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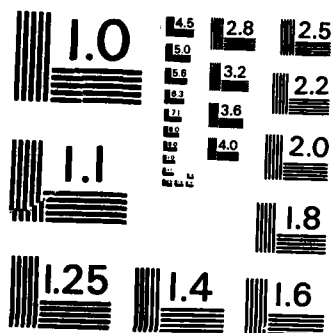
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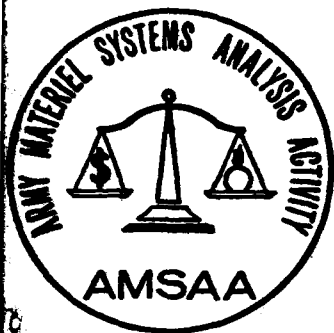
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TECHNICAL REPORT

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UNIT MATERIEL FIELDING POINT
EUROPE

OCTOBER 1985

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U. S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
LOGISTICS STUDIES OFFICE
FORT LEE, VIRGINIA 23801

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Authorized stockage list and prescribed load list materiel lines are consolidated by AMC into unit level packages for transfer to gaining commands under the Total Package/Unit Materiel Fielding concept. This consolidation is performed at Unit Materiel Fielding Points collocated at Red River Army Depot, Sharpe Army Depot and New Cumberland Army Depot (NCAD). This report reviewed the costs and benefits of establishing a UMFP capability in Europe. The report concluded that the UMFP for Europe fieldings should be retained at NCAD. (Range 1000)		

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EUROPE

LOGISTICS STUDIES OFFICE
PROJECT NUMBER 068

TECHNICAL REPORT
OCTOBER 1985

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CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vi
1. INTRODUCTION	1
2. TOTAL PACKAGE/UNIT MATERIEL FIELDING CONCEPT	5
3. APPROACH	11
4. FACILITY COSTS	15
5. OPERATING COSTS	27
6. TRANSPORTATION COSTS	31
7. DISCREPANCY COSTS	35
8. OTHER FACTORS	39
9. FINDINGS, CONCLUSIONS, AND RECOMMENDATION	43
GLOSSARY	46
APPENDICES	
A. Data Calls	47
B. Item Weight/Cube/Price Analysis	117
C. Facility Cost Analysis	175
D. Operating Cost Analysis	183
E. Transportation Cost Analysis	193
F. Discrepancy Cost Analysis	205
G. Tasker and Study Plan	217
DISTRIBUTION LIST	225



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LIST OF TABLES

<u>Table No.</u>		<u>Page</u>
1	Europe Workload Data	16
2	Annual Workload Forecast	17
3	Storage Time Distribution	18
4	Stratification of Lines by Storage Category (Median Values)	19
5	Stratification of Lines by Storage Category (Mean Values) .	20
6	New Facilities Requirements	23
7	Facilities Cost	25
8	Operating Workload	28
9	Personnel Task Matrix	29
10	Manhours	29
11	Personnel Operating Costs	30
12	Transportation Costs	33
13	Discrepancy Costs	38
14	Workload Projections by Staging Site	40
15	Historical Workload of UMFP at NCAD	40
16	Cost Comparison (In Million Dollars)	43

UNIT MATERIEL FIELDING POINT - EUROPE

Chapter 1. INTRODUCTION

1. Background.

a. In 1980, the Army Materiel Systems Analysis Activity (AMSAA) participated in an Army Materiel Command (AMC) sponsored study which recommended the establishment of a Package Processing Point (PPP) at New Cumberland Army Depot (NCAD). The PPP was the name given to a facility that would consolidate authorized stockage and prescribed load list items into a single package for shipment to unit level users. The concept was implemented and PPPs were established at Sharpe Army Depot (SHAD), Red River Army Depot (RRAD), and at NCAD.

b. In October 1984, staff officers at AMC-Europe (AMC-E) suggested that the functions performed by the PPP could be done in Europe thus eliminating double handling of the materiels. Letter, AMC, AMCSM-PSP, 13 February 1985, subject: PPP-Europe, tasked AMSAA to identify the costs and benefits of establishing a PPP in Europe.

2. Problem Statement. To determine the costs and benefits associated with the establishment of a Package Processing Point in Europe.

3. Objectives.

a. To identify the costs of establishing a Package Processing Point, now termed a Unit Materiel Fielding Point (UMFP), in Europe.

b. To identify the benefits of establishing a UMFP in Europe.

c. To compare the costs and benefits of establishing a UMFP in Europe with the costs and benefits of retaining an existing UMFP at NCAD.

4. Limits and Scope.

a. The analysis will be limited to equipment and supplies distributed under the Total Package/Unit Materiel Fielding (TP/UMF) process.

b. Projected UMFP workload will cover the time period 1 July 1985 through 30 June 1987. The projections will be based on data maintained and updated by the Depot Systems Command (DESCOM).

c. The analysis will be limited to a review of the NCAD UMPF and fieldings to Europe.

d. The analysis will not address fieldings of classified materiel.

5. Assumptions. The following assumptions were used in the study:

a. That repair parts (class IX) shipments from the Continental United States (CONUS) to a UMFP located in Europe would be by airline of communication (ALOC).

b. That class IX shipments to Europe from the UMFP at NCAD will be by surface transportation.

c. That percentages of lines by storage category, average weights, and average cubes will approximate those found in 1984 shipments.

d. That the discrepancy rates reported by DESCOM in FY 84 will approximate discrepancy rates of future years.

e. That tasks performed by personnel of the UMFP, the staging sites, and the hand-off points will remain those as described in DA Circular 700-85-2 dated June 1985.

f. That the AMC staging sites in Europe will continue to be located at Mainz and Friedrichfeld.

6. Methodology.

a. Data gathering techniques. This study will use site visits, literature searches, interviews, and letter requests to obtain data.

b. Data. Data will include requisition counts, weights, cubes, prices, labor costs, transport costs, discrepancy costs, work standards, and qualitative factors. Data will be acquired in hard copy and magnetic tape formats.

c. Data sources. The sources will include the Logistics Control Activity (LCA), Depot Systems Command (DESCOM), NCAD, Packaging, Storage, and Containerization Center (PSCC), AMC-Europe (AMC-E), AMC, and the Materiel Readiness Support Activity (MRSA).

d. Data analysis. Among the techniques to be used are statistical sampling, point estimation, forecasting, and confidence interval estimation. Data will be processed on a Burroughs B6800 main frame and a Hewlett Packard 125 micro-computer using Fortran, BMDP¹, and VISICALC software².

7. Findings and Conclusions.

a. Europe lines account for only 50 percent of NCAD-UMFP workload.

b. The current TP/UMF system fosters multiple handling processes, such that surveillance costs exceed discrepancy cost avoidances.

c. The establishment of Europe UMFP facilities will result in operational savings only when collocated at the staging site. These same savings can be realized by eliminating redundant handling under the current system.

d. Qualitative conditions exist which inhibit operation of Europe facilities.

8. Recommendations. That the UMFP for Europe remain at NCAD.

¹BMDP is a statistical software package developed and distributed by the University of California at Los Angeles.

²VISICALC is a trademark of a spread sheet software developed by Personal Software, Inc.

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Chapter 2. TOTAL PACKAGE/UNIT MATERIEL FIELDING CONCEPT

1. General.

a. Under the current TP/UMF system, the AMC fielding commands develop proposed materiel requirements which include the following items: the end item/weapon system, the associated support items of equipment (ASIOE), the test, measurement and diagnostic equipment (TMDE), the special tools and test equipment (STTE), and repair parts. These materiel requirements are identified by the fielding command in the Materiel Fielding Plan (MFP). The MFP is forwarded to the gaining Major Command (MACOM) for review. After its review, the gaining command prepares a Mission Support Plan (MSP) which describes how the gaining command will support the end item and which identifies unique support items. Next, using the MSP and MFP, the fielding command develops a materiel requirements list (MRL). The MRL identifies all items that are to be part of the total package of support equipment. It is furnished to the gaining command prior to the convening of a joint coordination meeting between the fielding and gaining commands. Once the MRL is mutually agreed to by both parties, the fielding command begins the requisitioning of all items. AMC provides a copy of the requisitions for authorized items to the gaining command.

b. Class IX items and a starter set of technical publications are routed to the UMFP for consolidation into unit-configured packages. The fielding command monitors the package fill status to determine when an acceptable level of spares/repair parts is available. At least one of each item identified with an essentiality code of C must be present. A code of C identifies repair parts that are essential to the operation of the end item. If the part fails, the end item cannot perform. The item quantities (depth) are negotiated between

the fielding and gaining commands. Breadth and depth (ranges and quantities) are negotiated for items with essentiality codes of D, E, and J. Code D identifies parts which are not essential to the operation of the end item but which are needed for the safety of the operator. Code E items are needed to meet legal or climatic requirements. Code J identifies parts for which replacement may be postponed.

c. Once an acceptable percent fill status is achieved, the fielding command alerts the UMFP and the gaining command to establish a hand-off date. The fielding command then initiates action to ship the parts package, the end items, the TMDE, the ASI OE, and other support equipment to a staging site. At the staging site, the total package is consolidated, inspected, and tested. After the fielding command verifies that the requirements for the fielding are complete, a joint inventory is performed with the gaining command and the materiel is transferred at a hand-off point, which may or may not be the staging site.

2. Description of NCAD UMFP.

a. The Army operates three UMFPs to support equipment fieldings. These are collocated at the area oriented depots of Sharpe, Red River, and New Cumberland. The New Cumberland UMFP supports fieldings to Europe as well as a portion of CONUS. Although operations at all of the UMFPs are similar, the following descriptions are based on those at NCAD.

b. The tasks performed at the UMFP can be classified into three functions: receiving, storing, and packaging. Class IX materiel is received from general storage locations at NCAD and from outside activities. Personnel perform an initial cursory review to detect damaged packages. Damaged items are returned to general storage for replacement. Next, transaction cards are created by an automated data processing system. A transaction known as a "BAY" card is

transmitted via the Department of Defense Automatic Address System (DAAS) to the Logistic Control Activity for entry into the Logistic Intelligence File (LIF). The LIF provides management visibility of TP/UMFP fieldings. The "BAY" card is evidence that materiel has been received at the UMFP. By monitoring the LIF, personnel of the fielding command are continually aware of the percent of fill.

c. Individual lines of materiel are segregated at the receiving point by project code and address code into three storage categories: bin, rack, and bulk. The project code identifies the end item or weapon system which a line supports. Unique project codes are established by the fielding command for each weapon system that is fielded. The address code identifies the organization in the gaining command which will receive the weapon system. This code is provided to the fielding command by the gaining command.

d. Lines which weigh less than or equal to 70 lbs and which are less than or equal to two cubic feet are selected for bin storage and are placed in plastic trays similar to milk carton containers. These trays proceed over rollers to an entry clerk, who enters the project code and address code into a computer terminal which identifies a predetermined storage location. The tray then proceeds along the roller track until it stops at the prescribed location. Then an employee stands at the end of a row of bins which are moving along a carousel. As the employee reads the location from the package and enters the location code into an entry device, the carousel rotates until the proper bin stops in front of the employee. The employee removes the item from the tray and places it into a storage bin which is marked with the project code and address code of the intended shipment.

e. Lines which exceed maximum binnable size (i.e., greater than 70 pounds or greater than 2 cubic feet) but are less than or equal to 2500 pounds and 40 cubic feet are placed in rack storage. Lines destined for rack storage are placed on a driver-less materials-handling machine that follows a buried electrical track to the storage location. Personnel remove the packages and place them in storage by project code and address code.

f. Lines weighing greater than 2500 lbs or larger than 40 cubic feet are placed in bulk storage. These lines are moved by cart or forklift to a general storage area.

g. The fielding command continuously monitors the fill rate of each package. When the fielding and gaining commands agree upon the appropriate percent of fill, the fielding command issues a release message to the UMFP. The release message identifies the staging site and the required delivery date. After receipt of the release message, personnel of the UMFP move the individual lines from the storage locations to a packaging area within the UMFP. A computer program produces a packing list of items which are to be included in the package. Checking off items from the list as they proceed, personnel remove the items from their storage containers and place the items into a multi-wall carton. After all items have been placed into this carton, the packer adds a starter set of technical publications to the package; marks the exterior with the project code, address code, and weapon/end item designator; and ships the item to the containerization point for forward movement. A "BAZ" transaction is transmitted through the DAAS to update the LIF and to alert the fielding command of completed actions by the UMFP.

