ BY CUST CAT

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	7.3	7.4	4.7	9.6	7.8	6.3
ASF	4.7	5.0	3.4	6.9	5.9	4.4
PEMA2	13.5	12.6	6.6	14.6	11.0	10.1
U.S. ONLY	9.6	9.7	12.0	11.6	10.1	9.6
ASF	6.2	6.8	8.1	9.1	7.7	7.1
PEMA2	16.4	14.8	19.3	15.4	13.9	13.8
IL ONLY	1.0	0.8	0.2	1.1	0.8	0.6
ASF	0.9	0.8	0.2	0.8	0.6	0.5
PEMA2	1.4	0.8	0.2	3.0	1.1	0.9
IL PROGRAM CATEGORY						
FMS ONLY	0.3	0.2	0.0	0.3	0.0	0.0
ASF	0.3	0.2	0.0	0.2[1/]	0.0	0.0
PEMA2	0.5	0.2	0.0	0.8	0.0	0.0
SSA ONLY	2.0	3.2	1.8	3.7	1.8	2.6
ASF	1.6	3.1	1.4	3.3	1.1	1.9
PEMA2	7.4	4.1	3.2	5.4	5.5	8.3
GA ONLY	2.1	0.0	0.7	0.1	0.0	0.0
ASF	0.0	0.0	0.8	0.1	0.0	0.0
PEMA2	25.0	0.0	0.0	2.4	0.0	0.0

1/ Example: In 4Q FY 76, .2 percent of all FMS requisitions for ASF-funded repair parts carried NORS designators.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	7.5	7.3	6.6	8.1	8.3	7.7
ASF	7.1	6.9	6.4	7.7	8.0	7.3
PEMA2	12.0	11.9	9.4	13.7	13.1	12.6
U.S. ONLY	7.9	7.7	7.5	8.6	8.9	8.3
ASF	7.5	7.3	7.1	8.2	8.5	7.9
PEMA2	12.9	12.7	14.2	14.2	14.4	14.3
IL ONLY	0.9	1.1	0.6	0.7	0.5	0.7
ASF	0.9	1.0	0.7	0.7	0.5	0.6
PEMA2	1.5	1.6	0.3	2.0	1.0	1.1
IL PROGRAM CATEGORY						
FMS ONLY	0.4	1.1	0.5	0.7	0.2	0.4
ASF	0.4	1.1	0.6	0.7	0.2	0.4
PEMA2	0.4	1.3	0.1	1.4	0.1	0.4
SSA ONLY	1.8	1.5	1.0	1.3	0.8	1.7
ASF	1.7	1.4	0.8	1.1	0.6	1.4
PEMA2	4.3	3.2	2.6	4.3	4.0	5.1
GA ONLY	1.0	0.1	0.6	0.2	0.5	0.4
ASF	0.7	0.1	0.6	0.2	0.5	0.4
PEMA2	4.4	0.0	0.0	0.5	1.0	0.0

(Figure A-2-A-8 Continued on Next Page)

NORS REQ AS A % OF TOTAL REQ BY CUST CAT

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	3.0	2.7	2.7	3.5	4.1	4.0
ASF	3.1	2.6	2.4	3.2	3.7	3.3
PEMA2	2.7	2.9	3.8	4.3	5.4	6.2
U.S. ONLY	3.1	2.7	2.8	3.7	4.2	4.1
ASF	3.2	2.7	2.4	3.4	3.8	3.4
PEMA2	2.8	3.0	3.8	4.4	5.5	6.4
IL ONLY	0.7	0.8	0.8	0.3	0.2	0.5
ASF	0.7	0.5	0.5	0.3	0.1	0.3
PEMA2	0.7	2.0	3.5	0.4	0.6	1.3
IL PROGRAM CATEGORY						
FMS ONLY	0.2	0.9	1.3	0.4	0.1	0.5
ASF	0.2	0.7	0.5	0.4	0.1	0.2
PEMA2	0.0	2.1	10.3	1.1	0.3	2.1
SSA ONLY	1.9	1.1	0.5	0.1	0.5	0.8
ASF	1.9	0.3	0.6	0.1	0.3	0.7
PEMA2	2.1	3.8	0.0	0.0	1.5	0.9
GA ONLY	0.0	0.0	0.0	0.0	0.0	0.0
ASF	0.0	0.0	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	6.7	6.8	6.6	7.8	8.2	7.7
ASF	6.4	6.5	6.4	7.5	8.0	7.5
PEMA2	30.1	32.3	27.2	29.1	26.1	26.2
U.S. ONLY	7.0	7.2	7.2	8.4	8.8	8.3
ASF	6.7	6.8	6.9	8.1	8.5	8.0
PEMA2	32.0	34.9	30.1	31.6	28.3	27.8
IL ONLY	0.0	0.2	0.1	0.1	0.1	0.2
ASF	0.0	0.2	0.1	0.1	0.1	0.2
PEMA2	0.0	0.0	0.0	0.9	0.0	0.0
IL PROGRAM CATEGORY						
FMS ONLY	0.0	0.1	0.0	0.0	0.0	0.0
ASF	0.0	0.1	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0
SSA ONLY	1.3	0.5	0.4	0.5	0.3	1.1
ASF	1.3	0.6	0.4	0.4	0.3	1.1
PEMA2	1.6	0.0	0.0	4.8	0.0	0.0
GA ONLY	0.0	0.0	0.0	0.0	0.0	0.0
ASF	0.0	0.0	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0

Figure A-2-A-8

PERCENT OF REQUISITIONS NOT DUE NOW

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	6.5	6.4	47.1	4.6	11.6	23.0
ASF	3.8	6.0	41.3	4.3	6.5	22.3
PEMA2	12.7	7.3	55.8	5.2	20.1	24.3
U.S. ONLY	3.8	1.4	0.8	2.5	2.0	2.3
ASF	0.6	0.2	0.8	1.5	0.7	0.8
PEMA2	10.4	3.4	0.8	3.9	4.1	4.9
IL ONLY	13.9	20.6	74.9	13.5	40.8	58.3
ASF	11.4	18.9	68.6	12.1	23.2	53.2
PEMA2	22.8	27.8	83.4	25.3	73.8	73.4
IL PROGRAM CATEGORY						
FMS ONLY	23.9	26.5	86.3	25.3	69.7	78.4
ASF	22.9	24.7	83.8	21.8	49.2	76.4
PEMA2	25.9	33.0 1/	89.1	46.4	92.2	82.8
SSA ONLY	0.0	0.0	0.0	0.1	0.0	0.5
ASF	0.0	0.0	0.0	0.1	0.0	0.4
PEMA2	0.0	0.0	0.0	0.0	0.0	1.8
GA ONLY	0.0	11.7	14.2	10.9	0.0	22.9
ASF	0.0	11.8	12.7	10.3	0.0	27.0
PEMA2	0.0	8.3	33.3	50.0	0.0	0.0

1/ Example: In 2Q FY 76, only 33 percent of FMS PEMA2 requisitions were filled from future procurement actions. Attempts were made to fill the other 67 percent of requisitions from existing assets.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	1.5	1.7	6.3	1.5	1.9	2.8
ASF	1.3	1.6	4.3	1.4	1.5	2.3
PEMA2	4.2	2.6	27.7	2.2	7.1	9.7
U.S. ONLY	0.4	0.2	0.2	0.3	0.3	0.2
ASF	0.2	0.1	0.2	0.2	0.2	0.1
PEMA2	3.0	1.0	0.3	1.5	1.4	1.9
IL ONLY	19.2	22.9	48.9	17.5	23.7	31.0
ASF	19.2	22.9	39.3	17.4	19.9	27.4
PEMA2	19.0	22.6	80.3	20.4	59.4	62.6
IL PROGRAM CATEGORY						
FMS ONLY	31.1	35.2	63.2	26.9	42.0	43.0
ASF	31.7	35.4	53.3	26.6	36.1	38.5
PEMA2	25.8	33.3	87.8	37.2	79.5	77.2
SSA ONLY	3.0	0.9	0.4	0.1	0.1	0.3
ASF	3.2	0.9	0.4	0.1	0.1	0.2
PEMA2	0.2	0.0	0.1	0.0	0.2	1.3
GA ONLY	7.2	15.8	22.5	9.5	13.4	10.5
ASF	7.7	16.4	22.9	9.6	13.3	11.1
PEMA2	2.5	4.7	12.0	7.4	16.3	2.1

(Figure A-2-A-9 Continued on Next Page)

PERCENT OF REQUISITIONS NOT DUE NOW

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	1.1	0.8	0.4	1.1	1.0	1.1
ASF	0.9	0.8	0.5	1.3	1.1	1.1
PEMA2	1.5	0.6	0.2	0.3	0.5	0.9
U.S. ONLY	0.7	0.2	0.0	0.2	0.3	0.2
ASF	0.5	0.1	0.0	0.2	0.4	0.3
PEMA2	1.4	0.3	0.0	0.1	0.0	0.1
IL ONLY	11.2	14.5	12.6	20.6	21.4	21.0
ASF	13.1	16.2	12.8	22.2	21.9	20.7
PEMA2	4.7	8.5	10.8	9.3	19.5	22.1
IL PROGRAM CATEGORY						
FMS ONLY	18.8	26.7	24.3	33.7	35.3	34.2
ASF	20.4	26.8	23.7	34.9	38.2	31.9
PEMA2	10.3	25.9	31.0	21.4	24.7	45.6
SSA ONLY	1.0	0.3	0.3	0.0	0.0	0.1
ASF	1.4	0.4	0.3	0.0	0.0	0.1
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0
GA ONLY	4.8	4.0	3.7	3.8	14.8	2.7
ASF	6.2	6.7	4.5	5.0	11.0	4.1
PEMA2	2.6	0.0	1.0	1.3	32.2	0.7

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	1.0	1.0	1.5	1.4	1.4	1.2
ASF	1.0	1.0	1.5	1.4	1.4	1.2
PEMA2	1.5	1.2	2.0	1.7	1.8	0.9
U.S. ONLY	0.1	0.1	0.2	0.1	0.1	0.0
ASF	0.1	0.1	0.2	0.1	0.1	0.0
PEMA2	0.2	0.0	0.0	0.1	0.0	0.0
IL ONLY	19.7	17.9	18.4	19.3	20.8	15.7
ASF	19.7	18.0	18.3	19.3	20.8	15.8
PEMA2	22.8	16.1	19.9	19.0	23.2	14.0
IL PROGRAM CATEGORY						
FMS ONLY	29.4	28.5	22.6	26.4	33.3	20.0
ASF	29.4	28.5	22.5	26.4	33.3	20.0
PEMA2	34.0	26.6	30.0	29.8	32.3	26.0
SSA ONLY	6.2	1.6	0.6	0.2	0.2	0.2
ASF	6.2	1.6	0.6	0.2	0.1	0.2
PEMA2	1.6	0.0	1.6	0.0	2.9	3.8
GA ONLY	0.4	14.9	19.3	11.1	15.3	15.9
ASF	0.4	15.1	19.6	11.2	15.4	16.2
PEMA2	0.0	6.9	9.8	6.2	7.7	5.9

Figure A-2-A-9

% OF TOTAL DOLLAR VALUE NOT DUE NOW

MICOM

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	13.3	19.5	44.9	9.2	9.9	20.4
ASF	14.0	26.2	34.9	6.9	9.7	25.8
PEMA2	13.0	17.5	47.3	9.9	9.9	18.6
U.S. ONLY	4.0	4.0	2.9	3.8	2.2	3.7
ASF	0.5	0.2	1.4	1.6	1.1	2.2
PEMA2	4.9	4.7	3.2	4.4	2.4	4.0
IL ONLY	40.3	54.9	74.7	42.7	46.2	55.5
ASF	31.4	53.5	54.1	25.5	26.0	53.0
PEMA2	47.6	55.7	80.2	52.8	56.4	56.9 1/
IL PROGRAM CATEGORY						
FMS ONLY	54.9	63.8	88.2	54.6	72.4	70.8
ASF	54.8	67.5	77.0	33.6	65.3	76.0
PEMA2	54.9	61.9	90.5	65.8	74.3	68.5
SSA ONLY	0.0	0.0	0.0	0.1	0.0	0.4
ASF	0.0	0.0	0.0	0.3	0.0	0.1
PEMA2	0.0	0.0	0.0	0.0	0.0	0.8
GA ONLY	0.0	30.9	30.0	54.1	0.0	5.2
ASF	0.0	47.7	18.4	30.9	0.0	55.9
PEMA2	0.0	0.7	49.1	85.3	0.0	0.0

1/ Example: In 1Q FY 77, 58.9 percent of the dollar value of IL FMS requisitions for PEMA2-funded repair parts were not filled on the spot from supply system general purpose assets.

DRC

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	5.1	7.5	11.8	7.3	8.7	11.1
ASF	7.1	10.8	8.3	6.0	6.8	5.0
PEMA2	3.1	4.8	14.7	8.6	11.6	17.5
U.S. ONLY	0.9	0.7	0.5	4.2	5.1	5.0
ASF	0.8	0.7	0.5	0.7	2.1	0.7
PEMA2	0.9	0.8	0.5	7.5	9.4	9.5
IL ONLY	32.9	38.5	49.0	27.0	31.7	42.2
ASF	38.6	39.1	31.0	30.1	34.7	27.3
PEMA2	23.1	37.4	66.3	20.5	26.7	57.6
IL PROGRAM CATEGORY						
FMS ONLY	51.3	56.2	62.9	35.3	45.1	63.5
ASF	61.4	61.9	41.4	37.1	53.5	49.7
PEMA2	35.2	48.5	81.5	31.4	33.7	72.5
SSA ONLY	3.2	14.0	0.6	14.4	0.3	0.2
ASF	4.4	17.5	1.1	19.6	0.0	0.1
PEMA2	0.3	0.0	0.0	0.0	1.2	0.7
GA ONLY	3.0	6.5	16.1	9.5	7.9	21.8
ASF	4.2	4.9	16.9	12.6	11.8	33.2
PEMA2	2.1	11.8	14.8	6.8	1.9	2.1

(Figure A-2-A-10 Continued on Next Page)

% OF TOTAL DOLLAR VALUE NOT DUE NOW

ECOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	7.0	2.7	0.5	1.3	5.1	1.3
ASF	17.8	4.5	0.7	1.5	8.3	2.6
PEMA2	0.9	1.8	0.2	0.4	0.4	1.0
U.S. ONLY	1.1	0.1	0.0	0.2	5.9	1.1
ASF	2.3	0.3	0.0	0.3	9.5	1.5
PEMA2	0.6	0.1	0.0	0.0	0.1	0.6
IL ONLY	55.5	32.4	4.2	16.4	2.9	8.7
ASF	65.5	26.2	3.8	17.3	4.5	11.3
PEMA2	10.5	43.6	9.4	9.4	1.1	5.0
IL PROGRAM CATEGORY						
FMS ONLY	69.2	42.2	3.6	18.7	3.0	10.3
ASF	76.0	32.2	2.9	19.0	4.6	11.7
PEMA2	19.4	64.0	17.0	15.4	1.1	7.9
SSA ONLY	1.3	0.1	0.0	0.0	0.0	0.0
ASF	2.2	0.2	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0
GA ONLY	3.5	2.1	25.2	2.6	6.3	25.5
ASF	4.7	3.0	36.1	3.3	6.6	35.4
PEMA2	1.9	0.0	2.4	1.3	3.4	1.4

TACOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	4.0	9.5	9.3	9.2	4.1	12.1
ASF	4.9	11.5	10.1	12.6	3.8	3.8
PEMA2	2.6	5.4	8.1	3.3	5.2	27.4
U.S. ONLY	0.5	0.4	0.6	0.6	0.2	0.1
ASF	0.6	0.6	0.9	0.9	0.3	0.1
PEMA2	0.3	0.0	0.0	0.1	0.0	0.0
IL ONLY	17.0	28.4	32.9	29.6	31.4	48.2
ASF	23.0	32.7	35.2	40.5	36.1	20.2
PEMA2	9.6	18.3	29.4	10.8	22.7	73.0
IL PROGRAM CATEGORY						
FMS ONLY	30.5	43.8	48.9	38.9	49.2	76.7
ASF	47.9	58.5	50.0	53.3	69.3	43.4
PEMA2	15.7	26.4	47.1	18.1	26.4	89.9
SSA ONLY	4.4	20.4	0.3	21.0	0.7	0.3
ASF	6.2	24.7	0.5	29.3	0.1	0.1
PEMA2	0.4	0.0	0.0	0.0	4.4	1.0
GA ONLY	0.0	1.1	4.6	4.1	6.2	30.2
ASF	0.0	1.0	4.1	6.7	6.9	43.4
PEMA2	0.0	2.1	5.3	2.7	4.4	2.1

Figure A-2-A-10

PERCENT OF REQUISITIONS MANUALLY PROCESSED

MICOM

	1Q76	2Q76	3Q76	4Q76	TQ	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	46.3	35.5	68.4	34.4	36.5	44.0
ASF	34.7	31.1	55.3	29.2	25.9	38.1
PEMA2	74.0	45.4	75.6	44.1	54.9	56.2
U.S. ONLY	42.8	25.0	25.1	29.2	27.5	26.4
ASF	30.1	18.7	19.3	19.6	18.7	18.4
PEMA2	69.3	36.7	35.9	43.3	42.3	40.1
IL ONLY	56.5	66.7	87.1	56.6	65.8	75.9
ASF	46.2	60.7	80.5	56.5	48.3	68.1
PEMA2	94.1	91.2	95.8	57.5	98.8	99.0
IL PROGRAM CATEGORY						
FMS ONLY	72.9	77.3	95.4	55.6	78.8	88.1
ASF	61.3	72.2	92.0	54.0	60.0	83.1
PEMA2	96.7	95.8	99.4	65.1	99.6	99.6
SSA ONLY	33.8	34.4	34.2	48.1	47.5	36.8
ASF	31.1	29.0	31.0	48.4	37.8	29.9 1/
PEMA2	75.5	65.9	44.9	47.2	95.8	93.7
GA ONLY	25.0	19.7	27.2	63.0	42.9	98.3
ASF	22.7	17.6	25.1	62.8	46.2	98.0
PEMA2	50.0	75.0	52.9	76.2	0.0	100.0

1/ Example: In 1Q FY 77, 29.9 percent of SSA requisitions for ASF-funded repair parts were manually processed (i.e., not machine processed).