3. Description of the Staging Site.

a. Within CONUS the staging sites and hand-off points are usually located at the installation of the gaining unit. In Europe, AMC has established staging

sites at Mainz Army Depot, at Friedrichsfeld, and at Seckenheim. The Seckenheim facility handles fieldings of classified items. AMC has also used facilities at Vilseck and other USAREUR controlled sites for staging.

b. The tasks performed by a staging site can be classified into three functions: receiving, storing, and issuing. Personnel of the staging point receive and inspect end items, ASIOE, TMDE, STTE, as well as the unit-level packages of class IX items prepared by the UMFP. Receiving personnel open the unit-level packages, inventory the packages by comparing the contents against the packing list down to the unit pack, repackage the contents, and reseal the container. Any discrepancies or damaged material is reported to the fielding command for the preparation of discrepancy reports. Personnel of the staging point also send "B8S" cards through the DAAS to update the LIF with notification of materiel receipts. The total time authorized between materiel receipt at the staging point and LIF update is three days.

c. Materiel is stored at the staging site by project code and address code. The maximum amount of time in storage should not exceed 35 days.

4. Description of the Hand-Off Process. The fielding and the gaining commands are responsible for the joint inventory and the transfer of materiel. The fielding command, the gaining command, and the staging site jointly agree on the date for the inventory and transfer. The hand-off team and gaining command open each unit-level package and remove the packing list, which is compared with the customer documentation and any discrepancies are noted. Next, personnel remove individual items from the unit-level package and compare the item to the packing list. If the contents match, personnel send a "D8S" card to DAAS to close out the document record and to update the LIF. If the contents do not match, the hand-off team notes the discrepancy and prepares the necessary

documents to correct the error. Each end item or weapon system is checked to insure that the basic issue items and major components are present. STTE, TMDE, and ASIOE are also inspected. After completion of the review, representatives from the gaining and fielding commands endorse a joint inventory form which signifies that accountability for the end item or weapon system has been transferred.

Chapter 3. APPROACH

1. Methodology. The completion of this study required answers to the following questions:

- a. What are the costs of establishing a UMFP in Europe?
- b. What are the benefits of establishing a UMFP in Europe?
- c. How do the costs and benefits of a European UMFP compare with the costs and benefits of retaining a UMFP at NCAD?

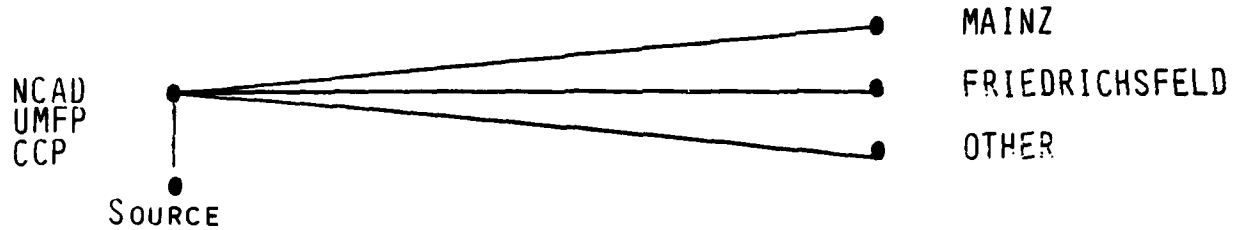
Four categories of costs were reviewed: facility, operating, discrepancy, and transportation. Discussions with the study sponsor and other functional representatives focused the analysis on three alternatives. The first, Alternative A was to retain the UMFP at NCAD. The second, Alternative B, was to establish a central UMFP in Europe. The third, Alternative C, was to establish UMFP facilities at the AMC controlled staging sites of Mainz Army Depot (MZAD) and Friedrichsfeld and to retain some operations at NCAD for those end item fieldings not processed through AMC controlled staging sites. Figure 1 displays these three alternatives under analysis.

2. Data. Required data included workload measured in lines processed per year, storage time in days, weights and cubes per line, lines by storage category, lines by command, and staging site and cost factors.

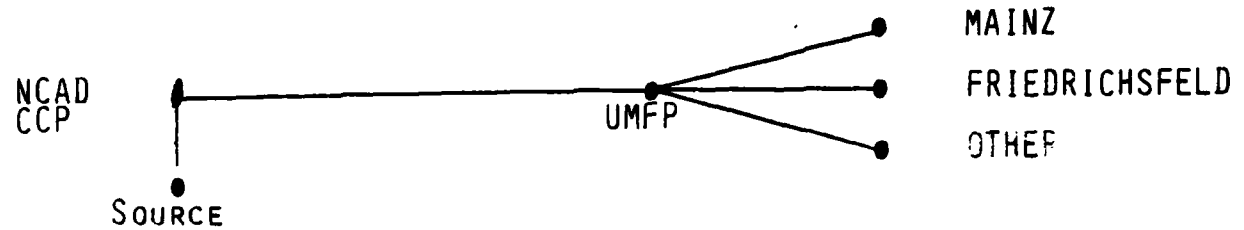
3. Data Sources.

- a. DESCOM and LCA provided workload information.
- b. LCA provided information on weight and cube.
- c. LCA provided price information.

ALTERNATIVE A - NCAD UMFP



ALTERNATIVE B - EUROPE UMFP



ALTERNATIVE C - NCAD & STAGING SITES UMFP

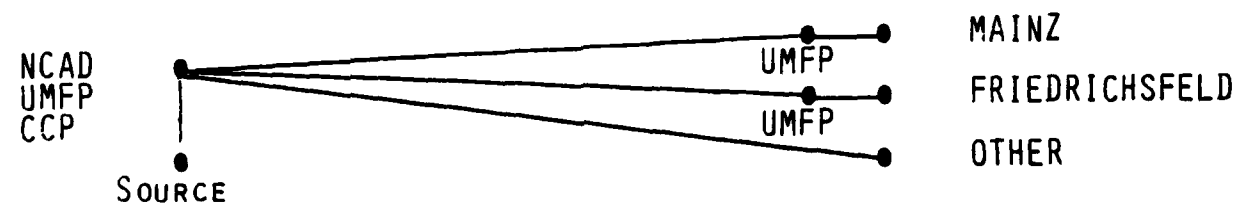


Figure 1. Alternatives

- d. PSCC provided storage and discrepancy data.
 - e. The Corps of Engineers (COE), PSCC, and AMSAA provided cost factors.
 - f. NCAD, AMC-E, MZAD, DESCOM, and MRSA provided qualitative data used in evaluating benefits and operating procedures.
 - g. The study also used DA Circular 700-85-2, TP/UMF Policies and Procedures and other publications for source data.
4. Data Analysis. A detailed discussion of each cost category, including data, analysis, and preliminary findings are presented in the following chapters.

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Chapter 4. FACILITY COSTS

1. General. Facility costs are directly related to the size of the building and to the types of equipment needed. Facility size is a function of anticipated workload, anticipated storage time, and anticipated storage item characteristics (i.e., weight and cube).

2. Data. Data used in the study included measures of workload, of storage times, of item sizes, and of costs.

a. Workload data consisted of a forecast measured in number of lines processed.

b. Storage times consisted of a forecast measured in number of days.

c. Item sizes consisted of percentages, weights, and cubes by storage category.

d. Cost tables consisted of dollar estimates for square feet of storage.

3. Data Sources. There were several sources for the data.

a. Workload forecasts were obtained from DESCOM and from LCA. Each quarter DESCOM hosts a conference with participation by each fielding command and by AMC-Europe. The purpose of the conference is to develop workload forecasts for TP/UMF fieldings for a two-year period. The projections used in this analysis were developed at the conference held in April 1985. Historical data maintained in the LIF was obtained for FY 83, FY 84 and for the first two quarters of FY 85. Data were requested by the letter at Appendix A.

b. Storage time data were obtained from LCA. LCA maintains a data base which tracks events by individual lines for TP/UMF requirements. Data were requested by letter at Appendix A.

c. Item sizes were obtained from LCA (See Appendix A).

d. Facility size and cost estimates were obtained from PSCC and the COE. The PSCC provided the data needed to convert workload forecasts into physical requirements. The COE provided the information needed to assign costs to space requirements.

4. Processing Techniques.

a. Workload forecasts received from DESCOM and historical workloads received from LCA are depicted in Table 1.

TABLE 1. Europe Workload Data

COMMAND	FY 83	FY 84	FY 85	FY 86
AMCCOM	0.3	0.4	1.2	7.1
AVSCOM	2.6	0.3	3.4	2.4
CECOM	24.2	25.1	28.4	25.6
MICOM	5.9	18.7	7.4	44.9
TACOM	16.7	18.1	22.8	24.2
TROSCOM	4.6	0.7	0.1	0.5
TOTAL	54.3	63.3	63.3	104.7
(Expressed in thousands of lines)				

Information from Table 1 was used to develop a mean annual workload measured in number of lines. The computations can be stated algebraically with the following notation:

$$\bar{L} = L_T + 4 = \left[\sum_{j=1}^4 \sum_{i=1}^6 L_{ij} \right] \left[1/4 \right]$$

where:

- $\bar{L}$ = mean number of lines processed to Europe per annum.
- L_T = total lines processed by all commands in FY83, FY84, FY85, and FY86.
- L_{ij} = lines processed by fielding command i in fiscal year j .
- $i = \{ \text{AMCCOM, AVSCOM, CECOM, MICOM, TACOM, TROSCOM} \}$
- $j = \{ \text{FY83, FY84, FY85, FY86} \}$

Applying this formula to Table 1, the mean number of lines per annum, $\bar{L}$, was computed at 71,400, with a standard deviation, s , of 22,600. To account for the relatively small sample size (4 years of data) and significant variability of $\bar{L}$, an upper confidence limit was placed on $\bar{L}$ using the 90% student "t" value of 1.63 as shown below:

$$\begin{aligned}\text{Workload (W)} &= \bar{L} + (1.63 * s) \\ &= 108,200 \text{ lines per annum.}\end{aligned}$$

This value of 108,200 should accommodate 90 percent of potential workload.

Next, this projected workload was apportioned among the fielding commands and staging sites based on simple percentages in the raw data. For example:

$$W_i = (W) (L_i/L_T)$$

where:

- W_i = projected annual workload for command i
- L_i = total lines processed by command i in FYs 1983-1986
- L_T = total lines processed by all commands in FYs 1983-1986

Results are tabulated in Table 2 below. See Appendix A, pages 75-76 for forecasted workload by fielding command. See pages 92-104 for staging site data.

TABLE 2. Annual Workload Forecast

FIELDING COMMAND	TOTAL LINES	STAGING SITES		
		MAINZ	FRIEDRICHSFELD	OTHER
AMCCOM	3.4	3.4	0	0
AVSCOM	3.3	0	0	3.3
CECOM	39.1	0	39.1	0
MICOM	29.1	0	7.0	22.1
TACOM	31.0	10.8	0	20.2
TROSCOM	2.3	0	2.3	0
TOTAL	108.2	14.2	48.4	45.6
(EXPRESSED IN THOUSANDS OF LINES)				

b. Storage times were obtained from LCA. Storage times were separated into two segments. The first segment involves storage time at the UMFP. This consists of the time elapsed from the date that a line is received at the UMFP until the date the materiel is shipped from the UMFP. The second time segment involves the storage time at the staging site. It consists of the the time elapsed from the date the materiel is received at the staging site to the date the materiel is delivered to the gaining command. Storage times are depicted at Table 3.

TABLE 3. Storage Time Distribution

DAYS	UMFP LINES		STAGING SITE LINES	
	PERCENT	CUM PERCENT	PERCENT	CUM PERCENT
0 -55	16	16	92	92
56-111	45	61	7	99
112-167	24	85	1	100
168-223	4	89	0	100
224-279	8	97	0	100
280-335	0	97	0	100
336-391	1	98	0	100
392-447	1	99	0	100
448-503	1	100	0	100
504<	0	100	0	100

Mean storage time per line at UMFP is 112 days (Ref App A, pp 54-60).
Mean storage time at staging site is 29 days.

c. Item sizes were developed from information received from LCA. LCA provided magnetic tapes which contained a record of all class IX shipments made in 1984. The tapes included the following data elements: shipping command, item price, item weight, item cube, and line quantity. The data was downloaded and segregated into separate files by shipping command. Extended prices,

extended weights and extended cubes were computed. The data was further subdivided into three categories of storage for each fielding command: bin, rack, and bulk. Bin storage lines are those lines which weigh less than 70 pounds and occupy less than 2 cubic feet of space. Rack storage lines exceed bin standards (greater than 70 pounds or 2 cubic feet) but stay within rack standards (less than 2500 pounds and 40 cubic feet). Bulk storage lines are those weighing more than 2,500 pounds or those occupying more than 40 cubic feet. The result of the storage analysis is shown in Tables 4 and 5. Detailed analysis is at Appendix B.

TABLE 4. Stratification of Lines by Storage Category
(Median Values)

MEDIAN VALUES									
FIELDING COMMAND	BIN			RACK			BULK		
	PER CENT	MEDIAN CUBE	MEDIAN WEIGHT	PER CENT	MEDIAN CUBE	MEDIAN WEIGHT	PER CENT	MEDIAN CUBE	MEDIAN WEIGHT
AMCCOM	91	0.04	0.85	8	4.45	74.5	1	71.63	634.5
AVSCOM	86	0.12	1.74	12	4.69	41.1	2	78.36	640.0
CECOM	90	0.05	1.15	10	3.59	100.0	0	0	0
MICOM	85	0.12	1.40	13	4.49	57.5	2	53.43	384.0
TACOM	68	0.19	5.32	28	5.05	106.4	4	95.20	2336.0
TROSCOM	87	0.27	1.96	12	6.00	80.0	1	68.84	593.5
Volume measured in cubic feet. Weight measured in pounds.									

TABLE 5. Stratification of Lines by Storage Category
(Mean Values)

FIELDING COMMAND	MEAN VALUES								
	BIN			RACK			BULK		
	PER CENT	MEAN CUBE	MEAN WEIGHT	PER CENT	MEAN CUBE	MEAN WEIGHT	PER CENT	MEAN CUBE	MEAN WEIGHT
AMCCOM	91	0.19	4.13	8	7.20	113.03	1	115.76	1429.0
AVSCOM	86	0.29	3.99	12	7.37	74.74	2	115.83	832.0
CECOM	90	0.19	5.31	10	5.58	209.88	0	0	0
MICOM	85	0.24	3.35	13	7.36	89.26	2	84.34	479.0
TACOM	68	0.39	11.11	28	8.34	198.72	4	156.79	4218.0
TROSCOM	87	0.12	5.23	12	9.24	123.51	1	112.38	1120.0
Volume measured in cubic feet. Weight measured in pounds.									

d. Facility sizes and costs were developed using expert opinions and published cost tables. A visit was made to the AMC PSCC at Tobyhanna Army Depot (TOAD) where personnel were able to convert workload and storage category data into space requirements. The process of conversion is described below.

(1) Bin Storage. Space requirement for bin storage can be considered a function of the number of lines processed, package size, the number of packages stored, and storage time. These relationships are expressed below in semi-notational form with "i" representing fielding command (i.e.; i = 1 = AMCCOM, 2 = AVSCOM, 3 = CECOM, 4 = MICOM, 5 = TACOM, 6 = TROSCOM). Step-by-step calculations are:

- (a) Binnable lines per annum (BL_i) = $W_i * PB_i$,
- (b) Binnable lines per period (BP_i) = $BL_i * S$,
- (c) Packages per annum (PK_i) = $BP_i + LP_i$,
- (d) Cubic feet per package (CP_i) = $LP_i * CL_i$,
- (e) # of bin openings per package (BOP_i) = $CP_i + 5.25$, rounded up to next highest integer value,

$$(f) \text{ \# of bin openings (BO) } = \left[\sum_{i=1}^6 (BOP_i * PK_i) \right] \div .85,$$

$$(g) \text{ \# of bin aisles (BA) } = BO \div 4 \div 32,$$

$$(h) \text{ Bin storage area in square feet (SB) } = BA * 7 * 68.$$

where:

CL = Cubic feet per binnable line (see Tables 4 and 5).

LP = Lines per package.

PB = Percent of lines that are binnable (see Tables 4 and 5).

S = Storage time expressed as a fraction of a year (see Table 3).

W = Projected annual workload in lines (see Table 2).

.85 = Efficiency factor (from PSCC).

4 = \# of openings per vertical bin section.

5.25 = Usable cubic feet of space per bin opening. Based on bin size of 36" x 18" x 20" at 70% fill efficiency.

7 = Effective bin aisle width. Based on two back-to-back bin shelves plus a 4-foot work aisle.

32 = \# of vertical bin sections (columns) per aisle. Based on 48-foot long bin aisles with two back-to-back bin rows per aisle and 3-foot wide bin sections.

68 = Effective bin aisle length. Based on 48-foot long bin aisles plus two turning aisles at 10 feet each.

(2) Rack Storage. Space requirement for rack storage can be treated as a function of the number of rackable lines by command and storage times. Calculation notation is shown below with "i" representing fielding command. Note that this assumes one line per pallet and one pallet per rack opening.

$$(a) \text{ Rackable lines per annum (RL}_i\text{) } = W_i * PR_i,$$

$$(b) \text{ Rackable lines per period (RP}_i\text{) } = RL_i * S,$$

$$(c) \text{ \# of rack openings (RO) } = \left[\sum_{i=1}^6 RP_i \right] \div .85,$$

$$(d) \text{ \# of rack aisles (RA) } = RO \div 4 \div 60,$$

$$(e) \text{ Rack storage area in sq feet (SR) } = RA * 16 * 155.$$

where:

PR = Percent of lines that are rackable (see Tables 4 and 5).

S = Storage time expressed as a fraction of a year (see Table 3).

W = Projected annual workload in lines (see Table 2).

.85 = Efficiency factor (from PSCC).

4 = \# of racks per column.

16 = Effective rack aisle width. Based on two back-to-back 4-foot deep racks plus an 8-foot forklift aisle.

60 = # of rack columns per aisle. Based on 135-foot long rack aisles with two back-to-back rows per aisle and 4.5-foot wide rack openings.
 155 = Effective rack aisle length. Based on 135 feet of racks plus two turning aisles at 10 feet each.

(3) Bulk Storage. This storage area is required for oversized (larger than pallet) items. It is a function of the number of bulk lines processed, the time in storage and storage conversion factors as explained below. Again, "i" represents fielding command.

(a) Bulk lines per annum (KL_i) = $W_i * PK_i$.

(b) Bulk lines per period (KP_i) = $KL_i * S$.

(c) Tons per annum (T_i) = $KP_i * WGT_i \div 2000$.

(d) Bulk storage area in sq ft (SK) = $\sum_{i=1}^6 (T_i * ST_i) \div V_i$.

where:

PK = Percent of lines that are bulk in nature (see Tables 4 and 5).
 S = Storage time expressed as a fraction of a year (see Table 3).
 ST = Square feet per ton (from DESCOM 328 report).
 W = Projected annual workload in lines (see Table 2).
 WGT = Weight per line in pounds (see Tables 4 and 5).
 V = Net-to-gross variance (from DESCOM 328 report).

(4) Other Space Requirements. The amount of other space requirements includes office/toilet space, receiving and shipping space, and conveyer receiving to bin area. These were calculated as follows (in square feet):

(a) conveyor space (SC) = 1000.

(b) Receiving and shipping space (SS) = $.10 * (SB+SR+SK)$.

(c) Office space (SO) = $.05 (SB+SR+SK)$.

where:

SB, SR, SK = Storage space requirements for binnable, for rackable, and for bulk lines respectively.

(5) Total Space. Using previous notation, the total space requirements were computed as follows: Total Space (ST) = $SB+SR+SK+SC+SS+SO$. Results of space computations, by fielding command are at Appendix C.

e. Using VISICALC software, a program was developed to compute facility sizes for the various alternatives using mean and median weight/cube values and varying time factors. Since the data of the weights/cubes were extremely positively skewed, the mean (median) values were used to develop high (low) estimates. Storage times also varied. At central sites such as NCAD and central Europe it was assumed that storage times for unit level packages would approximate the mean value of 112 days (see Table 3). At sites where the UMFP would be collocated with the staging point, it was assumed that the storage time would equal the 112 days for the existing UMFP plus the 29 days for the staging point or 141 days total. Data used in the sizing process can be located in the following tables:

Table 2. Workload in Annual Lines by Staging Site and Fielding Command

Table 3. Storage Times

Tables 4&5. Percent Binnable, Rackable, and Bulk Lines; Cubes and Weights
Results of the sizing process are depicted below in Table 6. Individual analyses are attached at Appendix C.

TABLE 6. New Facilities Requirements

ALTERNATIVE	UMFP LOCATION	ESTIMATED WORKLOAD IN LINES	SQUARE FEET REQUIRED	
			(Low Estimate)	(High Estimate)
A	NCAD	108,000	EXISTING FACILITY	EXISTING FACILITY
B	CENTRAL EUROPE	108,000	93,876	103,981
C	MAINZ	14,200	25,672	29,972
	FRIED	48,200	31,301	31,407
	NCAD	45,600	EXISTING FACILITY	EXISTING FACILITY

f. Equipment requirements were developed and costs were provided by PSCC. The equipment included racks, bins, conveyers, vehicles, and carts. The following equipment was considered necessary for each alternative:

- (1) Conveyor between receiving point and bins at a cost of \$95,000.
- (2) Two vehicles to move materiel to racks at a cost of \$45,000 each for a total of \$90,000.
- (3) Eight carts at \$1,000 each for a total of \$8,000.
- (4) The cost of bins was determined by multiplying the number of bins and their unit cost of \$170 each. The number of bins was derived by the formula described in paragraph 3d(1) above.
- (5) The number of racks equaled the number of total openings as determined by the results of the computations described in paragraph 3d(2) above. Each rack cost \$60.

g. Next, COE was contacted to obtain cost estimating factors for the facility. The COE supplied a publication entitled Engineering Improvement Recommendation System Bulletin 85-02 dated 31 July 1985. This publication provided a dollar cost per square foot, overhead rates, and area cost rates. These factors were used in following function:

$$\text{Total Cost (TC)} = (\text{ST} * \text{CS} * \text{CF} * \text{OH}) + \text{CE}$$

where:

TC = Total cost.
ST = Total square feet.
CS = Cost per square foot.
CF = Cost factor for Europe expressed as percent of US costs (.96).
OH = Overhead rate for engineering and administration (1.05).
CE = Cost of equipment.

The total cost of facility and equipment are depicted in Table 7. Facility sizes and costs were developed for each alternative. To review, Alternative A

is to retain the existing UMFP at NCAD. Alternative B is to establish a single UMFP in Europe to process all fieldings to Europe. Alternative C is to establish a UMFP at both Mainz and Friedrichsfeld which are AMC controlled staging sites. Lines destined for staging sites not controlled by AMC such as Vilseck will continue to be supported by NCAD.