DRC

	1Q76	2Q76	3Q76	4Q76	TQ	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	11.3	10.5	16.4	11.9	11.3	11.4
ASF	9.4	8.7	13.0	10.2	9.0	9.2
PEMA2	36.8	33.9	53.2	34.3	44.7	42.3
U.S. ONLY	9.3	8.4	9.2	9.3	9.1	7.8
ASF	7.5	6.7	7.6	7.5	7.0	6.0
PEMA2	33.8	31.3	32.5	33.1	39.4	34.5
IL ONLY	43.3	40.5	67.8	45.9	43.3	51.8
ASF	40.2	38.1	59.8	45.2	37.8	46.6
PEMA2	75.7	69.0	94.1	62.1	96.2	97.9
IL PROGRAM CATEGORY						
FMS ONLY	53.1	49.5	79.0	47.2	49.6	59.6
ASF	48.5	45.9	71.2	46.4	42.2	54.4
PEMA2	89.1	85.9	98.4	70.5	97.2	99.0
SSA ONLY	31.7	23.5	34.4	41.4	37.6	32.3
ASF	31.2	22.1	32.9	40.8	33.9	28.0
PEMA2	42.7	42.0	48.5	52.4	94.0	93.9
GA ONLY	27.5	36.4	36.9	46.8	34.4	36.1
ASF	26.7	37.1	36.3	46.5	32.7	32.0
PEMA2	35.9	21.6	50.9	55.2	91.9	90.7

(Figure A-2-A-11 Continued on Next Page)

PERCENT OF REQUISITIONS MANUALLY PROCESSED

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	10.7	17.1	19.1	16.4	20.7	11.4
ASF	10.0	14.9	17.7	16.0	17.6	8.0
PEMA2	12.6	23.1	24.0	17.7	30.1	22.0
U.S. ONLY	10.2	16.6	18.0	15.0	19.6	9.1
ASF	9.4	14.2	16.4	14.4	16.6	5.8
PEMA2	12.3	22.9	23.5	16.8	28.4	19.1
IL ONLY	26.0	29.9	55.8	49.8	56.3	67.8
ASF	26.3	30.5	55.6	48.1	46.0	58.7
PEMA2	24.8	28.0	57.4	61.3	97.3	99.6
IL PROGRAM CATEGORY						
FMS ONLY	41.5	42.5	50.3	49.4	50.0	59.1
ASF	38.2	40.2	49.7	46.8	37.4	49.9
PEMA2	59.1	57.1	58.0	77.0	96.0	99.5
SSA ONLY	1.5	16.5	61.0	44.9	76.1	88.4
ASF	2.0	16.2	58.0	42.2	70.5	85.1
PEMA2	0.0	17.5	86.1	87.2	100.0	99.5
GA ONLY	18.2	16.2	61.6	56.6	44.4	64.1
ASF	24.8	21.0	70.3	63.3	32.8	39.9
PEMA2	7.7	9.3	33.3	42.9	97.7	100.0

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	4.3	4.2	5.8	5.5	4.4	5.6
ASF	3.7	3.6	5.2	4.8	3.8	4.9
PEMA2	51.1	50.0	54.1	57.2	58.7	62.8
U.S. ONLY	2.1	2.3	2.1	2.9	2.7	3.2
ASF	1.4	1.7	1.5	2.2	2.0	2.4
PEMA2	49.4	48.6	51.2	55.5	58.0	62.3
IL ONLY	50.1	42.0	52.2	41.7	31.8	36.9
ASF	49.6	41.5	51.7	41.1	31.2	36.6
PEMA2	78.7	68.5	80.3	76.3	67.0	70.0
IL PROGRAM CATEGORY						
FMS ONLY	61.3	55.3	63.8	51.6	40.1	46.6
ASF	60.8	54.8	63.4	51.2	39.5	46.4
PEMA2	83.9	77.2	87.6	84.8	70.3	75.0
SSA ONLY	38.4	18.7	18.2	25.3	14.5	11.0
ASF	37.9	17.8	17.1	24.8	14.0	9.8
PEMA2	69.2	71.0	70.8	56.1	55.7	75.0
GA ONLY	11.4	41.6	39.2	12.5	34.0	5.8
ASF	10.4	41.6	38.3	10.6	33.6	4.2
PEMA2	65.0	42.4	70.5	71.6	67.5	50.9

Figure A-2-A-11

PERCENT OF REQUISITIONS MANUALLY PROCESSED FOR MANAGEMENT CONTROL

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	26.7	14.3	9.4	15.6	18.1	17.1
ASF	20.7	12.3	7.6	12.0	13.1	13.2
PEMA2	41.0	18.7	12.1	22.4	26.8	25.1
U.S. ONLY	33.2	16.0	18.8	16.5	19.3	20.6
ASF	26.2	14.4	13.1	12.8	14.3	15.6
PEMA2	47.8	19.1	29.3	22.0	27.6	29.1
IL ONLY	8.0	9.2	3.5	11.5	14.2	10.7
ASF	6.9	7.4	3.7	9.4	9.2	9.5
PEMA2	12.2	16.9	3.4	28.6	23.7	14.4
IL PROGRAM CATEGORY						
FMS ONLY	5.4	7.7	1.6	18.5	6.6	5.0
ASF	5.2	7.0	2.3	18.3	6.4	5.1
PEMA2	5.7	10.2	0.9	19.6	6.8	4.6
SSA ONLY	11.8	15.5	16.7	14.1	25.2	22.2
ASF	8.5	9.1	10.0	8.9	11.7	13.9
PEMA2	61.3	53.0	39.2	35.4	91.5[1/]	90.9
GA ONLY	10.4	6.8	9.1	3.0	7.1	78.3
ASF	11.4	5.4	6.4	2.3	7.7	79.0
PEMA2	0.0	41.7	43.1	52.4	0.0	74.2

1/ Example: In FY 7T, 91.5 percent of CLSSA requisitions for PEMA2-funded parts were manually processed for reasons of management control of critical items.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	6.4	4.7	4.8	5.4	5.4	5.4
ASF	5.1	3.7	3.6	4.2	3.7	3.8
PEMA2	23.4	18.1	17.4	21.7	30.4	27.0
U.S. ONLY	6.3	4.7	5.1	5.5	5.4	5.4
ASF	5.0	3.7	3.8	4.3	3.7	3.8
PEMA2	24.0	18.1	23.9	21.4	29.9	27.7
IL ONLY	7.1	4.6	3.1	4.2	6.3	5.5
ASF	6.3	3.5	2.6	3.2	3.3	3.7
PEMA2	15.8	17.6	4.7	29.7	35.2	22.0
IL PROGRAM CATEGORY						
FMS ONLY	3.5	4.1	1.8	4.0	5.1	3.4
ASF	2.7	3.1	1.9	3.2	2.9	2.2
PEMA2	9.4	14.0	1.5	29.4	18.8	12.3
SEA ONLY	12.4	7.1	8.4	5.1	9.5	10.4
ASF	11.3	5.3	4.9	3.7	4.5	6.2
PEMA2	34.3	31.4	40.2	33.7	84.8	70.0
GA ONLY	9.1	2.7	3.2	3.9	3.5	11.5
ASF	7.3	2.2	2.3	2.9	1.7	9.3
PEMA2	28.4	11.4	25.3	25.3	61.7	41.2

(Figure A-2-A-12 Continued on Next Page)

PERCENT OF REQUISITIONS MANUALLY PROCESSED FOR MANAGEMENT CONTROL

ECOM

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	6.1	8.2	9.5	6.2	8.7	5.8
ASF	5.8	7.6	8.2	5.4	4.5	2.7
PEMA2	6.7	9.7	14.0	8.6	21.5	15.5
U.S. ONLY	6.1	8.3	9.6	6.2	8.5	5.7
ASF	5.8	7.8	8.3	5.5	4.6	2.7
PEMA2	6.8	9.7	13.8	8.3	20.3	14.8
IL ONLY	5.5	5.3	8.7	5.4	15.1	9.0
ASF	5.8	3.8	6.0	3.3	1.8	1.5
PEMA2	4.4	10.8	28.9	20.0	68.1	35.2
IL PROGRAM CATEGORY						
FMS ONLY	6.3	7.3	5.6	5.6	18.6	11.1
ASF	5.5	4.6	4.0	2.6	1.8	1.4
PEMA2	10.3	24.5	23.9	38.0	79.3	54.1
SSA ONLY	0.5	3.2	14.1	4.8	12.7	3.7
ASF	0.7	2.6	8.0	4.2	2.2	1.6
PEMA2	0.0	4.9	65.8	14.9	58.4	10.9
GA ONLY	11.0	3.1	7.1	5.4	9.0	10.7
ASF	17.0	3.2	8.4	5.0	1.3	2.3
PEMA2	1.5	3.0	3.1	6.2	44.8	23.1

TACOM

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	1.5	1.4	1.5	1.7	1.9	2.2
ASF	0.8	0.8	0.8	1.1	1.2	1.5
PEMA2	46.3	45.7	48.4	52.3	54.6	59.5
U.S. ONLY	1.2	1.3	1.4	1.7	1.8	2.3
ASF	0.5	0.7	0.8	1.1	1.2	1.5
PEMA2	45.9	45.9	48.8	52.6	55.5	60.2
IL ONLY	7.8	2.9	1.8	1.8	2.0	1.5
ASF	7.0	2.1	1.0	1.0	1.3	1.0
PEMA2	52.6	42.0	44.6	48.1	43.9	49.4
IL PROGRAM CATEGORY						
FMS ONLY	1.8	1.8	1.4	1.5	1.9	1.0
ASF	0.8	1.0	0.8	0.7	1.1	0.7
PEMA2	51.8	37.3	39.0	50.8	38.4	39.7
SSA ONLY	20.5	6.4	2.8	2.4	2.5	2.8
ASF	19.9	5.3	1.6	1.8	1.9	1.6
PEMA2	58.5	69.6	56.9	37.9	51.4	65.9
GA ONLY	1.8	1.0	2.3	2.4	1.7	3.7
ASF	1.0	0.7	0.9	0.9	1.0	2.3
PEMA2	40.0	22.0	47.7	50.0	62.5	43.4

Figure A-2-A-12

STOCK AVAILABILITY

MICOM

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	79.5	80.5	89.1	80.7	82.8	83.3
ASF	81.2	83.9	90.6	86.1	86.5	87.9
PEMA2	75.6	73.2	86.9	70.8	76.5	73.8
U.S. ONLY	76.1	76.4	76.7	77.6	79.6	76.2
ASF	78.6	80.4	82.5	82.8	85.5	83.3
PEMA2	70.9	69.4	66.1	70.2	70.1	64.3 1/
IL ONLY	89.1	92.2	96.6	93.7	92.3	95.3
ASF	87.4	91.9	96.0	95.2	89.3	94.5
PEMA2	95.3	93.1	97.3	81.4	97.9	97.8
IL PROGRAM CATEGORY						
FMS ONLY	98.3	99.9	100.0	99.5	100.0	100.0
ASF	97.9	99.9	100.0	99.5	100.0	100.0
PEMA2	99.2	99.9	100.0	99.7	100.0	99.9
SSA ONLY 2/	76.2	62.0	71.3	75.6	81.6	80.9
ASF	76.8	63.0	75.1	79.4	79.9	81.1
PEMA2	67.3	56.1	58.6	60.1	89.7	79.6
GA ONLY	83.0	99.1	98.6	100.0	57.1	99.8
ASF	90.7	99.7	99.2	100.0	53.8	99.7
PEMA2	0.0	83.3	90.2	97.6	100.0	100.0

1/ In 1Q FY 77, only 64.3 percent of OS requisitions for PEMA2-funded repair parts were satisfied without going on backorder. Considering the "accounting gimmicks" in this indicator, actual stock availability may be worse.

2/ CLSSAs managed on item basis during this period. Stock availability on dollar value basis should be higher.

DRC

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	79.4	80.7	83.6	83.2	83.7	83.5
ASF	80.2	81.3	83.9	84.2	84.4	84.3
PEMA2	69.4	72.0	80.7	69.6	73.0	72.1
U.S. ONLY	79.1	80.3	82.1	82.5	83.4	82.8
ASF	79.9	81.0	82.8	83.6	84.2	83.8
PEMA2	67.9	70.9	72.3	69.0	70.5	68.6
IL ONLY	84.4	86.2	94.0	91.8	88.0	91.1
ASF	83.9	86.2	93.2	92.1	87.2	90.5
PEMA2	89.0	86.1	96.5	85.5	95.7	96.2
IL PROGRAM CATEGORY						
FMS ONLY	96.5	99.0	99.7	99.6	99.8	98.7
ASF	96.2	99.0	99.6	99.6	99.8	98.6
PEMA2	98.7	98.9	99.8	99.1	99.7	99.2
SSA ONLY	64.6	58.9	69.9	67.6	68.0	67.6
ASF	64.9	59.4	71.3	68.0	66.9	66.7
PEMA2	59.3	51.1	57.4	59.7	84.4	80.8
GA ONLY	84.6	84.9	93.5	95.7	91.9	91.8
ASF	85.8	85.1	93.8	96.1	92.1	91.7
PEMA2	72.2	80.6	85.5	86.7	86.5	92.7

(Figure A-2-A-13 Continued on Next Page)

STOCK AVAILABILITY

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	66.3	72.1	77.7	74.0	71.9	73.2
ASF	66.4	71.3	77.6	75.6	71.8	74.0
PEMA2	66.1	74.3	78.3	69.4	71.9	70.8
U.S. ONLY	65.6	71.6	77.4	73.1	71.3	72.4
ASF	65.6	70.7	77.2	74.6	71.3	73.1
PEMA2	65.7	74.1	78.2	68.7	71.3	69.9
IL ONLY	86.6	83.3	87.4	93.6	88.7	93.7
ASF	87.3	84.0	88.3	93.1	86.8	93.4
PEMA2	84.0	80.8	80.8	96.5	96.3	94.5
IL PROGRAM CATEGORY						
FMS ONLY	97.7	97.2	95.7	98.9	98.5	96.5
ASF	98.4	97.3	95.5	98.8	98.1	97.1
PEMA2	94.4	97.1	97.7	100.0	100.0	93.7
SSA ONLY	69.7	62.5	73.3	79.7	88.6	90.6
ASF	68.8	62.6	76.4	78.8	88.4	89.2
PEMA2	72.3	62.2	46.8	93.6	89.7	95.3
GA ONLY	80.4	79.3	91.3	93.3	61.4	86.3
ASF	78.7	75.5	90.9	92.9	54.3	80.2
PEMA2	83.0	84.7	92.7	94.2	94.3	95.2

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	85.3	85.7	85.9	86.8	87.6	87.3
ASF	85.4	85.8	86.0	86.9	87.7	87.3
PEMA2	80.0	82.1	78.1	82.9	81.9	85.5
U.S. ONLY	85.5	85.7	85.4	86.6	87.6	87.1
ASF	85.6	85.7	85.5	86.6	87.7	87.2
PEMA2	79.7	82.3	77.4	82.8	81.4	86.1
IL ONLY	80.9	85.9	92.4	90.2	87.0	89.2
ASF	80.9	86.0	92.5	90.3	87.0	89.3
PEMA2	83.3	79.6	85.3	84.2	88.4	75.7
IL PROGRAM CATEGORY						
FMS ONLY	93.2	98.9	99.9	99.9	99.9	98.1
ASF	93.1	98.9	99.9	99.9	99.9	98.2
PEMA2	99.4	99.4	98.0	97.9	96.4	92.3
SSA ONLY	57.0	58.5	61.8	55.7	56.4	55.6
ASF	57.1	59.0	62.0	55.8	56.3	55.6
PEMA2	50.0	33.3	53.1	52.4	67.6	55.0
GA ONLY	85.4	91.1	93.3	92.9	96.6	92.8
ASF	85.9	91.3	93.7	93.4	96.8	93.4
PEMA2	60.0	81.0	79.3	75.4	79.5	74.5

Figure A-2-A-13

NORS STOCK AVAILABILITY

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	78.2	78.3	75.8	72.5	75.4	76.1
ASF	81.8	84.6	83.2	81.9	84.5	84.5
PEMA2	75.3	72.9	70.1	64.4	67.2	68.6
U.S. ONLY	78.8	78.3	75.5	72.3	75.2	75.7
ASF	83.0	84.9	83.3	82.0	84.8	84.4
PEMA2	75.5	72.8	69.6	64.0	66.5	68.2 1/
IL ONLY	64.2	78.3	85.7	84.6	85.1	86.1
ASF	62.8	77.6	81.4	78.2	73.0	85.9
PEMA2	67.7	81.3	92.3	100.0	97.3	86.4
IL PROGRAM CATEGORY						
FMS ONLY	61.9	83.3	100.0	112.5	100.0	0.0
ASF	45.5	78.6	100.0	120.0	100.0	0.0
PEMA2	80.0	100.0	100.0	100.0	0.0	0.0
SSA ONLY	65.5	76.9	84.1	80.6	84.9	87.5
ASF	65.7	77.4	78.8	75.0	72.2	85.9
PEMA2	65.0	75.0	91.7	94.7	97.3	90.5
GA ONLY	0.0	0.0	100.0	100.0	0.0	0.0
ASF	0.0	0.0	100.0	100.0	0.0	0.0
PEMA2	0.0	0.0	0.0	100.0	0.0	0.0