TABLE 7. Facilities Cost

ALTERNATIVE	LOCATION	COST
A	NCAD	SUNK
B	CENTRAL EUROPE	\$4.7M (HIGH) \$4.3M (LOW)
C	MAINZ, NCAD, FRIED	\$3.0M (HIGH) \$2.9M (LOW)

5. Findings. The minimum cost alternative with respect to facility cost is Alternative A--the existing facility at NCAD where costs are sunk. The next lowest alternative is Alternative C which accommodates the construction of UMFPs at Mainz and Friedrichsfeld with the retention of some work at NCAD. The work retained at NCAD would consist of those lines destined for staging sites in Europe which are not under the control of AMC. Alternative B, which would result in the construction of a single UMFP in Europe to process all fieldings to all staging sites, is the most expensive alternative.

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Chapter 5. OPERATING COSTS

1. General. Operating costs are the labor costs associated with the operation of the UMFP and staging sites. The staging sites were included because the decision on the location of the UMFP affects their operating costs. These costs are a function of workload, labor rates and tasks. Due to the uncertainty of labor source and fluctuation in currency exchange rates, it was assumed that the labor rates in Germany would approximate those at NCAD.

2. Data. Data used in developing operating costs consist of estimated workloads, performance standards, labor rates, and tasks.

a. Estimated workload consisted of a forecast measured in lines and short tons.

b. Tasks were those actions which must be performed to process the materiel (line) at the UMFP and staging site.

c. Performance standards were hours needed to complete the required tasks.

d. Labor rates were the dollar costs per hour.

3. Data Sources. The sources of the data are described below.

a. Estimated workload was obtained from DESCOM and LCA.

b. Tasks were identified by a review of operating procedures and interviews with functional personnel.

c. Performance standards were obtained from DESCOM.

d. Labor rates were obtained from DESCOM.

4. Analysis Techniques.

a. Annual workload forecasts were developed in the manner described in paragraph 3(a) of Chapter 4. In addition to the number of lines, a measure known as short tons was also needed. The short tons were calculated by multiplying the mean and median weights for each line by the forecasted annual

number of lines. This was done for each command. The total pounds were then divided by the value 2000 pounds to derive the total short tons per year which would be processed. The equation is described below with "i" again representing fielding command:

$$TST = \frac{1}{2000} \sum_{i=1}^6 [(BL_i * BW_i) + (RL_i * RW_i) + (KL_i * KW_i)]$$

where:

TST = Total short tons per annum.

BL, RL, KL = Binnable, rackable, and bulk lines per annum respectively.

BW, RW, KW = Weight in pounds per binnable, rackable, and bulk line respectively.

The results are displayed in Table 8.

TABLE 8. Operating Workload

ALTERNATIVE	UMFP LOCATION	SHORT-TONS	
		HIGH	LOW
A	NCAD	4549	2478
B	EUROPE	4549	2478
C	MAINZ	1295	706
	FRIED	623	292
	NCAD	2631	1480

b. Tasks were defined by a review of DA circular 700-85-12, TP/UMF Policies and Procedures, of the operating manual for Friedrichsfeld staging site, and by an interview with personnel from AMC-E and the UMFP at NCAD. The tasks were then assigned to each of the alternatives. For example, under the current system an individual line is received twice. One receipt occurs at the UMFP; the second receipt occurs at the staging site. If the UMFP is collocated at the staging site the line will only be received once. A list of the tasks is provided at Table 9.

TABLE 9. Personnel Task Matrix

MANUAL TASKS	ALTERNATIVES A&B		ALTERNATIVE C	
	UMFP	STAGING SITE	UMFP	STAGING SITE
RECEIVE	X	X	X	X
INSPECT	X	X	X	
STORE	X	X	X	
INVENTORY		X		
PACK	X	X	X	
SHIP	X			

c. Performance standards were extracted from AMC report AMCSM-305 dated 30 September 1984. These standards (see Appendix D, summary tables) were applied against the workload forecasts to derive the manhours necessary to complete the mission. The equation is described below.

$$\text{Total manhours (MH)} = \sum_{j=1}^6 \text{WKLD} * \text{WSTD}_j$$

where:

WKLD = Total projected annual workload for all fielding commands, expressed either in lines (see Table 2) or in short tons (see Table 9).

WSTD_j = Work standard, by task, expressed either in hours per line or in hours per short ton.

j = { tasks | 1=receive, 2=inspect, 3=store, 4=inventory, 5=pack, 6=ship } .

The resulting manhours are displayed below in Table 10.

TABLE 10. Manhours

ALTERNATIVE	UMFP LOCATION	MANHOURS	
		HIGH	LOW
A	NCAD	100643	90084
B	EUROPE	100643	90084
C	MAINZ	9591	8589
	FRIED	25654	25092
	NCAD	45685	39818

d. Labor rates were obtained from DESCOM Report K50BBY8304, dated 30 March 1985. The labor rate per hour was \$30.33. This labor rate was multiplied by the total manhours for all tasks, thereby establishing total operating costs for each alternative. Results are summarized at Table 11 with detailed computations provided at Appendix D.

TABLE 11. Personnel Operating Costs

ALTERNATIVE	LOW ESTIMATE	HIGH ESTIMATE
A	\$3.0 MILLION	\$3.3 MILLION
B	\$3.0 MILLION	\$3.3 MILLION
C	\$2.5 MILLION	\$2.7 MILLION

5. Findings. Alternatives A&B have the same operating costs because the study assumed that the labor rates for NCAD and Europe were equivalent. To the extent that the rates differ, the costs will change. The important consideration, however, is that the manhours consumed are equivalent. Alternative C is the least costly alternative because selected tasks are precluded, thus reducing duplication of effort. Alternative C resulted in a reduction in manhours below the manhours needed for either A or B. These manhour savings could also be achieved in A and B if doctrine were modified to eliminate multiple tasks. In chapter 7 the analysis will address the impact that an elimination of selected surveillance tasks (inspect, inventory) would have on discrepancy costs.

Chapter 6. TRANSPORTATION COSTS

1. General. Under existing doctrine in DA Circular 700-85-12, TP/UMF Policies and Procedures unit level packages for class IX TP/UMF shipments must go by surface transportation. Therefore, the packages sent by the NCAD UMFP should be using water transport to Europe. A review of LCA records for shipments made in FY 85 revealed that 60 percent of the NCAD shipments from the UMFP to Europe were by air. Discussions with personnel of the NCAD UMFP advised that air transport was utilized because fielding commands were not providing sufficient advance shipment notification to permit surface transportation to meet required delivery dates. For this study, however, we assumed that surface transport would apply. Non-TP/UMF shipment of class IX items to Europe is by ALOC except for bulk lines. In completing our analysis we assumed that class IX shipments from CONUS to UMFP facilities in Europe would be by air where possible. To determine transport costs for each alternative we determined the mode, weights, and cubes which would be processed through each facility. Costs were developed by applying transport rates to the estimated workloads.

2. Data. Transportation costs are a function of mode, work load, and rates.

- a. Mode is surface (water) and/or air.
- b. Workload is expressed as the number of short tons or measurement tons processed per year.
- c. Transport rates are expressed as a dollar amount per measurement ton for water transport and as a dollar amount per short ton for air transport.

- d. Mean (median) values of weight and cube are by line by command.

3. Data Sources.

- a. LCA and DESCOM provided work load data.

b. LCA provided data used in determining the number of short and measurement tons.

c. AMSAA Report No. L-2 dated February 1985, subject: Air Line of Communications for Repair Parts and Medical Supplies, served as a source for transportation rates.

4. Analysis Techniques.

a. For alternative A, all shipments are by surface, such that,

$$TC(A) = \frac{SR}{40} \sum_{i=1}^6 [(BL_i * BC_i) + (RL_i * RC_i) + (KL_i * KC_i)]$$

b. For alternative B, only bulk shipments are by surface, such that,

$$TC(B) = \frac{SR}{40} \sum_{i=1}^6 [KL_i * KC_i] + \frac{AR}{2000} \sum_{i=1}^6 [(BL_i * BW_i) + (RL_i * RW_i)]$$

c. For alternative C, New Cumberland shipments are all by surface and Friedrichsfeld/Mainz shipments are split, such that,

$$TC(C) = \frac{SR}{40} \sum_{i=1}^6 [(BL_{ni} * BC_i) + (RL_{ni} * RC_i) + (KL_{ni} * KC_i)]$$

$$+ \frac{SR}{40} \sum_{i=1}^6 [KL_{mi} * KC_i] + \frac{AR}{2000} \sum_{i=1}^6 [(BL_{mi} * BW_i) + (RL_{mi} * RW_i)]$$

where:

- SR = Transportation rate for surface (sea) shipment.
- AR = Transportation rate for air shipment.
- BL, RL, KL = Number of binnable, rackable, and bulk lines per annum.
- BC, RC, KC = Cubic feet per binnable, rackable, and bulk line.
- BW, RW, KW = Weight in pounds per binnable, rackable, and bulk line.
- BL_n, RL_n, KL_n = Number of binnable, rackable, and bulk lines processed by NCAD UMFP under option C.
- BL_m, RL_m, KL_m = Number of binnable, rackable, and bulk lines processed by Mainz/Friedrichsfeld UMFP under option C.
- 40 = Factor that converts cubic feet into measurement tons.
- 2000 = Factor that converts pounds into short tons.

d. Transport costs were computed for each facility and summarized for each alternative. A high estimate of costs was developed using mean weights and cubes and a low estimate of costs was developed using median weights and cubes. The results are shown in Table 12. Detailed calculations are included at Appendix E.

TABLE 12. Transportation Costs

ALTERNATIVE	COST	
	LOW	HIGH
A	\$306 THOUS	\$609 THOUS
B	\$355 THOUS	\$635 THOUS
C	\$335 THOUS	\$640 THOUS

5. Findings. The total of short tons plus measurement tons are the same for each alternative. Because Alternative A assumed that the transportation of shipments would be by surface in accordance with current doctrine, it was the least costly alternative. Alternative B which assumed that ALOC would be used for all but bulk sized shipments was the next least costly alternative. Alternative C which specified the use of ALOC for shipments to Mainz and Friedrichsfeld and the use of surface transport from NCAD to other non-AMC staging sites was the most costly alternative with respect to transportation.

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Chapter 7. DISCREPANCY COSTS

1. General.

a. Shipment discrepancies are errors detected by receiving elements. Errors include conditions such as shipment of wrong items, errors in quantity (overage or shortage), errors in shipping documentation, and damaged items. These errors are reported by the user on the SF 364, Report of Discrepancy.

b. As noted in Chapter 2, class IX items issued under the TP/UMF concept undergo several screening steps. The initial screening occurs when items are received by the UMFP. A second screening occurs when the UMFP loads the class IX items into the multi-wall cartons for shipment to the staging point. A third review is made when the staging point performs its inventory against the packing list. The final review is performed during the joint inventory of gaining and fielding commands prior to hand-off.

c. Intuitively it would appear that, as more reviews which are conducted, the greater the likelihood that shipment discrepancies would be detected. Experience under the current TP/UMF process reveals the discrepant shipments are being detected and resolved at NCAD prior to material movement to Europe. During the period FY 83 - FY 85, the UMFP at NCAD detected discrepancies at a rate ranging from 0.13 to 0.23 percent of lines received. The NCAD UMFP indicated that no discrepancies were reported on shipments processed through the UMFP. In FY 84, users of normal shipments reported a discrepancy rate of 0.3 percent of lines received. This study assumed that collocating the UMFP at staging sites in Europe would result in a discrepancy rate which approximates the 0.3 per cent rate experienced for normal shipments.

d. There are two types of costs incurred with discrepancies. First, there is the cost attributed to damaged or lost items. Second, there are administrative expenses associated with the review and correction of discrepancies. Our analysis addressed both costs.

2. Data. Data used in deriving discrepancy costs included:

- a. The estimated annual workload expressed in dollars.
- b. The mean (median) dollar value per line by command and storage category.
- c. The discrepancy rates for UMFP and normal shipments.
- d. The loss rate attributed to discrepancies.
- e. The administrative cost for resolving discrepancies.

3. Data Sources.

- a. The estimated annual workload was obtained from DESCOM and LCA.
- b. The mean (median) dollar values were obtained from LCA.
- c. The discrepancy rate for UMFP shipments was obtained from NCAD; the discrepancy rate for normal shipments was obtained from PSCC.
- e. The administrative cost for resolving discrepancies was obtained from AMC.

4. Processing Techniques.

a. The estimated annual workload expressed in dollars is a function of the number of lines and the extended dollar value of the lines. It was calculated as follows:

$$D = \sum_{i=1}^6 BL_i * BD_i + \sum_{i=1}^6 RL_i * RD_i + \sum_{i=1}^6 KL_i * KD_i$$

where:

- D = Extended dollar value of annual lines processed.
- BL, RL, KL = Number of binnable, rackable, and bulk lines processed per year, respectively.
- BD, RD, KD = Dollar value per binnable, rackable, and bulk line, respectively.
- i = Fielding command.

b. The estimated materiel loss is a function of the extended dollar value of lines processed and the discrepancy rate expressed as follows:

$$ML = DR * D * LR$$

where:

ML = dollar amount of materiel losses per year
DR = discrepancy rate expressed as a per cent of total shipments (see Appendix F)
D = extended dollar value of annual lines processed
LR = loss rate expressed as a per cent of discrepant lines (see Appendix F)

c. The estimated administrative cost is based upon a rate of \$50 per discrepant line, expressed as follows:

$$\text{Administrative cost per year (AC)} = 50 * DR \sum_{i=1}^6 (BL_i + RL_i + KL_i)$$

where:

DL = number of discrepant lines received per year
DR = discrepancy rate expressed as a percent of total shipments
BL, RL, KL = Number of binnable, rackable, and bulk lines per year, respectively.
i = fielding commands

d. The total discrepancy cost is a function of materiel losses and administrative cost expressed as follows:

$$TDC = AC + ML$$

where:

TDC = total discrepancy costs
AC = administrative costs
ML = materiel losses

e. The total discrepancy costs were calculated for each alternative. High (low) estimates were developed using mean (median) dollar values per line. The results are displayed at Table 13, with detailed computations at Appendix F.

TABLE 13. Discrepancy Costs

ALTERNATIVE	TOTAL COST	
	LOW	HIGH
A	\$129127	\$212205
B	\$168427	\$276789
C	\$141372	\$236257

5. Findings. The inspection performed on items received at the UMFP results in a lower discrepancy rate and smaller dollar loss. Therefore, Alternative A which screens all UMFP shipments prior to consolidation and movement to Europe is the least cost alternative with respect to dollar value of discrepancy losses. Alternative C which retains some shipments through the UMFP at NCAD incurs less costs than Alternative B, the most costly alternative. There exists a trade-off between operating costs and discrepancy costs. The multiple surveillance tasks which exist under the current operating procedures do result in reduced discrepancy costs. It appears, however, that the savings in discrepancy cost is less than the additional operating costs incurred in reducing these discrepancies. If duplicate surveillance tasks (inspection, inventory, packing) were eliminated, operating costs would be reduced by approximately \$750,000 while discrepancy costs would be increased by about \$100,000. These savings must be compared to the non-quantifiable goodwill or confidence that users maintain with the shippers of quality packages. The additional surveillance costs may well be justified by the additional goodwill is maintained or created.

Chapter 8. OTHER FACTORS

1. General. There are factors other than costs which must be considered in the comparison of alternatives. These factors include both obstacles and inducements supporting the competing alternatives.

2. Data.

a. Procedures and operating guidance.

b. Views and comments from functional personnel. These views are commonly referred to as expert opinion.

c. Historical and projected workloads expressed in lines processed.

3. Data Sources.

a. DA Circular 700-85-2, TP/UMF Policies and Procedures, for procedures.

b. Functional representatives of AMC, AMC-E, NCAD, DESCOM, and MZAD for expert views and comments.

c. LCA and DESCOM for workload data.

4. Processing Techniques.

a. Site visits were made to DESCOM, NCAD, and PSCC, where interviews were conducted and results recorded.

b. A site visit was made to the quarterly UMFP workload conference held in April 1985. Personnel from AMC-E and MZAD were interviewed and results recorded.

c. Tasking letters were forwarded to LCA and DESCOM to obtain workload data. Results are displayed in Tables 14 & 15.

TABLE 14. Workload Projections by Staging Site

STAGING SITE	FY 1086	FY 2086	FY 3086	FY 4086	FY 1087	FY 2087
MAINZ	12359	5658	5790	2237	5999	1968
FRIED	16501	8293	3601	8886	5605	792
OTHER	18771	5931	9101	15037	14329	19043
TOTAL	47631	19882	18492	26160	25933	21803
Source: DESCOM						

TABLE 15. Historical Workload of UMFP at NCAD

FISCAL YEAR	NUMBER OF LINES	
	EUROPE	CONUS
FY-83	57629	36855
FY-84	80099	74759
FY-85*	28799	53035
TOTAL	166527	164649
*First two quarters only Source: LCA		

5. Findings.

a. Space is limited in Europe. Facilities do not currently exist which can be converted to a UMFP operation. Land for new construction is in short supply.

b. German nationals are restricted by law from handling classified, radioactive, and hazardous material. Approximately one percent of the lines processed by the UMFP fall within these categories.

c. The flexibility to adjust delivery schedule and destination exists to a greater degree with a CONUS based UMFP than would exist in an overseas based

UMFP. This is especially true when diversions must be effected between commands located within different geographic zones.

d. Discrepancies are more easily resolved at CONUS based UMFPs because the distances between supply sources and Europe is so much greater.

e. The UMFP operates under computer software which is part of the Standard Depot System (SDS) which is not yet available in Europe.

f. There exists a variance in quarterly workload which would create operating inefficiencies at decentralized sites. Table 14 displays this variability. For example, the forecasted work for Friedrichsfeld ranges from a high of 16500 lines in 1QFY86 to a low of 792 lines in 2QFY87, a change of 95 per cent. Total workload for Europe ranges from a high of 47631 lines in 1Q86 to a low of 18492 lines in 3Q86, a change of 61 per cent. Since the existing UMFP at NCAD handles both Europe and CONUS fieldings as well as special projects, it is better able to plan for and cope with this variability.

g. The work at the UMFP at NCAD is divided evenly between Europe and CONUS lines as displayed in Table 15. A UMFP will be needed at NCAD even if the European work is transferred to sites overseas.

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Chapter 9. FINDINGS, CONCLUSIONS, AND RECOMMENDATION

1. Summary of Findings. To briefly reiterate, the three alternatives under analysis were "A," retention of the UMFP at NCAD, "B," establishment of a central UMFP in Europe, and "C," establishment of UMFPs at each AMC controlled staging site in Europe. Note that alternative C retains a portion of Europe workload at NCAD.

a. Estimated costs for these three alternatives, with "A" as a baseline, are detailed in the previous chapters and summarized below in Table 16.

TABLE 16. Cost Comparison (In Million Dollars)

	FIXED COST	RECURRING COST			
ALTERNATIVE	FACILITY COST	TRANSPORT COST	OPERATING COST	DISCREPANCY COST	TOTAL RECUR
A-LOW EST.	SUNK	.306	3.005	.129	3.435
HIGH EST.	SUNK	.609	3.358	.212	4.121
B-LOW EST.	4.317	.355	3.005	.168	3.523
HIGH EST.	4.710	.635	3.358	.277	4.212
C-LOW EST.	2.877	.355	2.452	.141	2.996
HIGH EST.	3.018	.640	2.700	.236	3.576

(1) From a fixed cost standpoint, the optimum choice is Alternative A with existing facilities in place. Alternative C, which retains a significant portion of Europe workload at NCAD is the next lowest cost alternative. Alternative B, which moves all workload to Europe, has the highest fixed cost.

(2) Transportation costs favor Alternative A which assumes surface (water) shipment. Alternative B is second, with all but bulk shipments by surface. Alternative C is worst, with NCAD shipments by surface and all others by air.

(3) Operating cost savings can be achieved by alternative C because it precludes duplicate handling under the current system. However, these savings can also be achieved by changing current policy. Note that Alternatives A and B assume commensurate labor rates and resultant operating costs.

(4) Discrepancy cost are minimized by Alternative A which screens all UMFP lines prior to consolidation and shipment to Europe. Alternative C, which retains some UMFP consolidation at NCAD is second. Alternative B has the highest discrepancy cost.

b. In addition to quantitative cost factors, there are qualitative factors that have a bearing on the problem under study. These are:

(1) Only fifty percent of NCAD UMFP lines are destined for Europe. The reminder support CONUS fieldings.

(2) Current operating procedures foster multiple handling such that surveillance costs exceed discrepancy cost avoidance.

(3) Available real estate is critically short in Europe.

(4) German nationals are restricted by law from handling classified, radioactive, and hazardous materiel which constitute approximately one percent of workload.

(5) Delivery schedules and destinations can be more easily adjusted if consolidation occurs in CONUS.

(6) Discrepancies are more easily resolved in CONUS.

(7) A large UMFP facility such as that at NCAD which supports Europe and part of CONUS, can best cope with the extreme variability in workload.

2. Conclusions. The above findings support the following conclusions.

a. The current UMFP facility located at NCAD will be needed to support CONUS, irrespective of any decision regarding Europe.

b. Alternative C, which collocates UMFPs at AMC controlled staging sites but retains workload at NCAD to support non-AMC staging sites is preferable to Alternative B, which establishes a single central Europe UMFP.

c. Alternative C cost savings are primarily based on avoidance of duplicate handling under the current system. These same savings can be achieved by changing current policy to prohibit duplicate surveillance tasks.

3. Recommendation. Analysis suggests that the Europe UMFP should remain at NCAD and that policy should be revised to avoid duplicate tasks.

GLOSSARY

Associated Support Items of Equipment (ASIOE) - End items required for the operation, maintenance, and transportation of the system being fielded.

Customer Document Package - Documents used by the gaining command to post receipts or dues-in, and to update supply and financial records.

Fielding Command - The major subordinate command of AMC that is responsible for the fielding of the end item or weapon system.

Gaining Command - The major command (MACOM) designated to receive the end item weapon system being fielded.

Hand-Off Point - The site where personnel of the fielding command transfer custody and accountability of items to personnel of the gaining command.

Hand-Off Team - Personnel of the fielding command who have the responsibility for completion of tasks necessary to transfer equipment from the fielding command to the gaining command.

Package Processing Point (PPP) - see Unit Materiel Fielding Point.

Project Code - A three position alphanumeric code that is entered into a document to classify and identify specific requirements. Unique project codes are assigned to separate end item or weapon systems. Most of the TP/UMF documents are identified by project codes beginning with the letter "I".

Special Tools and Test Equipment (STTE) - Tools and test equipment which are peculiar to the system being fielded.

Staging Point - The site at which the major items, components, and unit level packages of Class IX items are received and stored prior to release to the hand-off point. The staging point and hand-off point can be at the same location.

Technical Publications - Publications necessary to adequately support the equipment being fielded.

Total Package/Unit Materiel Fielding (TP/UMF) - A materiel distribution process that provides a consolidated support package of equipment and materiel for the gaining command.

Unit Materiel Fielding Point (UMFP) - The site where class IX items, technical publications, and special tools are consolidated into unit-level packages.

APPENDIX A

DATA CALLS

Individual data calls were sent to LCA and DESCOM. The data calls, with replies immediately following, are attached. The appendix only contains data which were used in the analysis. Other data received, but not used, are not included herein.