1/ **Example:** In 1Q FY 77, only 68.2 percent of US NORS requisitions for PEMA2-funded repair parts were satisfied without going on backorder. Considering the "accounting gimmicks" in this indicator, actual stock availability may be worse.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	81.9	81.6	84.3	82.9	82.9	83.0
ASF	82.3	82.4	85.4	84.5	84.5	84.5
PEMA2	78.7	75.2	76.4	70.6	69.1	70.8
U.S. ONLY	82.0	81.7	84.4	82.9	83.0	83.1
ASF	82.4	82.6	85.5	84.5	84.6	84.6
PEMA2	78.9	75.3	76.3	70.5	68.9	70.8
IL ONLY	65.0	67.3	76.3	82.9	73.5	67.7
ASF	65.1	67.0	75.0	81.8	67.1	66.0
PEMA2	64.2	69.8	85.7	91.9	97.8	76.9
IL PROGRAM CATEGORY						
FMS ONLY	77.4	71.7	74.9	86.7	73.3	42.8
ASF	78.1	70.4	74.9	87.4	70.7	41.7
PEMA2	72.7	82.8	75.0	76.9	100.0	50.0
SSA ONLY	59.0	60.8	81.3	78.7	78.5	82.8
ASF	57.8	62.0	77.8	75.4	70.5	81.3
PEMA2	67.9	54.2	91.7	95.5	97.5	88.9
GA ONLY	77.8	54.5	67.6	80.0	53.8	100.0
ASF	95.5	54.5	67.6	77.8	51.4	100.0
PEMA2	50.0	0.0	0.0	100.0	100.0	0.0

(Figure A-2-A-14 Continued on Next Page)

NORS STOCK AVAILABILITY

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	82.7	77.7	76.1	70.5	70.3	70.7
ASF	82.4	76.7	73.6	69.7	69.1	72.9
PEMA2	83.8	80.0	80.9	72.5	72.9	66.9
U.S. ONLY	82.7	77.9	76.0	70.5	70.3	70.6
ASF	82.3	76.7	73.5	69.6	69.1	72.8
PEMA2	83.7	80.7	80.9	72.4	72.8	66.8
IL ONLY	88.9	66.7	83.3	80.0	66.7	82.4
ASF	85.7	83.3	88.9	75.0	33.3	87.5
PEMA2	100.0	53.3	77.8	100.0	100.0	77.8
IL PROGRAM CATEGORY						
FMS ONLY	100.0	86.7	85.7	77.8	50.0	80.0
ASF	100.0	80.0	100.0	71.4	0.0	66.7
PEMA2	0.0	100.0	77.8	100.0	100.0	85.7
SSA ONLY	86.7	41.7	75.0	100.0	75.0	85.7
ASF	81.8	100.0	75.0	100.0	50.0	100.0
PEMA2	100.0	30.0	0.0	0.0	100.0	50.0
GA ONLY	0.0	0.0	0.0	0.0	0.0	0.0
ASF	0.0	0.0	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	83.4	85.0	85.3	85.5	86.2	87.6
ASF	83.4	84.9	85.4	85.4	86.4	87.5
PEMA2	84.1	87.0	84.9	86.4	82.1	89.1
U.S. ONLY	83.5	85.1	85.4	85.5	86.2	87.6
ASF	83.5	84.9	85.4	85.4	86.4	87.5
PEMA2	84.2	87.0	84.9	86.4	82.1	89.1
IL ONLY	58.3	59.3	62.5	79.2	55.6	75.5
ASF	59.3	59.3	62.5	76.2	55.6	75.5
PEMA2	0.0	0.0	0.0	100.0	0.0	0.0
IL PROGRAM CATEGORY						
FMS ONLY	0.0	100.0	100.0	100.0	100.0	0.0
ASF	0.0	100.0	100.0	100.0	100.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0
SSA ONLY	58.3	50.0	60.0	68.4	43.8	75.5
ASF	59.3	50.0	60.0	62.5	43.8	75.5
PEMA2	0.0	0.0	0.0	100.0	0.0	0.0
GA ONLY	0.0	0.0	0.0	0.0	0.0	0.0
ASF	0.0	0.0	0.0	0.0	0.0	0.0
PEMA2	0.0	0.0	0.0	0.0	0.0	0.0

Figure A-2-A-14

REQUISITIONS ON BACKORDER

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	9810	9147	8690	8131	10781	12255
ASF	5700	5001	4124	3684	4770	5191
PEMA2	4110	4146	4566	4447	6011	7064
U.S. ONLY	8397	7736	6828	6738	7341	9102
ASF	4703	4033	3076	2926	2832	3631
PEMA2	3694	3703 1/	3752	3812	4509	5471
IL ONLY	1413	1411	1862	1393	3440	3153
ASF	997	968	1048	758	1938	1560
PEMA2	416	443	814	635	1502	1593
IL PROGRAM CATEGORY						
FMS ONLY	448	428	488	476	2334	1816
ASF	162	137	144	136	1166	694
PEMA2	286	291	344	340	1168	1122
SSA ONLY	938	958	1329	883	1068	1290
ASF	815	813	885	611	756	843
PEMA2	123	145	444	272	312	447
GA ONLY	27	25	45	34	38	47
ASF	20	18	19	11	16	23
PEMA2	7	7	26	23	22	24

1/ Example: In 2Q FY 76, 3,703 individual US requisitions for PEMA2-funded repair parts could not be filled from available assets and were placed on backorder.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	181424	163133	140320	142760	144456	151876
ASF	159361	140953	122710	125565	124650	131319
PEMA2	22063	22180	17610	17195	19806	20557
U.S. ONLY	167035	148480	127029	130871	129577	135192
ASF	146355	127831	111275	115230	112242	117198
PEMA2	20680	20649	15754	15641	17335	17994
IL ONLY	14389	14653	13291	11889	14879	16684
ASF	13006	13122	11435	10335	12408	14121
PEMA2	1383	1531	1856	1554	2471	2563
IL PROGRAM CATEGORY						
FMS ONLY	2827	2645	2652	2540	4339	4623
ASF	2232	2037	1983	1855	2761	3071
PEMA2	595	608	669	685	1578	1552
SSA ONLY	9555	10041	9047	7952	9278	10717
ASF	8957	9285	8028	7240	8553	9859
PEMA2	598	756	1019	712	725	858
GA ONLY	2007	1967	1592	1397	1262	1344
ASF	1817	1800	1424	1240	1094	1191
PEMA2	190	167	168	157	168	153

(Figure A-2-A-15 Continued on Next Page)

REQUISITIONS ON BACKORDER

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	42522	37501	30182	29530	32194	31731
ASF	29932	25705	22708	23068	24805	24463
PEMA2	12590	11796	7394	6462	7389	7268
U.S. ONLY	40790	35764	28696	28361	31056	30626
ASF	28561	24356	21668	22121	23932	23615
PEMA2	12229	11408	7028	6240	7124	7011
IL ONLY	1732	1737	1486	1169	1138	1105
ASF	1371	1349	1120	947	873	848
PEMA2	361	388	366	222	265	257
IL PROGRAM CATEGORY						
FMS ONLY	427	398	346	372	405	438
ASF	326	316	264	297	302	300
PEMA2	101	82	82	75	103	138
SSA ONLY	879	951	906	603	534	482
ASF	707	711	678	490	411	393
PEMA2	172	240	228	113	123	89
GA ONLY	426	388	234	194	199	185
ASF	338	322	178	160	160	155
PEMA2	88	66	56	34	39	30

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	53970	51093	44318	45319	43959	48930
ASF	52671	49683	42854	43831	42586	47645
PEMA2	1299	1410	1464	1388	1373	1345
U.S. ONLY	47507	44268	38403	39870	37734	41169
ASF	46530	43219	37294	38811	36713	40192
PEMA2	977	1049	1109	1059	1021	977
IL ONLY	6463	6815	5915	5449	6225	7821
ASF	6141	6454	5560	5120	5873	7453
PEMA2	322	361	355	329	352	368
IL PROGRAM CATEGORY						
FMS ONLY	1257	1140	1088	776	787	1260
ASF	1122	995	927	628	613	1103
PEMA2	135	145	161	148	174	157
SSA ONLY	4692	5148	4238	4174	5010	6163
ASF	4539	4974	4086	4035	4874	6007
PEMA2	153	174	152	139	136	156
GA ONLY	514	527	589	499	428	398
ASF	480	485	547	457	386	343
PEMA2	34	42	42	42	42	55

Figure A-2-A-15

PERCENT OF BACKORDERS OVER 90 DAYS OLD

MICOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	47.6	50.1	46.8	48.0	56.1	50.7
ASF	44.4	48.9	48.2	47.5	54.2	46.7
PEMA2	52.0	51.6	45.6	48.4	57.6	53.7
U.S. ONLY	45.9	47.5	44.3	41.0	43.1	40.4
ASF	43.7	46.5	45.5	39.2	38.2	36.7
PEMA2	48.7	48.5	43.4	42.4	46.1	42.9
IL ONLY	57.5	64.8	55.8	81.8	83.8	80.4
ASF	47.4	58.9	55.8	79.4	77.4	70.1
PEMA2	81.7	77.9	55.8	84.6	92.1	90.5
IL PROGRAM CATEGORY						
FMS ONLY	91.3	95.1	93.2	96.4	100.0	99.9
ASF	85.2	96.4	83.3	90.4	99.9	100.0 1/
PEMA2	94.8	94.5	97.4	98.8	100.0	99.9
SSA ONLY	40.7	50.7	41.2	73.4	48.5	52.2
ASF	39.1	51.8	50.8	76.8	43.0	44.6
PEMA2	51.2	44.8	22.1	65.8	61.9	66.7
GA ONLY	81.5	88.0	80.0	94.1	84.2	97.9
ASF	80.0	94.4	78.9	90.9	62.5	100.0
PEMA2	85.7	71.4	80.8	95.7	100.0	95.8

1/ Example: In 1Q FY 77, 100 percent of IL FMS backorders for ASF-funded repairs parts were over 90 days old.

DRC	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	45.7	49.0	51.8	45.4	47.4	47.9
ASF	45.2	47.7	50.9	44.9	46.0	46.7
PEMA2	49.9	56.9	58.1	49.2	56.0	55.7
U.S. ONLY	44.1	47.0	49.5	42.9	44.8	45.3
ASF	43.5	45.6	48.5	42.6	43.8	44.4
PEMA2	48.1	55.5	56.6	45.6	51.2	51.3
IL ONLY	65.0	69.4	73.8	72.4	69.8	68.7
ASF	63.7	68.7	74.2	70.5	65.8	65.5
PEMA2	76.9	75.3	71.3	84.9	89.7	86.5
IL PROGRAM CATEGORY						
FMS ONLY	76.2	91.4	92.8	95.7	99.1	80.1
ASF	71.5	90.8	92.2	95.4	98.8	72.2
PEMA2	93.9	93.4	94.5	96.4	99.6	95.9
SSA ONLY	59.2	63.5	67.1	64.6	55.3	62.8
ASF	59.0	63.7	68.5	63.4	54.2	62.2
PEMA2	62.4	61.2	55.3	76.4	70.5	70.2
GA ONLY	76.7	70.0	80.2	74.2	74.0	76.9
ASF	77.4	69.7	80.7	74.3	73.1	76.2
PEMA2	69.5	73.1	75.6	73.2	79.8	82.4

(Figure A-2-A-16 Continued on Next Page)

PERCENT OF BACKORDERS OVER 90 DAYS OLD

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	52.8	58.6	58.3	51.5	53.2	57.9
ASF	53.7	57.1	56.9	53.3	53.5	59.2
PEMA2	50.4	61.9	62.9	45.2	52.1	53.5
U.S. ONLY	51.6	57.9	57.3	50.3	51.8	57.1
ASF	52.4	56.2	55.8	52.1	52.2	58.4
PEMA2	49.7	61.6	61.8	43.8	50.6	52.5
IL ONLY	80.9	73.6	78.5	80.8	90.5	82.0
ASF	82.6	74.5	76.8	80.1	89.7	82.4
PEMA2	74.8	70.6	83.6	83.8	93.2	80.5
IL PROGRAM CATEGORY						
FMS ONLY	89.9	89.2	90.5	90.6	99.3	85.2
ASF	91.1	90.8	89.0	90.9	99.0	88.3
PEMA2	86.1	82.9	96.3	89.3	100.0	78.3
SSA ONLY	76.0	64.4	71.9	76.3	87.3	78.8
ASF	76.9	64.1	69.8	74.9	86.9	76.6
PEMA2	72.1	65.0	78.1	82.3	88.6	88.8
GA ONLY	82.2	80.4	85.9	76.3	81.4	82.7
ASF	86.1	81.4	85.4	76.3	79.4	85.8
PEMA2	67.0	75.8	87.5	76.5	89.7	66.7

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	41.9	44.1	44.8	38.6	40.0	40.8
ASF	41.6	43.7	44.3	38.0	39.6	40.3
PEMA2	54.7	59.8	58.9	56.9	53.2	56.4
U.S. ONLY	39.3	40.0	39.6	34.4	36.2	36.4
ASF	39.2	39.7	39.3	34.1	36.0	36.1
PEMA2	43.5	51.6	49.8	47.2	41.3	47.0
IL ONLY	61.1	71.2	78.5	68.9	63.2	64.1
ASF	59.7	70.5	77.9	67.6	61.8	63.2
PEMA2	88.8	83.7	87.3	88.1	87.5	81.3
IL PROGRAM CATEGORY						
FMS ONLY	58.0	93.7	98.7	98.1	98.1	57.1
ASF	53.1	93.0	99.1	98.1	98.4	51.7
PEMA2	98.5	98.6	96.3	98.0	97.1	94.9
SSA ONLY	60.2	67.9	74.0	62.6	56.4	64.5
ASF	59.5	67.7	73.7	61.9	55.3	64.4
PEMA2	80.4	73.0	84.2	82.0	75.7	71.2
GA ONLY	77.8	54.6	72.8	76.0	79.0	78.9
ASF	77.1	52.8	73.5	76.1	78.2	80.2
PEMA2	88.2	76.2	64.3	73.8	85.7	70.9

Figure A-2-A-16

LAST PAGE OF TAB A TO APPENDIX A-2

TAB B

SPECIAL ESG INDEX CHARTS

Figure		Page
A-2-B-1	ESG Special Index Analysis	A-2-B-3
A-2-B-2	Demand Index 1	A-2-B-7
A-2-B-3	Demand Index 2	A-2-B-9
A-2-B-4	Demand Index 3	A-2-B-11
A-2-B-5	Demand Index 4	A-2-B-13
A-2-B-6	Demand Index 5	A-2-B-15
A-2-B-7	Demand Index 6	A-2-B-17
A-2-B-8	Demand Index 7	A-2-B-19
A-2-B-9	Demand Index 8	A-2-B-21
A-2-B-10	Performance Index 1	A-2-B-23
A-2-B-11	Performance Index 2	A-2-B-25
A-2-B-12	Performance Index 3	A-2-B-27
A-2-B-13	Performance Index 4	A-2-B-29
A-2-B-14	Performance Index 5	A-2-B-31
A-2-B-15	Performance Index 6	A-2-B-33

This tab presents 14 special indexes developed by ESG (Figures A-2-B-2 through A-2-B-15). The indexes reflect IL activity within an MSC and within the total supply system (i.e., DARCOM roll-up), by customer category and fund category. Figure A-2-B-1 is an analysis summary of the special indexes. It describes the type of information that can be obtained from each index.

Only MICOM and DARCOM demand and performance data are displayed first to show how dramatic IL impacts in one MSC can be dampened in aggregated supply system data displays. ECOM and TACOM data are then displayed to show how IL activity intensity changes between MSCs. IL impact evaluations must consider both the intensity of IL activity at the particular MSC and the peculiarities of the MSC's management environment.

The PAA secondary fund category is identified as PEMA2 to coincide with popular usage. The "FMS Only" line is a roll-up of CSP, BOE, and other defined-line cases.

Type of Index	Index	Explanation of Index	Potential Significance of Index
1 ESG	Demand Index 1. Percent of requisitions received by fund category (US only base).	. Represents IL workload as a percentage of US activity.	. Indicates increased workload on US supply system caused by IL.
2 ESG	Demand Index 2. Percent dollar value of requisitions by fund category (US only base).	. Represents dollar value of IL repair part orders as a percentage of US activity.	. Indicates increased workload on US supply system caused by IL. . Indicates which US budget process is most affected by IL.
3 ESG	Demand Index 4. Percent dollar value of requisitions due now by fund category (total MSC base).	. Represents dollar value of repair part orders MSC fills immediately. . Reflects US and CLSSA orders which must be filled under Uniform Materiel Movement and Issue Priority System (UMMIPS) schedules and FMS orders the MSC elects to fill now from assets on hand above the reorder point.	. Indicates magnitude of CLSSA orders. . Indicates magnitude of FMS orders filled immediately rather than being delayed a delivery leadtime.
4 ESG	Demand Index 4. IL only average dollar value due now/US only average dollar value due now (by fund category).	. Represents value of typical IL requisition compared to a typical US requisition by fund category.	. Indicates IL ordering pattern. . Indicates possible IL/US competition for assets.
5 ESG	Demand Index 5. IL only high-priority requisitions/US only high-priority requisitions (by fund category).	. Compares actual numbers of IL and US high-priority requisitions (IPD 01-08).	. Indicates extent and location of US/IL competition for available assets.
6 ESG	Demand Index 6. IL only NORS requisitions/ US only NORS requisitions (by fund category).	. Compares actual numbers of IL and US NORS requisitions.	. Indicates extent and location of US/IL competition for available assets.
7 ESG	Demand Index 7. Other customer requisitions manually processed/US only requisitions manually processed (by fund category).	. Compares actual numbers of IL and US requisitions manually processed.	. Indicates increased workload of manually processed requisitions caused by IL.