AMXSY-LLSO

14 May 1985

SUBJECT: Data Call for LSO Project 068 (Unit Materiel Fielding Point (UMFP)-
Europe)

Commander
Logistic Control Activity
ATTN: AMXLC-LM
Presidio of San Francisco, CA 94129

1. Reference:

a. Letter, AMCSM-PSP, HQ AMC, 13 February 1985, subject: Study of PPP in Europe.

b. Telephone conversation, 6 May 1985, between Dennis Blenman, LCA, and Dave Bryden, this office.

2. This office, per tasking letter 1a, is conducting a study for the US Army Materiel Command on the feasibility of establishing a Unit Materiel Fielding Point (UMFP) in Europe. An essential element of our analysis will be to review past and future workload as well as time frames associated with requisition processing. LCA's assistance will be needed to capture and provide historical data.

3. Request that LCA provide the information depicted in Enclosure. Information is required by 31 May 1985. LSO points of contact are Dave Bryden, AUTOVON 687-3264/2302, and Richard Abeyta, AUTOVON 687-3562.

4. AMSAA - Providing Leaders the Decisive Edge.

FOR THE DIRECTOR:

Encl

ROBERT J. HELL
LTC, ADA
Acting Manager
Logistics Studies Office

DATA CALL

LSO PROJECT 068

GENERAL DESCRIPTION: Summary printout of New Cumberland Army Depot (NCAD) UMFP workload (see Figure 1).

TIME FRAME: Separate summaries required for projects processed in FY 83, FY 84, and FY 85. Provide individual summary by fiscal year.

DATA ELEMENTS:

1. Project codes - All project codes for TP/UMF requirements processed through the UMFP at NCAD in FY 83, FY 84, and FY 85. Screen project codes BAP, BGE, BGF, BJG, BNY, BRF, BRK, BRL, BPS, JVA, and all project codes beginning with the letter "I". List individual project codes in alphabetic sequence.
2. DOD Activity Address Code (DODAAC) - Unit addresses for those units which have received or are scheduled to receive TP/UMF requirements during time frame cited above by project code. Provide count of number of distinct units by project code. List of DODAACs is not required. Separate counts required for Europe and other non-Europe (including CONUS) geographical DODAACs.
3. Requisitions - Count number of requisitions by Europe and other non-Europe DODAAC by project code.
4. Average number of requisitions per DODAAC - Total number of requisitions divided by the number of DODAACs. Separate counts for Europe and other geographical DODAACs.
5. Requisitions received at UMFP - Count of number of requisitions which were received at NCAD UMFP by project code with summaries by DODAAC category within project code.
6. Requisitions shipped from UMFP - Count of number of requisitions shipped from NCAD UMFP sorted by project code and summarized by DODAAC type within project code.
7. Requisitions which were shipped by passing the UMFP - Count of number of requisitions shipped to DODAAC without processing through the UMFP by project code and DODAAC type.
8. Totals - At bottom of report, include summary totals of each of the above data categories.

FIGURE 1
FY 8* NCAD UMFP REQUISITIONS

	PROJECT CODE	# OF DODACs	# OF RQNS	AVG RQNS PER DODAAC	UMFP RECEIVED	UMFP SHIPPED	UMFP BYPASSED
EUROPE	BAP ①	10	100	10 ②	100	100	-
OTHER	BAP	5	25	5	20	20	-
TOTAL	BAP	15	125	8 ③	120	120	-
EUROPE	ICA	20	220	11	200	100	1
OTHER	-	-	-	-	-	-	-
TOTAL	ICA	20	220	11	200	100	1
EUROPE	JVA	15	300	20	150	120	10
OTHER	JVA	3	45	15	40	-	5
TOTAL	JVA	18	345	19	190	120	15
EUROPE TOTAL	3	45	620	13 ④	450	320	11
OTHER TOTAL	2	8	70	8	60	20	5
GRAND TOTAL	3	53	690	13 ⑤	510	340	16
	# OF PROJECT CODES	TOTAL # OF DODACs	TOTAL # OF RQNS	GRAND AVG RQNS PER DODAAC	TOTAL UMFP RECEIVED	TOTAL UMFP SHIPPED	TOTAL UMFP BYPASSED

* Three separate tables: FY 83, FY 84, FY 85 (up to current)

- ① Project codes in alphabetical order
- ② $100 \div 10 = 10$
- ③ $125 \div 15 = 8.33$ (truncated)
- ④ $620 \div 45 = 13.78$ (truncated)
- ⑤ $690 \div 53 = 13.02$ (truncated)

DATA CALL

LSO PROJECT 068

GENERAL DESCRIPTION: Summary printout of NCAD UMFP shipments to Europe by time segments. Europe shipments only considered (see Figure 2).

TIME FRAME: Separate summaries required for projects processed in FY 83, FY 84, and FY 85. Provide individual summary by fiscal year.

DATA ELEMENTS:

1. Project codes - All project codes for TP/UMF requirements processed through the UMFP at NCAD in FY 83, FY 84, and FY 85. Screen project codes BAP, BGE, BGF, BJG, BNY, BRF, BRK, BRL, BPS, JVA, and all project codes beginning with the letter "I". List project codes in alphabetic sequence.
2. Number of DODAACS - Count number of DODAACS for Europe units by project code.
3. Number of requisitions - Count number of requisitions for Europe DODAACS by project code.
4. Time to receipt at UMFP - Average number of days between date of requisition and date of receipt at UMFP for requisitions with Europe DODAACS by project code.
5. Accumulation time UMFP - Average number of days between receipt of requisition at UMFP and release of unit package to Container Consolidation Point (CCP) for shipment. Compute for Europe DODAACS by project code.
6. Intransit time between UMFP and staging site - Average number of days between date unit package is released from NCAD UMFP and date package is received at Europe staging site by project code.
7. Storage time at staging site - Average number of days between receipt at staging site and date of handoff to user by project code.
8. Grand totals and weighted averages - At bottom of report, include the following summary information:
 - a. Number of project codes - Total number of project codes used in this report.
 - b. Number of DODAACS - Total number of DODAACS used in this report.
 - c. Number of requisitions - Total number of requisitions used in report.
 - d. Time to receipt at UMFP - Average number of days between date of requisition and date of receipt at UMFP; weighted by number of requisitions per project code.

e. Accumulation time UMFP - Average number of days between receipt of requisition at UMFP and release of unit package to CCP; weighted by number of requisitions per project code.

f. Intransit time between UMFP and staging site - Average number of days between date unit package is released from NCAD UMFP and date package is received at Europe staging site; weighted by number of requisitions per project code.

g. Storage time at staging site - Average number of days between receipt at staging site and date of handoff to user; weighted by number of requisitions per project code.

FIGURE 2

TIMES FOR FY 8* NCAD UMFP REQUISITIONS

PROJECT CODE	# OF DODAACS	# OF RQNS	AVERAGE TIME TO RECEIPT AT UMFP(days)	AVERAGE ACCUMULATION TIME AT UMFP(days)	AVERAGE INTRANSIT TIME BETWEEN UMFP AND STAGING SITE(days)	AVERAGE STORAGE TIME AT STAGING SITE(days)
BAP	5	30	10.1 ①	60.2	12.1	30.7
BJG	10	100	12.4	50.9	10.2	20.2
BNY	10	60	14.2	70.8	10.4	15.7
IBB	5	40	16.4	90.7	5.6	30.4
IBD	10	70	5.6	40.4	15.3	20.3
GRAND TOTALS & AVERAGES			10.7 ②	58.7 ③	11.0 ④	21.7 ⑤

* Three separate tables: FY 83, FY 84, FY 85 (up to current)

- ① Avg time over the 30 requisitions for BAP
- ② Weighted by # of Rqns; i.e., $[(30 \times 10.1) + (100 \times 12.4) + (60 \times 14.2) + (40 \times 16.4) + (70 \times 5.6)] \div 300 = 10.6$
- ③ Weighted by # of Rqns; i.e., $[(30 \times 60.2) + \dots + (70 \times 40.4)] \div 300$
- ④ Weighted by # of Rqns; i.e., $[(30 \times 12.1) + \dots + (70 \times 15.3)] \div 300$
- ⑤ Weighted by # of Rqns; i.e., $[(30 \times 30.7) + \dots + (70 \times 20.3)] \div 300$

NOTE: All calculations of time should be to first decimal place and preferably rounded (i.e., 12.69 = 12.7; 12.61 = 12.6) but truncation is acceptable (i.e., 12.69 = 12.6; 12.61 = 12.6).

AVERAGE LMFP SILEY ID. EXCISE
ACCUMULATION TIME AT UMPF(DAYS)

PAGE 1

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF ACQUISITIONS	AVERAGE ACCUMULATION TIME AT UMPF(DAYS)
FY-63	LAP	7,772	151	51
FY-63	BYV	218,524	3,132	70
FY-62	IBC	368,625	2,548	153
FY-63	IBD	215	4	54
FY-63	IBF	91,679	905	101
FY-63	IBG	616	23	22
FY-63	IBJ	3,660	39	99
FY-63	IBK	1,730	24	72
FY-63	IRM	69,328	1,704	41
FY-63	IBP	95,112	1,085	78
FY-63	IBQ	414,113	3,761	110
FY-63	IBK	5,642	107	92
FY-63	IBS	171,249	366	468
FY-63	IBY	513,537	3,642	134
FY-63	IRZ	28,724	355	81
FY-63	ICA	127,185	848	150
FY-63	ICB	6,155	24	340
FY-63	ICG	305,575	5,084	60
FY-63	ICI	318,663	2,900	110
FY-63	ICK	10,007	695	14
FY-63	ICN	3,166	63	50
FY-63	ICU	34,611	486	72
FY-63	ICS	4,828	141	34
FY-63	ICW	1,865	116	16
FY-63	ICD	1,463	16	91
FY-63	IDL	110	8	14
FY-63	IDU	3,458	72	46
FY-63	IDP	22,486	463	49
FY-63	IDG	3,651	27	135
FY-63	IDZ	164	14	13
FY-63	IEB	39	1	39
FY-63	IEC	16,641	42	401
FY-63	IEG	20,424	185	110
FY-63	IEF	910,741	3,991	228
FY-63	IFM	19,116	119	161
FY-63	IFN	173	44	4
FY-63	IFS	4,298	10	430
FY-63	IFZ	412	7	59
FY-63	IGA	4,440	74	60
FY-63	IGC	11,044	60	184
FY-63	IGX	3,665	206	18
FY-63	IJJ	86	3	29
FY-63	IHM	4,202	191	22
FY-63	IHN	15,466	812	24
FY-63	IHO	90,603	1,094	88
FY-63	IHQ	771	50	15
FY-63	IHS	24,487	100	245
FY-63	INZ	240,309	642	384

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE ACCUMULATION TIME AT UMF(DAYS)
FY-63	IIF	73,054	2,163	34
FY-63	IIH	548,407	2,816	195
FY-63	IIJ	516	26	20
FY-63	IJD	505,903	4,460	113
FY-63	IJU	440,538	2,125	207
FY-63	ILC	4,720	6	591
FY-63	ILL	2,098	78	27
FY-63	ILX	72,621	404	180
FY-63	ILY	1,665	23	72
FY-63	IMI	501,551	1,245	402
FY-63	IPV	297,242	1,276	233
FY-63	IMX	72,595	807	90
FY-63	INP	175	1	175
FY-63	INT	577	101	10
FY-63	INV	17,757	216	82
FY-63	ICV	246	9	27
FY-63		6,774,691	52,398	129
FY-64	PAP	655	11	78
FY-64	BNY	441,006	4,445	99
FY-64	IBA	72,531	609	119
FY-64	IBC	32,569	178	185
FY-64	IBD	69	1	69
FY-64	IBE	21,655	541	40
FY-64	IBF	15,921	248	64
FY-64	IBJ	20,019	226	89
FY-64	IBK	5,564	96	58
FY-64	IBH	390,806	5,751	68
FY-64	IBN	571	23	25
FY-64	IBP	134,459	805	167
FY-64	IBQ	160,655	993	162
FY-64	IBK	305,774	1,154	265
FY-64	IBS	5,240	10	524
FY-64	IBT	376	26	14
FY-64	IBU	471	19	25
FY-64	IBW	2,252	9	25
FY-64	IBX	193,146	1,791	102
FY-64	IBY	62,452	918	68
FY-64	IBZ	7,622	86	89
FY-64	ICA	204,866	2,047	100
FY-64	ICB	17	4	17
FY-64	ICC	241	1	241
FY-64	ICF	15,986	425	47
FY-64	ICG	592,499	6,514	92
FY-64	ICI	262,448	1,788	147
FY-64	ICJ	5,170	55	162
FY-64	ICK	103,064	2,155	48
FY-64	ICL	128,266	273	147