ESG SPECIAL INDEX ANALYSIS

Potential Significance of Index	Interpretation of Data, ECOM	MICOM	TARCOM
. Indicates increased workload on US supply system caused by IL.	. IL causes 3% increase. . CLSSA causes less than 1% increase.	. IL causes 35% average increase. . Surprisingly CLSSA ASF increase is about 20%, almost 4 times the CLSSA PEMA2 increase.	. IL causes 7% increase. & PEMA2 split is even. is unusual for TARCOM. . CLSSA portion is only 1%
. Indicates increased workload on US supply system caused by IL. . Indicates which US budget process is most affected by IL.	. CLSSA sales are stable at 1% of MSC sales. . FMS business is erratic. FMS ASF: PEMA2 ratio is 4 to 1. . IL causes 10% sales increase.	. FMS sales are erratic. . IL sales cause 20% PEMA2 and 70% ASF increase. Overall IL causes 32% increase. . CLSSA peaks at 6-month cycle.	. FMS sales are erratic. . CLSSA ASF/PEMA2 split is almost even. CLSSA peak 6-month cycle. . IL causes 33% average increase.
. Indicates magnitude of CLSSA orders. . Indicates magnitude of FMS orders filled immediately rather than being delayed a delivery leadtime.	. FMS trend is up. 5 + % of FMS orders are filled now. About 15% of ASF orders and 1% of PEMA2 orders are filled now. . CLSSA causes less than 1% *increase. CLSSA trend is down.*	. FMS orders are erratic. FMS ASF larger than PEMA2. . CLSSA trend is up. CLSSA orders peak on 6-month cycle. CLSSA caused 20% ASF increase and only 3% PEMA2 increase. . Overall IL increase is about 15%.	. CLSSA orders peak at 6-m intervals. . FMS orders cause 114% PE increase. FMS trend is . Overall IL causes 18% average increase.
. Indicates IL ordering pattern. . Indicates possible IL/US competition for assets.	. CLSSA orders are 1.5 larger than US. Semiannual cycle shows slightly in CLSSA. . PEMA2 FMS orders are at least 3 *times larger than US.*	. CLSSA orders average 1.4 larger than US. Semiannual pattern does not show. . No pattern between ASF/PEMA2. . FMS orders are erratic.	. CLSSA orders are normall times larger than US. . CLSSA orders peak at 9 t US value on semiannual c
. Indicates extent and location of US/IL competition for available assets.	. IL CLSSA caused only 1% increase in high priority. . Overall IL stable at 3% increase.	. IL high-priority rate erratic. . CLSSA caused about a 6% increase.	. CLSSA caused 1.5% increa . Overall IL stable at 4.5 increase.
. Indicates extent and location of US/IL competition for available assets.	. IL caused increase often less than .5%.	. CLSSA caused 2% increase. Added to effects of erratic demand patterns and small inventories, this could be significant.	. Less impact than at ECO
. Indicates increased workload of manually processed requisitions caused by IL.	. IL caused about 10% increase. . 1st Qtr shows jump to 32% increase.	. IL caused an average 75% increase. . Increases occur erratically. Range is from 46% to 578% increase.	. IL caused almost a 100% increase. . PEMA2 increase was only

(Fig

NALYSIS

	Interpretation of Data, MICOM	TARCOM	Total US Supply System (DARCOM Roll-up)
e. an 1%	. IL causes 35% average increase. . Surprisingly CLSSA ASF increase is about 20%, almost 4 times the CLSSA PEMA2 increase.	. IL causes 7% increase. ASF & PEMA2 split is even. This is unusual for TARCOM. . CLSSA portion is only 1%.	. US system increase averages 7%. FMS causes 5%; CLSSA causes 2%. . FMS PEMA2 increase is twice ASF. CLSSA has even ASF/PEMA2 split. . IL PEMA2 concentration requires good CRDD determination procedures and good CLSSA policy.
le at 1% atic. o is 4 increase.	. FMS sales are erratic. . IL sales cause 20% PEMA2 and 70% ASF increase. Overall IL causes 32% increase. . CLSSA peaks at 6-month cycle.	. FMS sales are erratic. . CLSSA ASF/PEMA2 split is almost even. CLSSA peaks at 6-month cycle. . IL causes 33% average increase.	. US system increase averages 17%. FMS causes 13%; CLSSA causes 4%. . High FMS indicates need for good CRDD determination procedures and COCP operation.
+ % of ed now. ders and are filled an 1% end is down.	. FMS orders are erratic. FMS ASF larger than PEMA2. . CLSSA trend is up. CLSSA orders peak on 6-month cycle. CLSSA caused 20% ASF increase and only 3% PEMA2 increase. . Overall IL increase is about 15%.	. CLSSA orders peak at 6-month intervals. . FMS orders cause 114% PEMA2 increase. FMS trend is down. . Overall IL causes 18% average increase.	. US system increase averages 10%. FMS causes 5%; CLSSA causes 5%. . DARCOM stated FMS ASF increase resulted from efforts to generate ASF funds. . CLSSA PEMA2 increase is only 2%.
5 larger 1 cycle shows e at least 3 S.	. CLSSA orders average 1.4 larger than US. Semiannual pattern does not show. . No pattern between ASF/PEMA2. . FMS orders are erratic.	. CLSSA orders are normally 4 times larger than US. . CLSSA orders peak at 9 times US value on semiannual cycle.	. IL practice of ordering more per requisition could indicate IL "buys ahead."
y 1% increase t 3% increase.	. IL high-priority rate erratic. . CLSSA caused about a 6% increase.	. CLSSA caused 1.5% increase. . Overall IL stable at 4.5% increase.	. This may validate IL "buys ahead" and does not need to use high priority. . Also indicates that slight increase in IL high-priority rate does not seriously challenge US.
often less	. CLSSA caused 2% increase. Added to effects of erratic demand patterns and small inventories, this could be significant.	. Less impact than at ECOM.	. IL impact on US is negligible except perhaps in MICOM.
increase. to 32% increase.	. IL caused an average 75% increase. . Increases occur erratically. Range is from 46% to 578% increase.	. IL caused almost a 100% increase. . PEMA2 increase was only 10%.	. May indicate that the time item managers have for general supply management activity is greatly reduced.

(Figure A-2-B-1 Continued on Next Page)

3

Type of Index	Index	Explanation of Index	Potential Significance of Index
8 ESG	Demand Index 8. Other customer requisitions under management control/ US only requisitions under management control (by fund category).	. Compares actual numbers of IL and US requisitions manually processed for management control.	. Indicates extent of IL/US competition for items placed under rigid managment control. Generally such items are "hard to get" or very expensive and therefore procured in small quantities.
9 ESG	Performance Index 1. Stock availability on a dollar value basis (by customer category).	. Reflects percentage of orders filled on a dollar value basis. . Same "accounting gimmicks" are used in this indicator as in MILSTEP Stock Availability (Indicator 12). . This index was suggested by Mr. Robert Harris of DARCOM.	. Indicates the value of requisitions that were not satisfied. High values may indicate that each requisition contained a large quantity demand or that the parts ordered were sophisticated and costly.
10 ESG	Performance Index 2. IL only requisitions on backorder (by fund category).	. Compares actual numbers of IL and US requisitions on backorder.	. Indicates extent and location of IL/US competition for assets.
11 ESG	Performance Index 3. IL only dollar value on backorder/US only dollar value on backorder (by category code).	. Same as Performance Index 2 but on dollar value basis.	. Same as Performance Index 3 but on dollar value basis.
12 ESG	Performance Index 4. Total backorders per period/ new requisitions per period.	. Empirical index recommended by Mr. Robert Harris of DARCOM.	. Index value of .5 or below reflects a generally good position. . Any decreasing index value trend reflects improving supply position.
13 ESG	Performance Index 5. Backorders over 90 days old for period/new requisitions per period.	. Empirical index recommended by Mr. Robert Harris of DARCOM.	. Same as Performance Index 4.
14 ESG	Performance Index 6. NORS backorders over 90 days old/new NORS requisitions.	. Empirical index recommended by Mr. Robert Harris of DARCOM.	. Same as Performance Index 4.

ESC SPECIAL INDEX ANALYSIS--Continued

	Potential Significance of Index	Interpretation of Data, ECOM	MICOM	TARCOM
of	. Indicates extent of IL/US competition for items placed under rigid managment control. Generally such items are "hard to get" or very expensive and therefore procured in small quantities.	. IL caused only 3.6% average increase. . FMS PEMA2 increase slight.	. IL caused an average increase of 20% in both ASF and PEMA2. . *CLSSA semiannual order* pattern shows partially. . CLSSA caused only 3% increase.	. IL caused only an 8% ave increase. The ASF/PEMA2 split is equal. . *CLSSA caused only 2%* increase.
ar ks" itor il- d by RCOM.	. Indicates the value of requisitions that were not satisfied. High values may indicate that each requisition contained a large quantity demand or that the parts ordered were sophisticated and costly.	. Due to "accounting gimmicks," IL and US cannot be compared. . US availability trend is dropping. PEMA2 has been dropping into 60% range.	. "Accounting gimmick" comment applies. . US trend is generally down. PEMA2 has dropped into 60% range.	. "Accounting gimmick" co applies. . US trend is down. ASF dropped to 71%. PEMA2 *stable in low 80s%.*
s of on	. Indicates extent and location of IL/US competition for assets.	. IL caused average increase of 4% in backorders.	. IL caused a 15% increase in backorders. Ratio of PEMA2 backorders to ASF backorders *is 2:1.*	. IL caused 15.5% average increase in backorders. Ratio of PEMA2 backorde *to ASF backorders is 2:*
dex 2 sis.	. Same as Performance Index 3 but on dollar value basis.	. IL caused 12% average increase. Main increase is in FMS ASF.	. IL caused a 34% average increase. . Before UPZ, FMS caused 13% increase. . IL problem is mostly in ASF.	. IL caused 179% average increase; PEMA2 average increase was 256%. . PEMA2 problem was conce trated in FMS.
ended f	. Index value of .5 or below reflects a generally good position. . Any decreasing index value trend reflects improving supply position.	. Indicates performance is poor but improving.	. Indicates peformance is good. UPZ barely registers.	. Indicates performance i good and improving.
ended f	. Same as Performance Index 4.	. Indicates performance is adequate. Therefore, backorders are filled relatively quickly.	. Indicates performance is good. Even UPZ has not had severe impact.	. Indicates performance i good and improving.
ended f	. Same as Performance Index 4.	. US performance poor but improving. PEMA2 getting better faster. . IL getting poor service. Note: IL NORS is a very small percent of total.	. Indicates performance is good. . Until UPZ, performance was improving. UPZ did not register severe impact.	. Indicates performance i good and stable.

NALYSIS--Continued

	Interpretation of Data, MICOM	TARCOM	Total US Supply System (DARCOM Roll-up)
3.6% average se slight.	. IL caused an average increase of 20% in both ASF and PEMA2. . CLSSA semiannual order pattern shows partially. . CLSSA caused only 3% increase.	. IL caused only an 8% average increase. The ASF/PEMA2 split is equal. . CLSSA caused only 2% increase.	. US system trend is stable. . Could indicate that initial US system turbulence caused by variations in US/IL order patterns will also stabilize. . Most IL impact was in MICOM for high-technology items.
ing gimmicks," t be compared. trend is 2 has been 0% range.	. "Accounting gimmick" comment applies. . US trend is generally down. PEMA2 has dropped into 60% range.	. "Accounting gimmick" comment applies. . US trend is down. ASF has dropped to 71%. PEMA2 is stable in low 80s%.	. This index must be revised to permit US/IL comparison. . This index may be showing that IL is ordering expensive high-technology parts, causing both US and IL to get poor fill rate in these items. Also this index may show CLSSA FMS01 policy problem impacts.
ge increase ders.	. IL caused a 15% increase in backorders. Ratio of PEMA2 backorders to ASF backorders is 2:1.	. IL caused 15.5% average increase in backorders. Ratio of PEMA2 backorders to ASF backorders is 2:1.	. US system shows 10% average increase. FMS causes 2% and CLSSA causes 8%. . This may highlight CLSSA policy problems.
verage increase	. IL caused a 34% average increase. . Before UPZ, FMS caused 13% increase. . IL problem is mostly in ASF.	. IL caused 179% average increase; PEMA2 average increase was 256%. . PEMA2 problem was concentrated in FMS.	. Concentration of problem in FMS could highlight poor CRDD determination problem. Conflict between Performance Index 2 and 3 is resolved by noting that FMS orders are larger than CLSSA orders.
rmance is ing.	. Indicates peformance is good. UPZ barely registers.	. Indicates performance is good and improving.	. Indices 4, 5, and 6 indicate the supply problems are not extensive. These indices require more study.
rmance herefore, filled kly.	. Indicates performance is good. Even UPZ has not had severe impact.	. Indicates performance is good and improving.	. See above comment.
poor but A2 getting service. is a very f total.	. Indicates performance is good. . Until UPZ, performance was improving. UPZ did not register severe impact.	. Indicates performance is good and stable.	. See above comment. . DARCOM stated that a strong relationship between this index and EOR was once found. This should be pursued. Such an effort was beyond the scope of this study.

Figure A-2-B-1

DEMAND INDEX 1
PERCENT OF REQUISITIONS RECEIVED (US ONLY BASE)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	135	135	266	124	132	158
ASF	141	144	248	136	134 1/	169
PEMA2	123	119	299	106	129	139
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	35	35	166	24	32	58
ASF	41	44	148	36	34	69
PEMA2	23	19	199	6	29	39
IL PROGRAM CATEGORY						
FMS ONLY	20	26	144	8	19	42
ASF	20	33	120	12	16	47
PEMA2	20	16	186	3	23	34
SSA ONLY	14	7	19	5	13	14
ASF	20	9	23	8	18	20
PEMA2	2	2	12	2	5	4
GA ONLY	0	1	2	9	0	1
ASF	0	1	3	15	0	1
PEMA2	0	0	0	0	0	0

1/ Example: In FY 7T, IL caused a 34 percent increase in requisitions received by the MSC for ASF-funded repair parts.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	106	107	114	107	107	109
ASF	106	107	111	108	106	108
PEMA2	107	107	152	104	110	114
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	6	7	14	7	7	9
ASF	6	7	11	8	6	8
PEMA2	7	7	52	4	10	14
IL PROGRAM CATEGORY						
FMS ONLY	3	4	10	4	3	6
ASF	3	3	8	4	3	6
PEMA2	5	5	47	2	7	11
SSA ONLY	2	1	2	1	2	2
ASF	2	1	2	1	2	2
PEMA2	1	1	3	1	2	2
GA ONLY	0	1	1	1	1	0
ASF	0	1	1	1	1	0
PEMA2	0	0	0	0	0	0

(Figure A-2-B-2 Continued on Next Page)

PERCENT OF REQUISITIONS RECEIVED (US ONLY BASE) DEMAND INDEX 1

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	103	104	103	104	103	104
ASF	103	104	103	105	103	104
PEMA2	102	103	101	102	102	103
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	3	4	3	4	3	4
ASF	3	4	3	5	3	4
PEMA2	2	3	1	2	2	3
IL PROGRAM CATEGORY						
FMS ONLY	1	2	1	2	1	2
ASF	2	2	1	3	1	2
PEMA2	1	1	0	0	1	1
SSA ONLY	0	1	1	1	0	1
ASF	1	1	1	1	1	1
PEMA2	0	1	0	0	0	1
GA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	1	0	1	0	0

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	105	105	108	107	106	107
ASF	105	105	108	107	106	107
PEMA2	106	108	110	108	108	106
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	5	5	8	7	6	7
ASF	5	5	8	7	6	7
PEMA2	6	8	10	8	8	6
IL PROGRAM CATEGORY						
FMS ONLY	3	2	5	4	3	5
ASF	3	2	5	4	3	5
PEMA2	4	4	6	5	5	2
SSA ONLY	1	1	1	1	1	1
ASF	1	1	1	1	1	1
PEMA2	1	1	1	1	1	2
GA ONLY	0	1	1	0	1	0
ASF	0	1	1	0	1	0
PEMA2	0	1	2	1	1	1

Figure A-2-B-2

DEMAND INDEX 2

% DOLLAR VAL OF REQS BY FUND CAT (US ONLY BASE)

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	111	108	114	106	136	111
ASF	132	118	123	107	132	113
PEMA2	103	104	102	103	143	109
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	11	8	14	6	36	11
ASF	32	18	23	7	32	13
PEMA2	3	4	2	3	43	9
IL PROGRAM CATEGORY						
FMS ONLY	9	6	12	6	34	8
ASF	27	15	21	6	30	10
PEMA2	1	2	1	2	42	6
SSA ONLY	1	1	1	0	1	2
ASF	3	2	1	0	1	2
PEMA2	1	1	0	1	0	3
GA ONLY	0	0	0	0	0	0
ASF	1	1	0	0	1	0
PEMA2	0	0	0	0	0	0

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	127	148	136	142	114	133
ASF	123	151	136	141	110	122
PEMA2	133	142	137	142	129	160
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	27	48	36	42	14	33
ASF	23	51	36	41	10	22
PEMA2	33	42	37	42	29	60
IL PROGRAM CATEGORY						
FMS ONLY	13	21	24	22	8	20
ASF	9	17	25	20	5	8
PEMA2	20	29	23	25	24	48
SSA ONLY	11	20	9	17	4	11
ASF	12	25	8	19	4	11
PEMA2	9	10	11	13	3	8
GA ONLY	2	6	2	2	0	2
ASF	1	8	2	1	0	2
PEMA2	3	2	2	3	1	2

Figure A-2-B-3

DEMAND INDEX 2

% DOLLAR VAL OF REQS BY FUND CAT (US ONLY BASE)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	134	143	241	116	121	147
ASF	177	195	274	128	153	186 1/
PEMA2	123	133	234	112	116	138
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	34	43	141	16	21	47
ASF	77	95	174	28	53	86
PEMA2	23	33	134	12	16	38
IL PROGRAM CATEGORY						
FMS ONLY	25	37	119	11	13	37
ASF	44	74	121	18	21	60
PEMA2	20	30	118	9	12	31
SSA ONLY	9	5	20	3	7	9
ASF	33	19	47	6	31	26
PEMA2	3	3	14	2	3	5
GA ONLY	0	0	1	0	0	0
ASF	0	1	6	2	0	0
PEMA2	0	0	0	0	0	0

1/ Example: In 1Q FY 77, IL increased the value of MICOM demands for ASF-funded repair parts by 86 percent over the value that would have been received from US forces only.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	115	121	130	115	115	119
ASF	119	135	134	121	116	119
PEMA2	111	112	127	109	114	119
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	15	21	30	15	15	19
ASF	19	35	34	21	16	19
PEMA2	11	12	27	9	14	19
IL PROGRAM CATEGORY						
FMS ONLY	9	13	23	9	10	12
ASF	11	18	24	13	10	9
PEMA2	7	9	22	6	11	15
SSA ONLY	4	6	5	4	3	5
ASF	6	13	7	6	5	8
PEMA2	2	2	4	2	2	3
GA ONLY	1	2	1	1	0	1
ASF	1	3	1	1	0	1
PEMA2	1	0	0	1	0	0

(Figure A-2-B-3 Continued on Next Page)

DEMAND INDEX 3

% DOL VAL OF REQS DUE NOW BY FUND CAT (TOTAL MSC BASE)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
U.S. ONLY	82	82	73	91	89	81
ASF	65	69	55	82	71	70
PEMA2	88	86	78	94	93	85
IL ONLY	17	17	26	8	10	18
ASF	34	30	44	17	28	29
PEMA2	11	13	21	5	6	14 1/
IL PROGRAM CATEGORY						
FMS ONLY	9	11	10	4	3	9
ASF	13	16	15	10	5	10
PEMA2	8	10	9	3	3	8
SSA ONLY	7	5	15	3	7	8
ASF	21	13	26	5	23	18
PEMA2	2	2	12	2	3	5
GA ONLY	0	0	0	0	0	0
ASF	0	0	3	1	0	0
PEMA2	0	0	0	0	0	0

1/ This is the only index with a total MSC base. For example, 14 percent of total MSC PEMA2-funded repair part order value that must be filled immediately is caused by IL.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
U.S. ONLY	90	88	86	89	89	89
ASF	89	82	80	86	89	87
PEMA2	92	92	91	92	89	91
IL ONLY	9	11	13	10	10	10
ASF	10	17	19	13	10	12
PEMA2	7	7	8	7	10	8
IL PROGRAM CATEGORY						
FMS ONLY	4	5	7	5	5	4
ASF	4	5	11	7	4	4
PEMA2	4	4	3	4	7	4
SSA ONLY	4	5	5	3	3	5
ASF	5	9	6	4	4	7
PEMA2	2	2	4	2	2	3
GA ONLY	1	1	0	1	0	0
ASF	0	2	1	0	0	0
PEMA2	1	0	0	1	0	0

(Figure A-2-B-4 Continued on Next Page)

DEMAND INDEX 3

% DOL VAL OF REQS DUE NOW BY FUND CAT (TOTAL MSC BASE)

ECOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
U.S. ONLY	94	94	88	94	72	90
ASF	89	87	81	94	74	89
PEMA2	97	97	97	96	69	91
IL ONLY	5	5	11	5	27	9
ASF	10	12	18	5	25	10
PEMA2	2	2	2	3	30	8
IL PROGRAM CATEGORY						
FMS ONLY	2	3	10	4	26	6
ASF	6	9	16	5	23	8
PEMA2	1	1	1	1	29	5
SSA ONLY	1	1	1	0	0	2
ASF	2	2	1	0	1	2
PEMA2	0	1	0	1	0	2
GA ONLY	0	0	0	0	0	0
ASF	1	0	0	0	0	0
PEMA2	0	0	0	0	0	0

TACOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
U.S. ONLY	81	74	80	77	91	85
ASF	84	74	80	80	93	84
PEMA2	76	74	78	72	81	86
IL ONLY	18	25	19	22	8	14
ASF	15	25	19	19	6	15
PEMA2	23	25	21	27	18	13
IL PROGRAM CATEGORY						
FMS ONLY	7	9	10	10	4	3
ASF	4	5	10	7	1	3
PEMA2	13	15	9	14	14	4
SSA ONLY	8	12	7	10	3	9
ASF	9	14	7	11	4	10
PEMA2	7	7	9	10	2	7
GA ONLY	2	4	1	1	0	1
ASF	1	5	1	0	0	1
PEMA2	2	2	2	2	1	2

Figure A-2-B-4

DEMAND INDEX 4

IL ONLY AVG $ VAL DUE NOW / US ONLY AVG $ VAL DUE NOW

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	92	93	96	90	93	97
ASF	112	106	123	91	110	106
PEMA2	93	101	95	101	99	105
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	66	72	87	44	58	88
ASF	144	122	173	65	148	127
PEMA2	63	109	82	130	88	155
IL PROGRAM CATEGORY						
FMS ONLY	72	70	72	80	63	118
ASF	125	97	142	125	88	129
PEMA2	55	107	56	202	166	165
SSA ONLY	61	85	106	59	56	70
ASF	160	201	201	81	175 1/	132
PEMA2	103	113	121	94	64	144
GA ONLY	60	23	54	5	46	59
ASF	95	44	157	13	111	10
PEMA2	156	136	112	45	146	131

1/ **Example:** In FY 7T, IL CLSSA requisitions for ASF-funded repair parts had an average value equal to 175 percent of the average value of a US ASF requisition. In both cases the requisitions require immediate release of assets.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	105	107	107	105	105	105
ASF	106	115	115	108	105	107
PEMA2	102	101	98	104	107	103
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	206	245	208	183	207	187
ASF	247	396	326	229	200	219
PEMA2	132	130	89	246	264	165
IL PROGRAM CATEGORY						
FMS ONLY	193	221	217	198	293	130
ASF	202	276	375	249	231	129
PEMA2	108	141	70	334	503	172
SSA ONLY	218	324	231	239	172	289
ASF	305	609	316	324	219	391
PEMA2	181	128	116	214	101	166
GA ONLY	214	174	112	82	97	169
ASF	204	325	151	72	88	172
PEMA2	171	88	109	153	238	137

(Figure A-2-B-5 Continued on Next Page)

DEMAND INDEX 4

IL ONLY AVG $ VAL DUE NOW / US ONLY AVG $ VAL DUE NOW

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	102	101	110	102	134	107
ASF	107	109	118	101	130	107
PEMA2	100	99	100	101	140	106
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	179	153	479	156	1468	312
ASF	360	349	697	149	1256	335
PEMA2	109	75	165	171	2039	312
IL PROGRAM CATEGORY						
FMS ONLY	202	226	985	271	3192	434
ASF	405	523	1409	258	2813	466
PEMA2	145	124	310	274	3760	563
SSA ONLY	177	115	125	58	141	225
ASF	325	181	148	36	161	183
PEMA2	122	95	155	465	122	276
GA ONLY	123	58	88	31	142	98
ASF	276	171	93	28	191	152
PEMA2	55	17	82	40	54	45

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	117	128	116	122	104	110
ASF	113	129	115	118	101	110
PEMA2	123	125	116	128	115	110
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	561	788	369	513	187	261
ASF	454	797	354	432	136	267
PEMA2	599	511	309	535	351	297
IL PROGRAM CATEGORY						
FMS ONLY	444	646	292	379	190	101
ASF	242	396	296	269	74	98
PEMA2	599	656	283	561	468	237
SSA ONLY	702	1109	712	979	239	694
ASF	742	1325	633	990	248	755
PEMA2	576	529	600	792	205	422
GA ONLY	659	598	228	264	85	391
ASF	491	779	218	142	75	314
PEMA2	674	178	112	215	137	195

Figure A-2-B-5

DEMAND INDEX 5

IL ONLY HIGH PRI REQ / US ONLY HIGH PRI (BY FUND CAT)

MICOM

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	113	117	214	106	111	110
ASF	120	126	201	108	116	117
PEMA2	104	107	290	103	90	103
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	13	17	114	6	11	10
ASF	20	26	101	9	16	17 1/
PEMA2	4	7	130	3	6	3
IL PROGRAM CATEGORY						
FMS ONLY	4	15	99	3	3	4
ASF	6	23	88	5	5	7
PEMA2	1	6	119	1	1	1
SSA ONLY	9	2	15	3	9	6
ASF	13	3	18	4	11	10 1/
PEMA2	3	1	10	2	5	2
GA ONLY	0	0	0	0	0	0
ASF	1	0	0	0	0	0
PEMA2	0	0	0	0	0	0

1/ **Example:** In 1Q FY 77, IL CLSSA high-priority ASF requisitions were equal to 10 percent of the number of US ASF requisitions. In effect the total IL impact caused a 17 percent increase in requisitions for ASF-funded repair parts.

DRC

	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	104	106	111	106	105	105
ASF	105	106	108	106	105	106
PEMA2	103	104	133	102	103	103
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	4	6	11	5	5	5
ASF	5	6	8	6	5	5
PEMA2	3	4	33	2	3	3
IL PROGRAM CATEGORY						
FMS ONLY	2	3	8	3	3	3
ASF	2	3	6	3	3	4
PEMA2	1	2	30	1	1	1
SSA ONLY	2	1	2	1	2	1
ASF	2	1	2	1	1	1
PEMA2	1	1	3	1	2	1
GA ONLY	1	2	1	1	0	1
ASF	1	2	1	1	0	1
PEMA2	1	1	0	1	0	0

(Figure A-2-B-6 Continued on Next Page)

DEMAND INDEX 5

IL ONLY HIGH PRI REQ / US ONLY HIGH PRI (BY FUND CAT)

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	103	103	102	103	102	104
ASF	103	102	103	104	103	104
PEMA2	103	103	101	101	101	103
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	3	3	2	3	2	3
ASF	3	3	3	4	3	4
PEMA2	3	3	1	1	1	3
IL PROGRAM CATEGORY						
FMS ONLY	1	1	1	1	1	2
ASF	2	1	2	2	2	2
PEMA2	0	0	1	0	1	1
SSA ONLY	1	1	0	1	1	1
ASF	1	1	1	1	1	1
PEMA2	1	1	0	0	1	1
GA ONLY	1	1	1	1	0	0
ASF	1	1	1	1	0	0
PEMA2	1	2	1	1	0	1

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	104	105	104	104	105	105
ASF	104	105	105	104	105	105
PEMA2	104	103	104	105	103	102
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	4	5	4	4	5	5
ASF	4	5	4	4	5	5
PEMA2	4	3	4	5	3	2
IL PROGRAM CATEGORY						
FMS ONLY	1	2	2	1	3	4
ASF	1	2	2	1	3	4
PEMA2	2	1	2	2	2	1
SSA ONLY	2	2	1	2	1	1
ASF	2	2	1	2	1	1
PEMA2	2	1	1	2	1	0
GA ONLY	0	2	1	1	0	0
ASF	0	2	1	1	0	0
PEMA2	0	1	0	1	0	0

Figure A-2-B-6

DEMAND INDEX 6[1]

IL ONLY NORS REQ / US ONLY NORS REQ (BY FUND CATEGORY)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	103	103	104	103	103	104
ASF	107	106	104	103	103	105
PEMA2	102	101	103	101	103	102
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	4	3	3	2	3	4
ASF	6	5	4	3	3	5
PEMA2	2	1	2	1	2	3
IL PROGRAM CATEGORY						
FMS ONLY	1	1	0	0	0	0
ASF	1	1	0	0	0	0
PEMA2	1	0	0	0	0	0
SSA ONLY	3	2	3	2	2	4
ASF	5	4	4	3	3	5
PEMA2	1	1	2	1	2	2
GA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0

1/ Read this index the same as Index 5. Rounding operation made many values "zero."

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	101	102	101	102	100	101
ASF	100	101	101	101	101	101
PEMA2	100	101	101	101	101	101
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	1	1	1	1	0	1
ASF	1	1	1	1	0	1
PEMA2	1	1	1	1	1	1
IL PROGRAM CATEGORY						
FMS ONLY	0	1	1	0	0	0
ASF	0	1	1	0	0	0
PEMA2	0	1	0	0	0	0
SSA ONLY	0	0	0	0	0	0
ASF	1	0	0	0	0	0
PEMA2	0	0	1	0	1	1
GA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0

(Figure A-2-B-7 Continued on Next Page)

DEMAND INDEX 6
IL ONLY NORS REQ / US ONLY NORS REQ (BY FUND CATEGORY)

ECOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	100	104	100	99	101	102
ASF	100	101	104	99	101	101
PEMA2	99	100	102	100	101	101
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	1	1	1	0	0	1
ASF	1	1	1	0	0	0
PEMA2	1	2	1	0	0	1
IL PROGRAM CATEGORY						
FMS ONLY	0	1	1	0	0	0
ASF	0	1	0	0	0	0
PEMA2	0	1	1	0	0	1
SSA ONLY	1	1	0	0	0	0
ASF	1	0	0	0	0	0
PEMA2	1	2	0	0	0	0
GA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0

TACOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	101	99	99	99	99	100
ASF	100	101	100	99	100	101
PEMA2	100	100	100	100	100	100
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0
IL PROGRAM CATEGORY						
FMS ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0
SSA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0
GA ONLY	0	0	0	0	0	0
ASF	0	0	0	0	0	0
PEMA2	0	0	0	0	0	0

Figure A-2-B-7

DEMAND INDEX 7

IL ONLY REQS MAN PROC / US ONLY REQS MAN PROC

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	146	192	673	146	176	263
ASF	163	240	711	203	186	351
PEMA2	132	147	631	108	168	195
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	47	94	578	46	78	167
ASF	63	144	618	104	89	257 1/
PEMA2	32	47	533	8	69	97
IL PROGRAM CATEGORY						
FMS ONLY	35	83	548	16	55	143
ASF	42	127	575	35	52	215 1/
PEMA2	29	41	516	4	56	86
SSA ONLY	11	9	26	9	23	19
ASF	21	14	37	20	36	32
PEMA2	3	5	15	3	13	9
GA ONLY	0	0	2	19	0	4
ASF	0	1	5	49	0	8
PEMA2	0	0	0	0	0	1

1/ Example: In 1Q FY 77, IL FMS requisitions for ASF-funded repair parts caused a 215 percent increase in MSC ASF manual processing workload over what would have been expected from US forces. Total IL impact resulted in a 257 percent increase in MSC workload.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	129	133	204	137	133	159
ASF	132	139	191	146	137	166
PEMA2	117	116	249	107	125	140
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	29	34	107	38	34	61
ASF	32	40	93	48	37	68
PEMA2	17	17	151	7	26	42
IL PROGRAM CATEGORY						
FMS ONLY	19	23	92	22	20	49
ASF	21	26	77	28	20	55
PEMA2	15	14	144	4	19	34
SSA ONLY	7	5	9	7	9	8
ASF	9	6	10	9	11	9
PEMA2	1	2	5	1	5	5
GA ONLY	1	5	4	7	4	2
ASF	2	7	5	10	5	3
PEMA2	0	0	1	1	1	1

(Figure A-2-B-8 Continued on Next Page)

DEMAND INDEX 7

IL ONLY REQS MAN PROC / US ONLY REQS MAN PROC

ECOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	108	107	109	114	109	130
ASF	110	109	111	117	109	144
PEMA2	105	104	103	107	108	119
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	8	7	9	15	9	32
ASF	10	10	12	18	9	44
PEMA2	5	4	3	8	8	20
IL PROGRAM CATEGORY						
FMS ONLY	7	5	4	8	4	16
ASF	8	7	5	10	4	24
PEMA2	4	2	1	4	5	9
SSA ONLY	0	1	3	3	3	11
ASF	0	1	4	3	4	18
PEMA2	0	0	1	1	2	6
GA ONLY	1	0	1	3	1	3
ASF	1	0	2	3	1	2
PEMA2	0	0	0	2	1	4

TACOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	215	192	298	203	173	188
ASF	277	222	375	233	202	220
PEMA2	110	111	117	112	109	107
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	119	97	204	102	76	90
ASF	177	129	282	133	100	119
PEMA2	10	11	16	12	9	7
IL PROGRAM CATEGORY						
FMS ONLY	88	63	168	86	52	83
ASF	130	84	234	113	69	111
PEMA2	7	7	10	7	6	3
SSA ONLY	29	12	12	12	9	5
ASF	43	15	15	16	12	6
PEMA2	2	2	2	1	1	2
GA ONLY	2	21	23	3	14	0
ASF	2	29	32	4	19	0
PEMA2	0	1	3	2	1	1

Figure A-2-B-8

DEMAND INDEX 8
IL ONLY REQS MGT CONT / US ONLY REQS MGT CONT
(BY FUND CAT)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	109	120	133	117	124	131
ASF	111	123	144	127	123	143
PEMA2	106	116	123	108	126	120
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	8	20	31	16	24	30
ASF	10	22	41	26	22	42
PEMA2	6	16	23	8	25[1/]	19
IL PROGRAM CATEGORY						
FMS ONLY	3	12	12	9	6	10
ASF	4	16	21	18	7	15
PEMA2	2	8	5	2	5	5
SSA ONLY	5	6	17	5	17	15
ASF	6	6	17	5	14	17
PEMA2	3	8	16	4	19[1/]	12
GA ONLY	0	0	1	1	0	4
ASF	0	0	1	2	0	8
PEMA2	0	0	0	0	0	1