FY-YEAR	PROJECT CLCE	DIFFERENCE	NUMBF (IF REQUISITIONS	AVERAGE ACCUMULATION TIME AT UMFP(DAYS)
FY-84	ICM	56,745	835	68
FY-84	ICP	13,769	111	124
FY-84	ICQ	67,670	945	72
FY-84	ICR	973,021	6,657	112
FY-84	ICV	5,474	345	16
FY-84	ICW	14,724	99	149
FY-84	ICX	32,920	323	102
FY-84	ICG	379	1	379
FY-84	ICF	6,808	105	65
FY-84	IC5	9,126	189	42
FY-84	ICV	4,223	32	132
FY-84	IDM	14,073	616	23
FY-84	IDY	1,818	28	65
FY-84	IEB	5,033	48	188
FY-84	IEC	13,951	43	324
FY-84	IEE	6,235	128	49
FY-84	IEF	38,253	316	121
FY-84	IEG	15,322	144	106
FY-84	IEI	116	1	116
FY-84	IEK	107,869	293	368
FY-84	IEC	25,106	227	111
FY-84	IFL	1,121	16	71
FY-84	IFM	50,052	710	70
FY-84	IFQ	41,868	240	174
FY-84	IFS	36,536	103	355
FY-84	IFZ	21,506	243	89
FY-84	IGA	461	7	69
FY-84	IGU	3,272	7	467
FY-84	IGA	10,525	257	43
FY-84	IGH	6	1	6
FY-84	IHC	157	11	14
FY-84	IHS	8,250	51	162
FY-84	IHZ	620	9	69
FY-84	IIB	107	1	107
FY-84	IIE	700	4	175
FY-84	IIF	667	22	31
FY-84	IIN	21,587	231	93
FY-84	IIL	171	2	86
FY-84	IJO	652,891	4,210	155
FY-84	ILC	4,335	10	434
FY-84	ILL	3,280	81	40
FY-84	ILP	4,653	32	145
FY-84	ILV	1,609	37	43
FY-84	ILX	308	11	35
FY-84	ILY	79	1	79
FY-84	IMB	4,206	93	46
FY-84	IME	1,664	6	311
FY-84	IMF	42	1	42

FY-YEAR	PROJECT CLDE	DIFFERENCE	NUMBER OF RECQUISITIONS	AVERAGE ACCUMULATION TIME AT UPPP(DAYS)
FY-64	IMI	24,527	120	204
FY-64	IMS	643	22	32
FY-64	IMU	626	2	314
FY-64	IMV	641	12	47
FY-64	IMW	86,285	185	466
FY-64	IMX	315	3	105
FY-64	INP	1,048,162	4,400	238
FY-64	INU	75,082	661	114
FY-64	INP	39,450	535	74
FY-64	INI	313,056	3,991	78
FY-64	INV	194,582	519	375
FY-64	INW	154,927	681	227
FY-64	INZ	4,910	52	94
FY-64	IDA	5,377	47	200
FY-64	ICH	136,830	623	166
FY-64	ICI	9,401	48	196
FY-64	ICJ	4,175	24	174
FY-64	ICA	36,034	250	144
FY-64	ILL	3,102	27	117
FY-64	IDM	2,007	10	261
FY-64	IQE	192	2	96
FY-64	ICU	158,569	1,233	129
FY-64	IRT	35,017	412	85
FY-64	ILU	9,128	47	194
FY-64	ILL	10,069	104	155
FY-64	ITF	74,092	293	253
FY-64	ITK	125	1	125
FY-64	ITU	2,611	153	24
FY-64	IUF	90,841	1,185	77
FY-64	ILJ	187,604	1,781	105
FY-64	IUM	145,208	1,940	75
FY-64	IUN	2,745	25	110
FY-64	IUD	5,041	445	11
FY-64	IUP	156,119	1,639	95
FY-64	IUQ	35,529	944	42
FY-64	IUR	104,538	1,364	77
FY-64	IUS	3,524	55	60
FY-64	ICJ	3,6	11	32
FY-64	IUD	5,609	148	38
FY-64	IUE	3,006	39	77
FY-64	IUL	91	1	91
FY-64	IUV	676	13	40
FY-64	IVV	2,933	17	33
FY-64	IMZ	646	89	43
FY-64	IXD	13,533	15	51
FY-64	IXJ	440	271	40
FY-64	IXK	226	11	57
FY-64	IXL		4	

AVERAGE UMFP CUMULY IN EUROPE
AVERAGE ACCUMULATION TIME AT UMFP(DAYS)

PAGE

5

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE ACCUMULATION TIME AT UMFP(DAYS)
FY-64	IVH	6,020	232	29
FY-64	IVS	5,457	94	58
FY-64	IVB	17	2	9
FY-64	IVC	17	2	9
FY-64	IVD	12	2	6
FY-64	IVL	5	1	5
FY-64	IVF	17	2	9
FY-64	IVH	12	1	12
FY-64		2,698,400	76,689	113
FY-65	EAP	46	1	46
FY-65	ENY	121,092	1,564	77
FY-65	ENK	118	1	188
FY-65	ENH	47,246	1,158	41
FY-65	ENB	9,809	130	75
FY-65	ENC	112	1	112
FY-65	ENE	89	4	22
FY-65	ENF	152	2	76
FY-65	ENK	3,312	49	63
FY-65	ENM	65,744	2,067	32
FY-65	ENP	12,897	160	81
FY-65	ENQ	126	6	21
FY-65	ENR	3,674	28	138
FY-65	ENS	392	4	98
FY-65	ENT	51	2	26
FY-65	ETA	41,352	800	52
FY-65	ETB	756	6	126
FY-65	ETC	152	3	51
FY-65	ETD	20	3	7
FY-65	ETE	57,422	1,094	52
FY-65	ETF	9,668	221	44
FY-65	ETG	155,246	1,050	148
FY-65	ETH	20,369	244	83
FY-65	ETI	627	14	62
FY-65	ETJ	231	6	39
FY-65	ETK	2,680	105	37
FY-65	ETL	252	7	36
FY-65	ETM	3,951	41	96
FY-65	ETN	15,913	234	85
FY-65	ETO	18,090	752	24
FY-65	ETP	1	1	1
FY-65	ETQ	490	7	70
FY-65	ETR	316	7	45
FY-65	ETS	522	18	29
FY-65	ETU	2,249	107	21
FY-65	ETV	22,429	346	66
FY-65	ETW	10,498	173	61
FY-65	ETX	225	8	28

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUESTIONS	AVERAGE ACCUMULATION TIME AT UMPF(DAYS)
FY-65	ICM	266	8	26
FY-65	IC9	301	11	33
FY-65	ILF	65	1	65
FY-65	IFC	839	14	60
FY-65	ICK	121	2	66
FY-65	ICX	221	5	44
FY-65	ILY	175	1	175
FY-65	IFE	23,164	333	70
FY-65	IFC	56	4	14
FY-65	IFM	65,333	474	138
FY-65	IFO	208,371	1,506	138
FY-65	IFZ	2,087	21	99
FY-65	IGX	28	1	28
FY-65	IFS	16	1	16
FY-65	IJD	7,478	70	107
FY-65	IJJ	191	16	12
FY-65	IJC	124	1	164
FY-65	ILU	75	9	8
FY-65	ILP	12,586	165	68
FY-65	ILV	3,855	112	34
FY-65	IMW	113	3	38
FY-65	INP	76,290	1,030	74
FY-65	ING	25,639	380	67
FY-65	INR	15,230	264	73
FY-65	INT	12,319	423	29
FY-65	INV	1,018	8	252
FY-65	INY	7,941	158	50
FY-65	INZ	1,502	24	63
FY-65	IGA	757	9	89
FY-65	IGH	85,814	676	127
FY-65	ILI	2,641	33	80
FY-65	ICJ	1,924	25	77
FY-65	ICK	2,300	54	61
FY-65	ILL	2,599	51	51
FY-65	ICM	706	11	64
FY-65	IGR	417	35	12
FY-65	IGU	399	20	20
FY-65	IND	20	1	20
FY-65	INI	1,095	14	76
FY-65	ISU	26	1	29
FY-65	ITD	131	2	66
FY-65	ITU	614	46	13
FY-65	IUL	6,820	70	97
FY-65	IUL	35,906	676	41
FY-65	IUM	165,859	2,599	64
FY-65	ILN	10,033	234	69
FY-65	IUP	115,050	1,653	72
FY-65	IUG	774	38	20

UMFP STUDY II EUROPE
AVERAGE ACCUMULATION TIME AT UMFP(DAYS)

PAGE

7

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE ACCUMULATION TIME AT UMFP(DAYS)
FY-65	IUS	67	1	67
FY-65	IUE	11,547	299	39
FY-65	IUF	2,564	33	63
FY-65	IUK	271	12	23
FY-65	IUK	2,553	56	46
FY-65	IUK	299	4	75
FY-65	IUS	12,700	364	38
FY-65	IYM	236	25	9
FY-65	IYA	28	1	28
FY-65	IUE	146	48	3
FY-65	IUC	51	26	1
FY-65	IUC	41	20	2
FY-65	IUC	29	13	2
FY-65	IUF	1,609	90	18
FY-65	IUC	412	20	23
FY-65	IUC	366	8	46
FY-65	IUC	2,324	51	46
FY-65	IUC	12,357	245	50
FY-65	IUC	2,286	60	38
FY-65	IUC	2,621	120	24
FY-65	IUC	5,590	234	24
FY-65	IUC	34	1	34
FY-65	IUC	1,608,158	23,674	68
		17,390,649	152,761	112 (weighted by # of rqns)

STUDY OF UMP IN EUROPE
AVERAGE STORAGE TIME AT STAGING SITE (DAYS)

PAGE 1

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF ACQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE (DAYS)
FY-83	LAP	15,544	322	48
FY-83	ONY	23,497	1,004	13
FY-83	PRF	790	4	158
FY-83	IRC	22,453	1,712	19
FY-83	IR0	410	21	20
FY-83	IRF	3,680	320	12
FY-83	IRG	78	1	78
FY-83	IRI	1	1	1
FY-83	IRJ	718	16	45
FY-83	IRK	1,747	6	291
FY-83	IRM	33,855	1,125	30
FY-83	IRP	473	32	15
FY-83	IRQ	4,215	281	15
FY-83	IRR	45,805	1,681	27
FY-83	IRS	20	6	3
FY-83	IRY	36,878	467	79
FY-83	ISZ	4,113	236	17
FY-83	ICA	2,720	19	143
FY-83	ICC	30,820	3,309	24
FY-83	ICT	63,900	1,622	35
FY-83	ICK	3,586	235	17
FY-83	ICL	107	1	107
FY-83	ICM	252	93	3
FY-83	ICC	10,606	117	51
FY-83	ICS	1,227	62	20
FY-83	ICT	45	1	49
FY-83	ICM	3,425	45	70
FY-83	IOC	67	21	3
FY-83	ICK	174	5	35
FY-83	IDG	158	41	4
FY-83	IDP	8,097	472	17
FY-83	ICB		1	
FY-83	IEC	155	16	10
FY-83	IEG	1,052	162	6
FY-83	IFL	5,787	211	46
FY-83	IFM	71	4	18
FY-83	IFN	34	5	7
FY-83	IFI	32	16	2
FY-83	ICC	5	1	9
FY-83	ICX	553	3	184
FY-83	INJ		3	
FY-83	IMM	5,675	60	55
FY-83	INN	18,550	436	42
FY-83	INQ	8,924	369	24
FY-83	INQ	2,927	64	44
FY-83	INS	1,485	11	83
FY-83	INV	316	36	9
FY-83	INZ	147	13	11