1/ Example: In FY 7T, IL CLSSA requisitions for PEMA2-funded repair parts caused a 19 percent increase in the MSC PEMA2 manual processing workload by reason of management control of parts in critical supply over what would have been expected from US forces. The total IL impact resulted in a 25 percent increase in the PEMA2 category.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	107	107	107	105	107	109
ASF	108	107	106	105	106	108
PEMA2	105	107	110	105	112	111
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	7	6	8	5	8	9
ASF	7	6	8	5	6	8
PEMA2	5	7	10	5	12	11
IL PROGRAM CATEGORY						
FMS ONLY	1	3	3	3	3	4
ASF	1	3	4	3	2	3
PEMA2	2	3	2	2	4	5
SSA ONLY	4	2	4	1	4	4
ASF	4	2	3	1	2	3
PEMA2	2	3	6	1	6	5
GA ONLY	0	0	0	1	0	1
ASF	0	0	0	1	0	1
PEMA2	0	0	0	1	1	1

(Figure A-2-B-9 Continued on Next Page)

DEMAND INDEX 8
IL ONLY REQS MGT CONT / US ONLY REQS MGT CONT
(BY FUND CAT)

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	103	103	102	104	105	106
ASF	103	102	102	103	101	104
PEMA2	101	103	102	105	108	108
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	3	2	2	4	5	6
ASF	3	2	2	3	1	2
PEMA2	1	3	3	5	8	9
IL PROGRAM CATEGORY						
FMS ONLY	1	1	0	2	3	5
ASF	1	1	0	1	0	1
PEMA2	1	2	0	4	5	6
SSA ONLY	0	0	1	0	1	0
ASF	0	0	1	0	0	0
PEMA2	0	0	2	0	1	0
GA ONLY	1	0	0	0	0	0
ASF	1	0	0	0	0	0
PEMA2	0	0	0	0	0	1

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	131	113	115	107	112	103
ASF	168	120	108	107	106	107
PEMA2	107	107	109	108	106	105
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	32	11	10	7	7	5
ASF	70	15	10	6	7	5
PEMA2	7	7	9	8	6	5
IL PROGRAM CATEGORY						
FMS ONLY	4	3	5	4	3	2
ASF	4	3	5	3	3	2
PEMA2	4	3	4	5	3	1
SSA ONLY	27	7	2	2	2	1
ASF	64	11	2	2	2	1
PEMA2	2	2	2	1	1	2
GA ONLY	0	0	2	1	1	0
ASF	0	1	1	0	0	0
PEMA2	0	0	2	1	1	0

Figure A-2-B-9

PERFORMANCE INDEX 1
STOCK AVAILABILITY ON A DOLLAR VAL BASIS (BY CUST CAT)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	73.5	72.0	78.8	71.5	78.9	70.2
ASF	74.1	75.9	80.6	84.7	77.6	78.1
PEMA2	73.3	70.9	78.3	67.4	79.2	67.6
U.S. ONLY	68.1	63.3	88.2	68.7	76.6	60.3
ASF	66.3	64.3	69.5	84.2	76.9	71.2
PEMA2	68.5	63.1	89.2	64.5	76.6	57.6 1/
IL ONLY	89.3	91.9	91.7	88.6	90.0	91.0
ASF	84.1	88.1	86.9	86.3	78.9	86.0
PEMA2	93.7	94.1	93.0	89.9	95.6	93.7
IL PROGRAM CATEGORY						
FMS ONLY	98.5	99.9	99.9	97.7	100.0	99.8
ASF	98.2	100.0	100.0	93.4	100.0	100.0
PEMA2	98.7	99.9	99.9	100.0	100.0	99.7
SSA ONLY	64.3	41.3	43.3	55.8	72.4	57.1
ASF	65.1	41.5	51.9	60.7	65.1	53.9
PEMA2	62.1	41.0	37.9	52.6	81.6	60.5
GA ONLY	36.2	93.7	94.9	98.7	56.5	99.8
ASF	84.7	100.0	96.9	100.0	9.4	97.7
PEMA2	0.0	82.5	91.5	97.1	100.0	100.0

1/ Example: In 1Q FY 77, 57.6 percent of the dollar value of US PEMA2 requisitions requiring immediate satisfaction were actually satisfied. Unfortunately, the "accounting gimmicks" in traditional stock availability had to be carried forward to this indicator. Actual availability is therefore lower than shown here.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	67.4	70.8	76.0	76.7	80.3	73.0
ASF	69.4	70.8	78.8	80.8	83.1	72.6
PEMA2	65.3	70.7	73.7	72.6	76.0	73.4
U.S. ONLY	65.7	69.3	76.9	75.7	79.2	70.5
ASF	67.7	69.1	75.4	79.3	83.0	71.8
PEMA2	63.8	69.5	77.8	72.4	73.6	69.0
IL ONLY	78.6	77.4	90.4	83.2	87.0	85.6
ASF	78.4	75.8	88.7	87.3	83.5	76.5
PEMA2	79.0	80.6	92.0	74.5	92.9	95.0
IL PROGRAM CATEGORY						
FMS ONLY	95.3	97.1	99.4	98.0	98.7	99.3
ASF	98.3	99.6	98.9	99.1	99.6	99.4
PEMA2	90.5	93.7	99.8	95.8	97.5	99.2
SSA ONLY	45.3	49.3	56.9	57.6	55.9	55.3
ASF	43.3	52.7	56.3	64.3	50.3	47.4
PEMA2	50.2	35.3	57.8	39.0	75.2	76.2
GA ONLY	76.8	44.6	80.3	61.8	82.6	89.6
ASF	79.3	41.8	89.4	88.0	85.1	89.7
PEMA2	74.7	53.8	66.3	39.0	78.8	89.5

(Figure A-2-B-10 Continued on Next Page)

PERFORMANCE INDEX 1
STOCK AVAILABILITY ON A DOLLAR VAL BASIS (BY CUST CAT)

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	61.5	83.1	84.9	86.6	77.1	62.8
ASF	69.3	72.0	85.7	91.3	79.1	63.4
PEMA2	57.2	88.3	83.8	67.6	74.2	55.5
U.S. ONLY	57.9	82.9	83.2	85.8	69.0	58.9
ASF	61.4	68.4	82.9	90.8	72.7	66.1
PEMA2	56.4	88.8	83.6	66.4	63.0	51.3
IL ONLY	91.9	86.0	97.2	97.7	99.1	96.0
ASF	93.7	91.3	97.8	97.6	98.5	94.7
PEMA2	84.2	76.3	90.3	98.8	99.8	98.0
IL PROGRAM CATEGORY						
FMS ONLY	98.9	98.5	99.8	99.8	99.8	99.8
ASF	98.9	98.2	99.8	99.8	99.6	99.8
PEMA2	99.4	99.1	99.8	100.0	100.0	99.7
SSA ONLY	57.0	39.5	76.7	82.3	90.3	86.2
ASF	55.9	61.3	79.0	72.8	90.4	73.6
PEMA2	58.5	19.3	69.6	98.9	89.9	95.3
GA ONLY	81.5	68.1	91.9	85.5	80.6	90.0
ASF	78.0	64.1	90.5	81.7	79.4	89.2
PEMA2	86.2	77.0	94.8	92.7	93.6	91.9

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	77.2	78.2	81.3	82.3	90.0	77.2
ASF	75.3	75.8	81.2	84.3	91.9	71.0
PEMA2	80.4	83.1	81.6	79.0	82.1	88.6
U.S. ONLY	79.8	82.0	78.9	83.8	91.4	74.8
ASF	78.0	79.2	79.3	84.5	93.9	70.8
PEMA2	83.1	87.4	78.3	82.6	79.4	84.3
IL ONLY	67.7	70.3	87.9	78.8	79.9	84.5
ASF	64.1	69.1	86.3	83.7	73.8	71.8
PEMA2	72.1	72.8	90.4	70.5	91.3	95.8
IL PROGRAM CATEGORY						
FMS ONLY	88.1	93.5	99.0	96.8	96.8	99.0
ASF	95.7	99.8	98.6	99.7	99.4	99.0
PEMA2	81.6	86.0	99.8	92.5	93.9	99.0
SSA ONLY	40.5	55.2	65.5	57.1	44.4	57.1
ASF	35.2	58.9	50.8	66.7	39.1	49.0
PEMA2	52.0	37.5	83.0	32.8	76.9	83.3
GA ONLY	77.9	38.7	67.0	72.3	88.8	89.8
ASF	83.6	33.7	85.8	91.3	91.4	95.3
PEMA2	72.9	66.4	41.9	62.3	81.5	78.1

Figure A-2-B-10

AD-A050 683 OFFICE OF THE CHIEF OF ENGINEERS (ARMY) WASHINGTON D --ETC F/G 15/5
SECURITY ASSISTANCE REPAIR PART SUPPORT. VOLUME II. ANNEX A.(U)
APR 77 W K GAY, W J BURKE, J H TATE

UNCLASSIFIED T-27787-VOL-2 NL

3 OF 3
AD A050683

END
DATE FILMED
4 -78
DDC

PERFORMANCE INDEX #2

IL ONLY REQ ON BACKORDER / US ONLY REQ ON BACKORDER

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	117	118	127	121	147	135
ASF	121	124	134	126	168	143
PEMA2	111	112	122	117	133	129
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	17	18	27	21	47	35
ASF	21	24	34	26	68	43 1/
PEMA2	11	12	22	17	33	29
IL PROGRAM CATEGORY						
FMS ONLY	5	6	7	7	32	20
ASF	3	3	5	5	41	19 1/
PEMA2	8	8	9	9	26	21
SSA ONLY	11	12	19	13	15	14
ASF	17	20	29	21	27	23
PEMA2	3	4	12	7	7	8
GA ONLY	0	0	1	1	1	1
ASF	0	0	1	0	1	1
PEMA2	0	0	1	1	0	0

1/ **Example:** In 1Q FY 77, IL FMS requisitions for ASF-funded repair parts generated a 19 percent increased backorder count over what would have been expected from US forces. The total IL impact in the same fund category resulted in a 43 percent increase for the entire MSC.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	109	110	110	109	111	112
ASF	109	110	110	109	111	112
PEMA2	107	107	112	110	114	114
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	9	10	10	9	11	12
ASF	9	10	10	9	11	12
PEMA2	7	7	12	10	14	14
IL PROGRAM CATEGORY						
FMS ONLY	2	2	2	2	3	3
ASF	2	2	2	2	2	3
PEMA2	3	3	4	4	9	9
SSA ONLY	6	7	7	6	7	8
ASF	6	7	7	6	8	8
PEMA2	3	4	6	5	4	5
GA ONLY	1	1	1	1	1	1
ASF	1	1	1	1	1	1
PEMA2	1	1	1	1	1	1

(Figure A-2-B-11 Continued on Next Page)

PERFORMANCE INDEX 2
IL ONLY REQ ON BACKORDER / US ONLY REQ ON BACKORDER

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	104	105	105	104	104	104
ASF	105	106	105	104	104	104
PEMA2	103	103	105	104	104	104
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	4	5	5	4	4	4
ASF	5	6	5	4	4	4
PEMA2	3	3	5	4	4	4
IL PROGRAM CATEGORY						
FMS ONLY	1	1	1	1	1	1
ASF	1	1	1	1	1	1
PEMA2	1	1	1	1	1	2
SSA ONLY	2	3	3	2	2	2
ASF	2	3	3	2	2	2
PEMA2	1	2	3	2	2	1
GA ONLY	1	1	1	1	1	1
ASF	1	1	1	1	1	1
PEMA2	1	1	1	1	1	0

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	114	115	115	114	116	119
ASF	113	115	115	113	116	119
PEMA2	133	134	132	131	134	138
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	14	15	15	14	16	19
ASF	13	15	15	13	16	19
PEMA2	33	34	32	31	34	38
IL PROGRAM CATEGORY						
FMS ONLY	3	3	3	2	2	3
ASF	2	2	2	2	2	3
PEMA2	14	14	15	14	17	16
SSA ONLY	10	12	11	10	13	15
ASF	10	12	11	10	13	15
PEMA2	16	17	14	13	13	16
GA ONLY	1	1	2	1	1	1
ASF	1	1	1	1	1	1
PEMA2	3	4	4	4	4	6

Figure A-2-B-11

PERFORMANCE INDEX 3
IL ONLY $ VAL BACKORDER / US ONLY $ VAL BACKORDER
(BY FUND CAT)

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	130	125	138	140	155	139
ASF	152	152	190	182	224	190 1/
PEMA2	126	120	132	135	148	133
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	31	25	38	40	55	39
ASF	52	53	90	82	124	90 1/
PEMA2	26	20	32	35	48	33
IL PROGRAM CATEGORY						
FMS ONLY	17	12	13	20	34	20
ASF	11	6	9	22	44	23
PEMA2	18	13	14	19	33	19
SSA ONLY	13	13	24	19	19	19
ASF	41	46	80	59	79	65 1/
PEMA2	7	7	18	15	14	13
GA ONLY	0	0	1	1	1	1
ASF	0	0	1	0	1	1
PEMA2	0	0	1	1	1	1

1/ Example: In 1Q FY 77, IL CISSA requisitions for ASF-funded repair parts caused a 65 percent increase in backorders on a dollar value basis over what would have been expected from US forces. Total IL impact in ASF category resulted in MSC ASF backorders increasing 90 percent in dollar value.

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	138	143	155	158	161	160
ASF	142	150	167	180	170	171
PEMA2	133	135	146	156	154	149
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	38	43	55	58	61	60
ASF	42	50	67	60	70	71
PEMA2	33	35	46	56	54	49
IL PROGRAM CATEGORY						
FMS ONLY	17	18	27	30	36	32
ASF	12	13	24	25	34	33
PEMA2	24	22	30	34	38	30
SSA ONLY	17	21	22	23	21	25
ASF	25	30	35	30	31	33
PEMA2	7	11	13	17	13	15
GA ONLY	3	4	5	5	4	4
ASF	5	6	8	5	5	5
PEMA2	2	2	3	5	3	3

(Figure A-2-B-12 Continued on Next Page)

PERFORMANCE INDEX 3
IL ONLY * VAL BACKORDER / US ONLY * VAL BACKORDER
(BY FUND CAT)

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	101	113	116	118	114	113
ASF	105	126	130	125	119	118
PEMA2	100	106	107	111	109	107
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	1	13	16	18	14	13
ASF	5	26	30	24	19	18
PEMA2	0	7	7	11	9	7
IL PROGRAM CATEGORY						
FMS ONLY	0	5	7	9	7	6
ASF	2	11	16	14	11	8
PEMA2	0	1	2	3	3	3
SSA ONLY	1	5	6	6	5	4
ASF	2	6	7	5	4	4
PEMA2	0	5	5	7	6	3
GA [illegible]	0	3	3	4	3	3
ASF	1	9	7	6	5	6
PEMA2	0	1	1	1	1	0

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	230	275	331	318	295	228
ASF	194	226	270	262	244	198
PEMA2	319	374	413	384	356	291
U.S. ONLY	100	100	100	100	100	100
ASF	100	100	100	100	100	100
PEMA2	100	100	100	100	100	100
IL ONLY	130	175	231	217	195	128
ASF	94	126	170	162	144	98
PEMA2	219	274	313	284	256	191
IL PROGRAM CATEGORY						
FMS ONLY	61	75	124	116	112	58
ASF	17	19	43	53	43	23
PEMA2	175	187	234	192	195	128
SSA ONLY	62	92	90	90	73	64
ASF	72	101	109	100	94	70
PEMA2	35	75	64	78	48	51
GA ONLY	6	8	17	11	10	7
ASF	6	6	18	9	7	4
PEMA2	8	13	16	14	13	12

Figure A-2-B-12

PERFORMANCE INDEX 4
TOTAL BACKORDERS /NEW REQUISITIONS

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.244833	0.239218	0.128626	0.216907	0.275990	0.233829
ASF	0.202573	0.191609	0.101711	0.151604	0.194964	0.147609
PEMA2	0.344509	0.341600	0.169023	0.337251	0.411796	0.409673
U.S. ONLY	0.284451	0.273656	0.269434	0.222898	0.249702	0.274910
ASF	0.236640	0.223076	0.188341	0.164262	0.155895	0.175030
PEMA2	0.382956	0.363395	0.416426	0.307023	0.401406	0.442494
IL ONLY	0.133959	0.141552	0.044104	0.191952	0.355960	0.163359
ASF	0.120643	0.120683	0.043280	0.116849	0.307619	0.108168
PEMA2	0.182136	0.227529	0.045212	0.824675	0.446492	0.326501
IL PROGRAM CATEGORY						
FMS ONLY	0.073035	0.056227	0.013354	0.178947	0.412076	0.127761
ASF	0.039291	0.022936	0.007300	0.059518	0.392460	0.070093
PEMA2	0.142217	0.177547	0.020456	0.906666	0.433717	0.260143
SSA ONLY	0.214792	0.471688	0.266867	0.487575	0.267937	0.275817
ASF	0.198877	0.468587	0.230288	0.419067	0.227985	0.202012
PEMA2	0.457249	0.489864	0.390501	0.770538	0.465671	0.686904
GA ONLY	0.574468	0.076923	0.064655	0.012203	2.714285	0.114634
ASF	0.465116	0.057507	0.029457	0.004008	1.230769	0.066091
PEMA2	1.750000	0.583333	0.509803	0.547619	22.000000	0.387096

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.270325	0.254059	0.219277	0.210010	0.202951	0.213106
ASF	0.255671	0.236483	0.209837	0.198286	0.187336	0.197398
PEMA2	0.461238	0.481462	0.319409	0.369578	0.424948	0.433426
U.S. ONLY	0.264411	0.247737	0.227340	0.207471	0.195169	0.207190
ASF	0.249162	0.229671	0.212945	0.196595	0.180496	0.191753
PEMA2	0.466438	0.482881	0.436085	0.350200	0.412070	0.435605
IL ONLY	0.365119	0.342664	0.163704	0.242701	0.310918	0.277253
ASF	0.362112	0.338572	0.183739	0.219319	0.286459	0.261233
PEMA2	0.396048	0.463097	0.098076	0.834138	0.544273	0.418722
IL PROGRAM CATEGORY						
FMS ONLY	0.127791	0.109896	0.043940	0.089736	0.176188	0.109446
ASF	0.113912	0.093128	0.046034	0.067789	0.129727	0.092343
PEMA2	0.235363	0.276993	0.038719	0.727948	0.471889	0.313852
SSA ONLY	0.701438	0.921615	0.638326	0.743038	0.580637	0.775245
ASF	0.690167	0.915319	0.627089	0.710779	0.570542	0.762195
PEMA2	0.928571	1.006657	0.743253	1.379844	0.733805	0.965129
GA ONLY	0.547612	0.252211	0.240048	0.139993	0.174092	0.326849
ASF	0.543198	0.241968	0.224005	0.129530	0.155375	0.311372
PEMA2	0.593750	0.463888	0.610909	0.386699	0.807692	0.533101

(Figure A-2-B-13 Continued on Next Page)

PERFORMANCE INDEX 4
TOTAL BACKORDERS /NEW REQUISITIONS

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.506817	0.464955	0.419369	0.360817	0.395844	0.408394
ASF	0.497159	0.441219	0.418197	0.377075	0.405191	0.414409
PEMA2	0.531358	0.526701	0.423021	0.312687	0.367392	0.391763
U.S. ONLY	0.502525	0.462832	0.411459	0.362589	0.394361	0.411728
ASF	0.491668	0.437923	0.412543	0.381317	0.404584	0.417809
PEMA2	0.529852	0.526806	0.408153	0.308819	0.363506	0.392487
IL ONLY	0.634432	0.513449	0.666965	0.322571	0.441085	0.345420
ASF	0.647920	0.510598	0.569105	0.299304	0.422555	0.337848
PEMA2	0.587947	0.523616	1.407692	0.482608	0.515564	0.373004
IL PROGRAM CATEGORY						
FMS ONLY	0.293269	0.228080	0.319778	0.174402	0.297138	0.226943
ASF	0.266339	0.210386	0.265326	0.152620	0.281716	0.187617
PEMA2	0.435344	0.337448	0.942528	0.401069	0.353951	0.416918
SSA ONLY	1.134193	0.898016	1.221024	0.750933	0.731506	0.532596
ASF	1.204429	0.892095	1.019548	0.648148	0.691919	0.566282
PEMA2	0.914893	0.916030	2.961038	2.404255	0.904411	0.421800
CA ONLY	0.853707	0.670120	0.579207	0.281976	0.408624	0.508241
ASF	1.108196	0.938775	0.577922	0.346320	0.460000	0.714285
PEMA2	0.453608	0.279661	0.583333	0.150442	0.448275	0.204081

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.182228	0.177125	0.166578	0.151270	0.131522	0.151686
ASF	0.180287	0.174562	0.163067	0.148584	0.129034	0.149340
PEMA2	0.323456	0.366900	0.409969	0.353540	0.327372	0.341891
U.S. ONLY	0.168460	0.161674	0.156222	0.142599	0.120224	0.137471
ASF	0.167231	0.159921	0.153727	0.140627	0.118430	0.135887
PEMA2	0.259151	0.294828	0.343875	0.293351	0.264028	0.264125
IL ONLY	0.456458	0.467100	0.292459	0.272531	0.305641	0.332879
ASF	0.441385	0.451170	0.279692	0.260189	0.293063	0.320421
PEMA2	1.308943	1.266666	1.026011	1.041139	1.076452	1.565957
IL PROGRAM CATEGORY						
FMS ONLY	0.147483	0.157785	0.079666	0.057021	0.071195	0.073107
ASF	0.134194	0.140795	0.068886	0.046792	0.056581	0.064386
PEMA2	0.833333	0.917721	0.805000	0.787234	0.790909	1.509615
SSA ONLY	1.026022	1.271739	1.233052	1.039342	0.871759	1.299662
ASF	1.006653	1.250062	1.211384	1.020743	0.858249	1.288502
PEMA2	2.390625	2.521739	2.375000	2.206349	2.000000	1.950000
CA ONLY	0.483537	0.158878	0.188118	0.210637	0.120022	0.262187
ASF	0.460210	0.148818	0.179403	0.198350	0.109441	0.233810
PEMA2	1.700000	0.724137	0.512195	0.646153	1.076923	1.078431

Figure A-2-B-13

PERFORMANCE INDEX 5

BACKORDERS OVER 90 DAYS OLD / NEW REQUISITIONS

MICOM

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.116540	0.119848	0.080197	0.104115	0.154830	0.118551
ASF	0.089942	0.093696	0.049025	0.072012	0.105670	0.068933
PEMA2	0.179145	0.176265	0.077074	0.163229	0.237195	0.219934
U.S. ONLY	0.130563	0.129986	0.119359	0.091988	0.107621	0.111063
ASF	0.103412	0.103730	0.085695	0.064390	0.059552	0.064236
PEMA2	0.186499	0.176246	0.180728	0.130177	0.185048	0.189830
IL ONLY	0.077026	0.091726	0.024610	0.157017	0.298294	0.131340
ASF	0.057185	0.071082	0.024150	0.092778	0.238097	0.075825
PEMA2	0.148805	0.177245	0.025228	0.697675	0.411219	0.295483
IL PROGRAM CATEGORY						
FMS ONLY	0.066681	0.053471	0.012446	0.172505	0.412076	0.127633
ASF	0.033476	0.022110	0.006080	0.053804	0.392067	0.070093
PEMA2	0.134822	0.167782	0.019924	0.895786	0.433717	0.259883
SSA ONLY	0.087420	0.239146	0.103949	0.357880	0.129949	0.143976
ASF	0.077761	0.242728	0.116986	0.321843	0.098033	0.090097
PEMA2	0.234111	0.219459	0.086300	0.507014	0.288250	0.591565
GA ONLY	0.468191	0.067692	0.051724	0.011483	2.285428	0.112226
ASF	0.372093	0.054287	0.023241	0.003643	0.769230	0.066091
PEMA2	1.499750	0.416500	0.411921	0.524071	22.000000	0.370838

DRC

	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.123538	0.124489	0.113585	0.095344	0.096199	0.102078
ASF	0.115563	0.112802	0.106807	0.089030	0.086202	0.092185
PEMA2	0.230188	0.273951	0.185576	0.181832	0.237971	0.241418
U.S. ONLY	0.116605	0.116436	0.112533	0.089005	0.087435	0.093857
ASF	0.108385	0.104730	0.103278	0.083749	0.079057	0.085138
PEMA2	0.224356	0.267999	0.246258	0.159691	0.210980	0.223465
IL ONLY	0.237327	0.237808	0.120858	0.175716	0.217021	0.190473
ASF	0.230665	0.228477	0.136334	0.154620	0.188490	0.171108
PEMA2	0.304560	0.348712	0.069928	0.709183	0.488212	0.362194
IL PROGRAM CATEGORY						
FMS ONLY	0.097377	0.100445	0.040777	0.085878	0.174603	0.087666
ASF	0.081447	0.084560	0.042444	0.064671	0.128171	0.059451
PEMA2	0.221006	0.258711	0.036590	0.701742	0.470002	0.300984
SSA ONLY	0.415251	0.585225	0.428317	0.480002	0.321092	0.486854
ASF	0.407199	0.583058	0.429556	0.450634	0.309233	0.474085
PEMA2	0.579428	0.616074	0.411018	1.054201	0.517332	0.677520
GA ONLY	0.420018	0.176548	0.192518	0.103875	0.120828	0.251346
ASF	0.420435	0.168651	0.180772	0.096241	0.113579	0.237265
PEMA2	0.412656	0.339102	0.461847	0.283064	0.644538	0.439275

(Figure A-2-B-14 Continued on Next Page)

PERFORMANCE INDEX 5
BACKORDERS OVER 90 DAYS OLD / NEW REQUISITIONS

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.267599	0.272464	0.244492	0.185820	0.210589	0.236807
ASF	0.266974	0.251936	0.237954	0.200381	0.216777	0.245330
PEMA2	0.267804	0.326028	0.266080	0.141334	0.191411	0.209593
U.S. ONLY	0.259303	0.267980	0.235766	0.182382	0.204279	0.235096
ASF	0.257634	0.246113	0.230199	0.198666	0.211193	0.244000
PEMA2	0.263336	0.324512	0.252239	0.135262	0.183934	0.206055
IL ONLY	0.513255	0.377898	0.523568	0.260637	0.399182	0.283244
ASF	0.535182	0.380395	0.437073	0.239743	0.379032	0.278387
PEMA2	0.439785	0.369673	1.176830	0.404426	0.480505	0.300268
IL PROGRAM CATEGORY						
FMS ONLY	0.263649	0.203447	0.290358	0.158008	0.295058	0.193355
ASF	0.242635	0.191030	0.236140	0.138732	0.278899	0.165666
PEMA2	0.374831	0.279744	0.907655	0.358155	0.353951	0.326447
SSA ONLY	0.861987	0.578322	0.877916	0.572962	0.638605	0.419686
ASF	0.926206	0.571833	0.711645	0.485462	0.601277	0.433772
PEMA2	0.659638	0.595419	2.312571	1.978702	0.801308	0.374559
GA ONLY	0.701747	0.538777	0.497539	0.215148	0.332620	0.420315
ASF	0.954157	0.764163	0.493545	0.264242	0.317600	0.612857
PEMA2	0.303917	0.211983	0.510416	0.115088	0.402103	0.136122

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.076353	0.078112	0.074627	0.058390	0.052609	0.061888
ASF	0.074999	0.076283	0.072327	0.056462	0.051097	0.060184
PEMA2	0.176930	0.219406	0.241471	0.201164	0.174162	0.192826
U.S. ONLY	0.066204	0.064669	0.061863	0.049054	0.043521	0.050039
ASF	0.065554	0.063488	0.060414	0.047953	0.042634	0.049055
PEMA2	0.112730	0.152131	0.171250	0.138462	0.109043	0.124138
IL ONLY	0.278896	0.332575	0.229580	0.187774	0.193165	0.213375
ASF	0.263507	0.318075	0.217880	0.175887	0.181113	0.202506
PEMA2	1.162341	1.060200	0.895708	0.917243	0.941896	1.273123
IL PROGRAM CATEGORY						
FMS ONLY	0.085540	0.147844	0.078630	0.055937	0.069843	0.041744
ASF	0.071257	0.130939	0.068266	0.045903	0.055675	0.033287
PEMA2	0.820833	0.904873	0.775215	0.771489	0.767972	1.432625
SSA ONLY	0.617665	0.863510	0.912458	0.650628	0.491672	0.838282
ASF	0.598958	0.846292	0.892790	0.631840	0.479761	0.829795
PEMA2	1.922062	1.840869	1.999750	1.809206	1.514000	1.388400
GA ONLY	0.376191	0.086747	0.136950	0.160084	0.094817	0.206865
ASF	0.354822	0.078576	0.131861	0.150944	0.085583	0.187516
PEMA2	1.499400	0.551793	0.329341	0.476861	0.922923	0.764607

Figure A-2-B-14

PERFORMANCE INDEX 6
NORS BACKORDERS > 90 DAYS OLD / NEW NORS REQUISITIONS

MICOM	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.65	0.69	0.36	0.35	0.81	0.53
ASF	1.40	1.39	0.67	0.41	0.94	0.62
PEMA2	0.21	0.29	0.23	0.31	0.75	0.49
U.S. ONLY	0.51	0.51	0.24	0.29	0.54	0.39
ASF	1.12	0.99	0.34	0.33	0.53	0.41
PEMA2	0.19	0.26	0.20	0.26	0.58	0.39
IL ONLY	5.66	11.05	13.42	6.71	22.24	6.47
ASF	6.70	9.83	14.43	4.86	27.58	6.77
PEMA2	0.00	0.00	0.00	27.48	0.00	0.00
IL PROGRAM CATEGORY						
FMS ONLY	16.23	7.02	0.00	89.47	0.00	0.00
ASF	13.09	2.86	0.00	29.75	0.00	0.00
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00
SSA ONLY	4.19	10.31	8.58	2.63	5.41	1.25
ASF	5.59	11.14	10.64	1.40	8.29	1.63
PEMA2	0.00	0.00	0.00	14.26	0.00	0.00
GA ONLY	0.00	0.00	0.00	0.00	0.00	0.00
ASF	0.00	0.00	0.00	0.00	0.00	0.00
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00

DRC	1Q76	2Q76	3Q76	4Q76	TT	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.79	0.90	0.95	0.51	0.57	0.65
ASF	0.81	0.91	1.00	0.52	0.56	0.63
PEMA2	0.65	0.89	0.68	0.48	0.70	0.86
U.S. ONLY	0.72	0.82	0.84	0.46	0.51	0.59
ASF	0.73	0.83	0.89	0.47	0.50	0.57
PEMA2	0.61	0.83	0.60	0.44	0.61	0.76
IL ONLY	16.55	10.74	15.63	17.89	31.09	8.67
ASF	17.26	11.90	14.64	16.38	37.38	9.75
PEMA2	5.65	6.80	23.76	16.68	10.88	6.35
IL PROGRAM CATEGORY						
FMS ONLY	4.91	0.78	3.34	7.39	58.75	4.18
ASF	4.75	0.71	2.96	5.81	44.04	3.10
PEMA2	0.00	0.00	0.00	0.00	235.94	13.10
SSA ONLY	14.84	32.01	48.12	26.23	29.39	13.58
ASF	15.30	36.35	58.39	27.72	40.79	17.80
PEMA2	9.26	9.68	22.86	32.08	0.00	0.00
GA ONLY	39.09	94.57	26.68	0.00	6.96	13.64
ASF	77.59	90.73	24.90	0.00	7.76	7.08
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00

(Figure A-2-B-15 Continued on Next Page)

PERFORMANCE INDEX 6
NORS BACKORDERS > 90 DAYS OLD / NEW NORS REQUISITIONS

ECOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	6.08	5.80	5.45	2.94	2.60	3.69
ASF	5.50	5.32	6.29	3.78	2.92	5.16
PEMA2	7.95	6.88	3.60	1.45	1.88	1.61
U.S. ONLY	5.81	5.86	4.96	2.77	2.50	3.61
ASF	5.23	5.14	6.11	3.56	2.81	5.01
PEMA2	7.64	6.83	3.11	1.40	1.83	1.57
IL ONLY	90.63	5.84	83.37	64.51	165.40	46.07
ASF	92.56	0.00	113.82	59.86	316.91	112.61
PEMA2	0.00	3.27	40.21	0.00	0.00	0.00
IL PROGRAM CATEGORY						
FMS ONLY	0.00	0.00	24.59	26.16	198.19	30.27
ASF	0.00	0.00	53.06	22.89	187.90	93.80
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00
SSA ONLY	59.69	10.20	244.20	0.00	146.30	0.00
ASF	63.39	0.00	0.00	0.00	230.63	0.00
PEMA2	0.00	3.01	0.00	0.00	0.00	0.00
GA ONLY	0.00	0.00	0.00	0.00	0.00	0.00
ASF	0.00	0.00	0.00	0.00	0.00	0.00
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00

TACOM	1Q76	2Q76	3Q76	4Q76	7T	1Q77
CUSTOMER CATEGORY						
TOTAL MSC	0.61	0.75	0.67	0.39	0.36	0.51
ASF	0.62	0.77	0.70	0.39	0.36	0.49
PEMA2	0.30	0.37	0.24	0.35	0.34	0.64
U.S. ONLY	0.53	0.63	0.56	0.34	0.31	0.43
ASF	0.55	0.66	0.59	0.34	0.31	0.41
PEMA2	0.21	0.26	0.17	0.26	0.25	0.47
IL ONLY	445.04	155.77	242.15	192.40	87.41	57.58
ASF	387.31	143.47	229.62	179.01	83.81	55.43
PEMA2	2454.26	0.00	0.00	115.68	0.00	0.00
IL PROGRAM CATEGORY						
FMS ONLY	0.00	0.00	0.00	0.00	0.00	0.00
ASF	0.00	0.00	0.00	0.00	0.00	0.00
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00
SSA ONLY	30.78	169.65	255.24	146.75	83.10	40.88
ASF	27.17	132.50	248.63	175.56	81.81	40.52
PEMA2	112.06	0.00	0.00	45.96	0.00	0.00
GA ONLY	0.00	0.00	0.00	0.00	0.00	0.00
ASF	0.00	0.00	0.00	0.00	0.00	0.00
PEMA2	0.00	0.00	0.00	0.00	0.00	0.00

Figure A-2-B-15

LAST PAGE OF TAB B TO APPENDIX A-2

APPENDIX A-3

COMMERCIAL DIRECT SALES (CDS)

Paragraph		Page
1	Purpose	A-3-1
2	Scope	A-3-1
3	Background	A-3-2
4	Business Trend Analysis	A-3-3
5	Export License Application Processing	A-3-5
6	Conclusions and Recommendations	A-3-9

Figure		
A-3-1	Comments on Department of State and FORDAD Reports	A-3-8
A-3-2	CDS Export License Application Evaluation Process	A-3-10
TAB A--STATISTICS ON CDS		A-3-A-1

1. Purpose. This appendix evaluates the impacts of commercial direct sales (CDS) on repair part support to US forces and the ability of DA to routinely detect these impacts.

2. Scope.

a. CDS business trends are analyzed to evaluate real or potential CDS impacts on US supply system repair parts support programs.

b. Export license application processing policies, procedures, and functional responsibilities are reviewed to determine if the US Army adequately controls this activity.

c. Improvements in applicable areas are proposed.

3. Background.

a. CDS activity had to be determined to accomplish the total requirements versus industrial capability test ESG designed for this study. Although CDS activity exists independently of the US supply system, the CDS purchaser is in "competition" with the US supply system for the same industrial base resources. If those resources are limited, the CDS purchaser could, if permitted, divert critically needed assets from US forces.

b. Understanding the current status of CDS is additionally important as it is one of the primary alternative methods an IL customer has of satisfying military equipment repair part requirements when US FMS programs are not used. If US programs are changed in a manner the IL customer does not approve of, the customer's alternatives are: to protest but continue to use FMS programs; go to a foreign producer for less technically complex parts; or, resort to CDS. Therefore, DA must have reasonable visibility of CDS and have a plan prepared to control such activity if required.

c. Foreign customers also use CDS to: buy repair parts for US weapons no longer in the active US supply system; obtain expedited delivery (usually at much higher cost) of a part also obtainable in the US system; or, purchase US equipment with special modifications. Under CDS, the US government assumes no responsibility for the quality or completeness

of material delivered. Bad customer experiences under CDS can, however, potentially impact adversely on DA security assistance objectives. Even though the US government was not involved, the IL customer still views the materials as coming from the US and not just "Acme Manufacturing."

4. Business Trend Analysis.

a. This analysis was difficult to perform due to the almost total absence of management visibility of CDS within DA. CASA and USAILCOM maintain informal case logs. These logs identify CDS export license application cases in process or processed since the start of the calendar year. No significant review by dollar value of sales, industrial commodity area, specific weapon system, or countries participating is accomplished.

b. Data analyzed in this appendix were collected as a result of special manual or machine searches of DA, DOD, and Department of State records. Due to the different baselines used by the various agencies, extensive analysis could not be made. Thus, these data were reviewed only in gross terms to generate trend comments. (39)(44)(76)

c. CDS business trend comments based on the limited analysis possible are:

(1) Total US CDS activity is significantly increasing (see Tab A, Figure A-3-A-1).

(2) Total DA CDS activity has decreased over the last 2 fiscal years (Tab A, Figure A-3-A-2).

(3) Raw material sales cases represent a small percentage of CDS dollar volume activity. Unless these cases were for very critical materials (not determinable from data), they are not likely to have challenged US industry (Tab A, Figure A-3-A-2).

(4) Repair part sales cases normally account for 75 percent or more of CDS activity on a dollar value basis. Only CY 1976 repair part sales activity showed a sharp drop (Tab A, Figures A-3-A-2 and A-3-A-3).

(5) CDS repair part activity is concentrated in sales involving the HAWK and TOW missile systems and tracked vehicle commodity category (Tab A, Figure A-3-A-4). On the surface, significant impact on US systems may be indicated. However, considering the excess industrial capacity shown in Annex B, impacts on these US weapon systems may be small.

(6) Repair part sales cases predominantly involve the major US allies in Europe and the Middle East (Tab A, Figure A-3-A-5).

(7) In overview, available data indicate CDS currently offers no dramatic challenge to the overall US industrial base supporting the US supply system. Data are not detailed enough to comment conclusively on the challenge CDS presents to the supportability of specific systems.

5. Export License Application Processing. (59)

a. Current DOD guidance in Section I of the Military Assistance Sales Manual stipulates:

> Direct purchase of US defense articles and services from US firms and manufacturers is preferred to purchases from the US government. DOD elements associated with Security Assistance will cooperate with and assist representatives of US firms in the sale of US defense articles and services to meet valid country requirements consistent with overall US foreign policy and national security objectives. (31)

b. All US commercial firms exporting defense-related goods on the US Munitions List must obtain export licenses from the Office of Munitions Control, Bureau of Politico-Military Affairs, US Department of State. Only one license is required for each total sale. It may be obtained by the firm making the sale, the US freight forwarder, or a representative of the foreign government. The actual vendors and detailed item descriptions can be easily obscured if the foreign government agent, the forwarder, or a US vendor acts as a middleman to collect many small shipments.

c. Export licenses used in conjunction with a government-to-government FMS case are automatically issued by the State Department. Export licenses needed to complete a transaction made independently between a foreign government agent and a commercial firm are not approved until each military department possibly affected by the sale evaluates

the license request and concurs that the case does not adversely impact on US military objectives. The "contractor-to-country" type sale is popularly known as a CDS, direct sale, or munitions case.

d. An export license is subject to two general limitations which act as passive program controls. First, the license is valid for only one year from date of issue. Second, total related sale activity may not exceed the dollar value entered by the applicant on the license application. Actual sales activity is monitored by US customs officials through a review of information entered on shippers' export declarations. Export declaration information is forwarded to the Office of Munitions Control, State Department, where it is consolidated in broad generic commodity categories by country on a fiscal year basis. DSAA further aggregates the State Department data and publishes it annually. No other reports on finalized CDS activity are available to the DOD community. (28)(39)

e. Export license applications enter DOD via the Strategic Trade and Disclosure Directorate, Office, Assistant Secretary of Defense (International Security Affairs) (OASD(ISA)). Cases involving DA are sent to CASA with directions to evaluate the application and return an approval recommendation in 20 days or less. If several DOD departments are involved, OASD(ISA) consolidates replies and develops a DOD position. No official procedure exists for routinely notifying DA of the final State Department disposition of the case. As a result, the DA approval

recommendation for the "nth" case is made without knowing what the cumulative impact of preceding cases may be. A record of cases processed is maintained in the foreign disclosure automated data system (FORDAD). FORDAD, unfortunately, is little more than an automated suspense file. It is not currently used to provide extensive management information. Figure A-3-1 provides comparative comments on the Department of State report and the FORDAD report. (39)(45)

f. CASA routes a standard Munitions Control Case Processing Jacket to MSC, DARCOM/USAILCOM, and DA Staff offices to collect and review information on which to base a DA approval recommendation. However, no standard baseline information is provided to MSCs with any CDS case. A recent CDS case from Israel for $5 million was identified only as involving "M113 parts" from "various suppliers." As a result of numerous inquiries from the M113 Project Manager (PM) Office, it was discovered that one of the parts was an item in critical supply for US forces being provided by a vendor who was delinquent in deliveries on a US Army contract.

g. All critical technical and supply management information and the important initial case approval recommendation are compiled at MSC level. However, standard procedures are not used at MSC level, thus creating the potential for serious oversights. The M113 case cited earlier was approved at MSC level and already forwarded to DA before the M113 PM heard of the case and intervened. As a result of the PM's intervention, DA recommended disapproval of the case.

COMMENTS ON DEPARTMENT OF STATE AND FORDAD REPORTS (39)(45)

Department of State	FORDAD
Controlled by Office, Munitions Control, Department of State.	Controlled by OASD(ISA). DA POC is Security Division, Directorate for Intelligence Operations, Office, Assistant Chief of Staff for Intelligence (OACSI).
Established in FY 72. Information from early years being revised upward due to omissions.	Established in CY 73. Prior data obtained from records search. Quality of record is improving.
Lists actual sales in broad generic commodity categories by country.	Lists license applications by broad commodity area with specific service/DOD concurrence position. Final Department of State action is not recorded.
Information Quality: Commodity categories have no special base and are not compatible with DOD FORDAD categories or Department of Commerce categories. Descriptions are very general.	Information quality: Reliable sorts cannot be made by weapon system. Items on multi-country cases cannot be stratified by country. Data on weapon systems dispersed in several generic categories reducing system visibility. Generic commodity categories are not related to any other grouping used by DA. Cases where license is obtained by country embassy obscure visibility of vendors and commodity.
Data are provided to DSAA for annual report summaries and to Congress on request.	Data provided to services quarterly. Management information summaries are not prepared.

Figure A-3-1

h. Most offices at USAILCOM and DA Staff level, except for ODCSOPS, summarily indorse the MSC recommendations unless a special item of information is known by the higher level evaluator. Figure A-3-2 summarizes the CDS evaluation process.

i. DA receives no reimbursement for the costs incurred during CDS case processing. The time and expense of all personnel involved is either charged against IL activity categories reimbursed by FMS customers, or in activity categories whose costs are absorbed by the US Army. Conservatively, based on the CY 1975 CDS cases processed by DA, at least $1.2 million in salaries was involved and over 90 man-years of effort were consumed.

j. CDS customers are obligated to reimburse the US government through the vendor for all research, development, test, and evaluation (RDTE) costs attributable to the weapon system involved. Although mention is made of this requirement on the CDS case jacket, no mechanism exists now to accomplish this reimbursement. Should repair parts in general or major subassemblies be made liable for RDTE cost recoupment, management of this area will become more important.

6. Conclusions and Recommendations. It appears current CDS impact on repair part support to US forces occurs only on an exception basis. Current CDS policies, procedures, and functional responsibilities are not adequate to safeguard DA from the exceptional adverse impacts.

CDS EXPORT LICENSE APPLICATION EVALUATION PROCESS

Processing Sequence	Responsible Office	Normal Time Consumed (Days)	Actions Completed
1	CASA	0.5 in Transit 0.5 in Transit	Prepares munitions control case processing jacket and suspense log. Forwards to USAILCOM-WFO (Washington Field Office) by courier.
2	Resource Div, Program Management Dir, USAILCOM WFO	1.0 in Office 4.0 in Transit	Controls in log for suspense purposes. Forwards to responsible MSC.
3	Various MSC Offices MSC	10.0 Max Author[a/] 4.0 in Office	Each MSC has different evaluation procedures leaving much room for oversights.
4	Resources Div, USAILCOM WFO	2.0 in Office 1.0 in Transit	Reviews MSC response to ensure processing jacket was completed. Prepares information report showing number of cases processed in CY. Cases over $1 million or with special provisions are noted in weekly office summary.
5	CASA	0.5	MSC information reviewed. Decision made if DA Staff review is required.
6	DA Staff	5.0	
6a	Office of the Deputy Chief of Staff for Research, Development, and Acquisition (ODCSRDA)	1.0	For end items, delivery date compared against SAMPAP. For parts, MSC position almost automatically indorsed. Sight check made that RDTE recoupment surcharge was mentioned on form.

(Figure A-3-2 Continued on Next Page)

CDS EXPORT LICENSE APPLICATION EVALUATION PROCESS--Continued

Processing Sequence	Responsible Office	Normal Time Consumed (Days)	Actions Completed
6b	ODCSOPS	2.0	Comments on readiness impacts if diversion from US expected. Assesses political impact. If end item, assesses if country really needs in light of US SA objectives For end items, assess training needs. Almost nothing is done for repair part cases.
6c	ACSI	1.0	Compares security classification of information entered by MSC against security classification level recipient country is authorized.
6d	ODCSLOG-DIL	1.0	Reviews other comments and usually indorses MSC position.
7	CASA	1.0	Develops DA position. Maintains case file.
.... 30 DAYS TO THIS POINT IS REASONABLE, BUT ONLY 20 ARE ALLOWED			

(Figure A-3-2 Continued on Next Page)

CDS EXPORT LICENSE APPLICATION EVALUATION PROCESS--Continued

Processing Sequence	Responsible Office	Normal Time Consumed (Days)	Actions Completed
8	OASD(ISA)	?	Prepares DOD position and sends copy to CASA.
9	State Department	?	Makes final decision on approval.
	.... NO FEEDBACK OCCURS[b]		

[a] Many cases run over maximum authorized.
[b] DOD/DA never knows if license is approved unless followup is made with State Department on a case-by-case basis.

Figure A-3-2

DA can easily achieve adequate protection from CDS impacts through implementation of select recommendations to CDS export license evaluation methods. Recommendations include:

a. Transfer responsibility for CDS case control and processing from CASA to the Directoate for International Logistics, ODCSLOG. CASA is an office of temporary charter. It should not have permanent DA Staff responsibility for a continuing operational function. ODCSLOG, on the other hand, is responsible to coordinate IL follow-on support activities. Placing CDS responsibility in ODCSLOG permits better monitoring of the customer's "total support program."

b. Set definite minimum standards for the detail and quality of information required by DA to effectively evaluate a CDS case. Present a DA position on this matter to DOD for adoption. Typical standards should require each part be identified by vendor part number, end item application, price, delivery schedule, and status of current open contracts for the part the vendor may have with DA. In addition, separate cases should be required for each vendor. This would establish better visibility of the commodity being sold, permit more "one stop" evaluations rather than requiring evaluation by several system managers, and generally improve the quality and timeliness of the evaluation process.

c. Notify DOD that formal notification must be returned to DA on final State action on the CDS case. It is impossible to make an

accurate decision on the "nth" CDS case for a part if the dispositions of the preceding cases are not known.

d. Recommend to DOD that efforts be made to require the vendor/purchaser to obtain CDS export license approval before the contract is consummated. Less political pressure would thus be created to have the case approved.

e. Establish minimum standards for MSC evaluation of the case. At the minimum, an MSC should check that each part is not in short supply for US forces. If the part is in short supply, a more detailed check of vendor delivery schedules should be made. Monitor CDS case processing time under the improved evaluation quality standards to determine if 20 days is a reasonable time to accomplish a high-quality evaluation.

f. Exploit the intelligence value of CDS case data. Procurement offices may be alerted to a potential new source. OACSI should distribute appropriate information to DIA, CIA, and the Foreign Science and Technology Center.

g. Develop safeguards to prevent US and FMS customers from absorbing costs rightly chargeable to a CDS customer. Notify DOD of the CDS costs that are now unfairly absorbed. Safeguards must also extend to positive controls for collection of RDTE recoupments. All cost documentation must be carefully validated to prevent vendors from charging DA with attempting to divert private business to FMS programs.

h. Develop a simple CDS management trend analysis to monitor CDS activity. An improvement in the quality of information and a clarification of some of the sale identification data in the FORDAD would permit early implementation of this proposal.

i. Establish plans to control specific CDS cases. Contingency plans must exist to control sales which suddenly impact on US needs and sales involving a customer who suddenly becomes involved in a conflict the US government does not want to support.

LAST PAGE OF APPENDIX A-3

TAB A

STATISTICS ON CDS

Figure		Page
A-3-A-1	CDS Business Trends	A-3-A-2
A-3-A-2	CDS Activity--FY 1976	A-3-A-3
A-3-A-3	CDS Repair Part Activity From FORDAD Report	A-3-A-4
A-3-A-4	Dollar Value of Supply Activity--CY 1976	A-3-A-4
A-3-A-5	CDS Repair Part Case Analysis From FORDAD Report	A-3-A-5

CDS BUSINESS TRENDS

Actual CDS Export Dollar Values:[a]

US Total	FY 73	FY 74	FY 75	FY 76
($1,000s)	362,026	502,165	546,554	785,000[b]
			(35% INCREASE)[c]	

Dollar Value of CDS Cases Processed by DA:[d]

DA Total	CY 75	CY 76
($1,000s)	1,167,029	877,496
	(29% DECREASE)[c]	

Number of CDS Cases Processed by DA:[d]

DA Total	CY 75	CY 76
	1,946	1,530
	(21% DECREASE)	

a/ Source: State Department and DSAA. (28)
b/ Estimated minimum.
c/ 1976 values adjusted for 6 percent inflation. (Department of Labor industrial commodities inflation rate used.)
d/ Source: CASA records.

Figure A-3-A-1

CDS ACTIVITY--FY 1976[a/]

	DA CDS Total	Raw Matl Cases	Repair Part Cases	Repair Part Cases				
				I-HAWK	TOW	Other Tank	M113	All Other[b/]
Cases Processed	1,530.0	21.0	261.0	41.0	13.0	79.0	14.0	114.0
% of Total Cases	100.0	1.0	17.0	16.0	5.0	30.0	5.0	44.0
Dollar Value	877,496.1	3,570.5	317,228.6	170,163.1	7,208.3	61,331.2	23,899.1	54,626.9
% of Total Dollar Value	100.0	0.5	36.0	54.0	2.0	19.0	8.0	17.0

a/ Information extracted from CASA CDS case log.
b/ No cases could be identified specifically for the M60 or AN/VRC-12 radio family.
c/ Only 911 of these cases reflect a dollar value. Other cases involve determinations of sales eligibility. Only 732 cases ($738,557,500) received DOD concurrence.

Figure A-3-A-2

CDS REPAIR PART ACTIVITY FROM FORDAD REPORT[a/][b/]

CY	No. of Cases	% Cases for Parts	Value of Cases	% Value for Part
70	7	43.0	19,014	25.0
71	9	22.0	31,500	100.0
72	51	65.0	602,561	96.0
73	65	48.0	247,162	83.0
74	86	53.0	416,653	72.0
75	274	87.0	351,138 (151,138)[c/]	43.0 (99.7)[c/]
76[d/]	134	81.0	106,197	65.0

a/ OASD(ISA) Foreign Disclosure Automated Data System.
b/ Only HAWK, TOW, M60, M113, and AN/VRC-12 data were extracted.
c/ Figure in parentheses excludes one $200 million HAWK end item case.
d/ Data are current up to October 1976.

Figure A-3-A-3

DOLLAR VALUE OF SUPPLY ACTIVITY--CY 1976
($1,000s)

	US Supply System[a/]	CDS[b/]	% of US Value
HAWK	143,845	170,163	118
TOW	15,484	7,208	47
M113	41,753	23,899 (13,899)	57 (33)

a/ Source: MILSTEP.
b/ Source: CASA CDS records. Two M113 cases for $5 million each were disapproved.

Figure A-3-A-4

CDS REPAIR PART CASE ANALYSIS FROM FORDAD REPORT[a/]

Data Elements Compared	Remarks
Total dollar activity to repair part case activity, CY 70-Oct 76	Over 75 percent of sales value was for repair parts (e.g., $1.34 billion)
Repair part cases to geographic sales area, CY 70-Oct 76	Over 94 percent of cases involved the Middle East and Europe
Repair part sales dollar value to geographic sales area, CY 70-Oct 76	Over 98 percent of sales dollar value involved the Middle East and Europe
Total cases to repair part cases with DA objection, CY 70-Oct 76	During this period most cases involved the HAWK (251 cases at $1.1 billion) and the Tank (122 cases at $87 million) with objections made to only one case for $30,000

a/ Only HAWK, TOW, M60, M113, and AN/VRC-12 cases were extracted.

Figure A-3-A-5

LAST PAGE OF TAB A TO APPENDIX A-3