STUDY OF UMFIP IN LUFORP
AVERAGE STORAGE TIME AT STAGING SITES(DAYS)

PAGE

2

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF COLLECTIONS	AVERAGE STORAGE TIME AT STAGING SITES(DAYS)
FY-63	11F	425	4	106
FY-63	11H	12,273	1,650	7
FY-63	11L	311	16	17
FY-63	11C	49,181	2,204	22
FY-63	11U	2,822	295	9
FY-63	11V	10	1	10
FY-63	11L		3	
FY-63	11P	5	1	9
FY-63	11Y	238	1	238
FY-63	11I	3,628	156	23
FY-63	11V	5,154	197	26
FY-63	11X	3,314	551	6
FY-63	11A	5	1	5
FY-63	11V	5	3	1
FY-63	11U	15	2	8
FY-63	11V	186	22	8
FY-63		517,427	21,044	25
FY-64	EAP	516	52	10
FY-64	PNY	150,219	2,848	35
FY-64	BRF	803	2	402
FY-64	15A	276	2	138
FY-64	15C	1,970	104	19
FY-64	15D	90	19	5
FY-64	11E	2,528	156	16
FY-64	10F	5,224	165	31
FY-64	12I	5	4	1
FY-64	15J	5,128	106	47
FY-64	15K	5	2	3
FY-64	11M	62,477	1,717	36
FY-64	11P	1,745	160	11
FY-64	15S	609	46	13
FY-64	15R	2,341	165	14
FY-64	15S	784	28	28
FY-64	12T	6	1	6
FY-64	10U	355	2	200
FY-64	15W	5	5	1
FY-64	15X	172	2	87
FY-64	11Y	61,645	424	145
FY-64	12Z	2,357	75	27
FY-64	15A	5,653	106	53
FY-64	15C	18	6	3
FY-64	15G	1	1	7
FY-64	15G	136,940	5,762	24
FY-64	15I	29,122	1,708	25
FY-64	15J	25	1	29
FY-64	15K	20,886	1,083	19
FY-64	15P	1,182	122	100

STUDY OF LMP IN LUKLEI
AVERAGE STORAGE TIME AT STAGING SITE(DAYS)

PAGE

3

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF ACQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE(DAYS)
FY-84	ICN	64	7	9
FY-84	ICQ	16,055	794	20
FY-84	ICA	110,732	1,956	61
FY-84	ICL	137	22	6
FY-84	ICV	1,542	79	20
FY-84	ICK	331	28	12
FY-84	ICX	6,058	206	39
FY-84	ICD	5	4	3
FY-84	ICE	46	2	43
FY-84	ICF	1,255	1	415
FY-84	IDP	504	14	36
FY-84	IEA	354	3	118
FY-84	IDU	8	3	3
FY-84	IDM	27,652	330	64
FY-84	IEB	2	1	2
FY-84	IEC	27	6	5
FY-84	IEE	1,147	230	5
FY-84	IEG	1,182	165	7
FY-84	IEI	384	4	96
FY-84	IEK	4,360	693	6
FY-84	IEW	328	29	12
FY-84	IEY	58	7	8
FY-84	IFA	11	3	4
FY-84	IFB	36	1	36
FY-84	IFC	445	143	3
FY-84	IFL	291	21	14
FY-84	IFP	7,614	264	29
FY-84	IFL	756	117	6
FY-84	IFZ	58	19	5
FY-84	IGC	4,421	111	40
FY-84	IGG	148	5	30
FY-84	IGX	5,763	130	44
FY-84	IHM	222	2	111
FY-84	IHA	321	38	8
FY-84	IHC	48	16	3
FY-84	IHS	671	9	75
FY-84	IHT	53	7	8
FY-84	IHV	1,305	24	54
FY-84	IHZ	13	2	7
FY-84	IIE	1,216	18	68
FY-84	IIG	4,111	70	59
FY-84	IIF	10,054	556	18
FY-84	III	345	56	10
FY-84	IIJ	500	13	38
FY-84	IIN	404	5	81
FY-84	IJC	17,125	682	25
FY-84	IJV	245	2	123
FY-84	IJC	3	1	3

STUDY OF LPIP IN EURLPI
AVERAGE STORAGE TIME AT STAGING SITE (EAYS)

PAGE 4

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE (EAYS)
FY-84	ILL	1,588	47	24
FY-84	ILF	111	4	20
FY-84	IMB	235	2	118
FY-84	IMI	500	11	28
FY-84	IMM	1	1	1
FY-84	IMT	303	1	303
FY-84	IML	12,584	283	44
FY-84	IMV	266	11	24
FY-84	IMX	980	110	9
FY-84	INA	3	1	3
FY-84	IND	56	9	6
FY-84	INP	13,225	269	49
FY-84	INR	19,017	636	22
FY-84	INT	44,255	940	47
FY-84	INU	1,602	41	39
FY-84	INV	9,673	706	12
FY-84	INY	3,106	114	27
FY-84	ICA	1,662	38	44
FY-84	ICL	65	35	2
FY-84	ICE	1,350	93	15
FY-84	ILJ	2,196	15	146
FY-84	ILK	3,065	78	29
FY-84	ILM	28	8	5
FY-84	ILN	127	16	8
FY-84	ILP	21	7	3
FY-84	IUS	73	11	7
FY-84	IUV	84	5	17
FY-84	IPE	738	7	105
FY-84	IPQ	4	1	4
FY-84	IFI	56	3	32
FY-84	IQE	548	5	110
FY-84	IQC	140	3	49
FY-84	ICL	87	1	27
FY-84	ICG	60	1	60
FY-84	IKD	2	2	2
FY-84	ICG	138	6	17
FY-84	IRT	91	11	8
FY-84	IRV	22	1	28
FY-84	ISK	6	2	2
FY-84	ISP	87	1	27
FY-84	ITE	138	50	3
FY-84	ITF	614	67	9
FY-84	ITH	250	10	25
FY-84	ITR	111	2	56
FY-84	ITY	2,091	116	18
FY-84	IUL	2,995	140	4
FY-84	IUI	6	1	6
FY-84	IUK	2	3	1

AVERAGE STORAGE TIME IN EURLFL
AVERAGE STORAGE TIME AT STAGING SITE (DAYS)

PAGE

5

FY-YEAR	FY-JULY (CODE)	DIFFERENCE	NUMBER OF ACQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE (DAYS)
FY-84	IUP	1,901	30	63
FY-84	IUP	5,267	294	45
FY-84	IUP	1,210	110	11
FY-84	IUF	66	5	7
FY-84	IUI	55	5	6
FY-84	IUC	147	5	29
FY-84	IUS	3	3	1
FY-84	IUV	610	6	103
FY-84	IWD	174	7	25
FY-84	IWF	827	47	18
FY-84	IWZ	1,126	15	75
FY-84	IXD	394	1	254
FY-84	IXJ	30	3	10
FY-84	IXL	5	1	5
FY-84	IYG	206	35	6
FY-84	IYP	3	1	3
FY-84		233,065	20,598	31
FY-85	EAF	44	9	5
FY-85	ENY	13,065	390	35
FY-85	IBC	5,316	134	62
FY-85	IBD	15,312	268	42
FY-85	IBF	27	2	19
FY-85	IBJ	85	6	15
FY-85	IBK	5	4	2
FY-85	IBM	75,806	1,824	42
FY-85	IBP	124	32	4
FY-85	IBS	224	20	11
FY-85	IBR	174	6	29
FY-85	IBS	7	1	7
FY-85	IBX	24	5	5
FY-85	IBY	144	53	3
FY-85	IBZ	161	7	23
FY-85	ICA	1,400	60	20
FY-85	ICC	5	1	5
FY-85	ICC	5	1	9
FY-85	ICC	15,123	117	19
FY-85	ICT	434	26	16
FY-85	ICK	146	10	15
FY-85	ICP	4,255	115	37
FY-85	ICN	4	2	2
FY-85	ICC	325	42	8
FY-85	ICK	11,022	456	24
FY-85	ICV	122	21	6
FY-85	ICM	193	4	46
FY-85	ICZ		1	13
FY-85	IOF	26	2	11
FY-85	ILP	11	1	

AVERAGE STORAGE TIME AT STAGING SITE (DAYS)

PAGE 6

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE (DAYS)
FY-85	JOU	2	1	2
FY-85	JOW	1,155	27	44
FY-85	JEC	2	4	1
FY-85	JLE	5	1	9
FY-85	JLG	47	13	4
FY-85	JLK	83	20	4
FY-85	JLW	1,104	3	360
FY-85	JLY	400	11	36
FY-85	JFA	3	1	3
FY-85	JFC	967	42	23
FY-85	JFM	54	15	5
FY-85	JFN	2	2	1
FY-85	JFG	157	27	6
FY-85	JFR	2	2	3
FY-85	JFS	65	5	6
FY-85	JGC	2	1	6
FY-85	JGG	3	1	3
FY-85	JGX	3	1	3
FY-85	JGZ	1	1	1
FY-85	JHN	7	1	7
FY-85	JHL	21	4	5
FY-85	JHS	11	1	11
FY-85	JHV	4	1	4
FY-85	JHJ	7	1	7
FY-85	JHF	474	19	25
FY-85	JHI	227	54	4
FY-85	JJC	313	36	9
FY-85	JJL	6,627	532	12
FY-85	JJZ	1,758	75	23
FY-85	JJC	3	1	3
FY-85	JLL	21	4	5
FY-85	JLF	355	13	28
FY-85	JLV	3,360	7	480
FY-85	JMP	280	76	4
FY-85	JMC	43	1	43
FY-85	JML	14,927	43	345
FY-85	JMA	1,613	185	9
FY-85	JNF	7,852	232	34
FY-85	JNC	22-	1	32-
FY-85	JNK	8,377	282	22
FY-85	JNT	5,655	189	51
FY-85	JNV	13,690	200	68
FY-85	JNY	574	36	16
FY-85	JCA	16	5	3
FY-85	JOL	16	6	3
FY-85	JOF	510	45	11
FY-85	JOJ	537	6	93
FY-85	JOK	360	12	30

STUDY OF UMFIP IN EUROPE
AVERAGE STORAGE TIME AT STAGING SITE (DAYS)

PAGE

7

FY-YEAR	PROJECT CODE	DIFFERENCE	NUMBER OF REQUISITIONS	AVERAGE STORAGE TIME AT STAGING SITE (DAYS)
FY-85	IUM	18	4	5
FY-85	IUN	8	1	3
FY-85	IUP	6	1	6
FY-85	IPM	5	1	1
FY-85	IRC	26	4	7
FY-85	INT	10	2	5
FY-85	ISP	4	2	2
FY-85	ISY	74	7	11
FY-85	ITE	4	1	4
FY-85	ITH	7	3	2
FY-85	IUE	865	221	4
FY-85	IUM	1,236	62	17
FY-85	IUP	1,400	46	21
FY-85	IUQ	528	45	11
FY-85	IUZ	199	37	5
FY-85	IUC	33	3	11
FY-85	IUJ	2	1	2
FY-85	IUS	22	1	33
FY-85	IWZ	164	25	7
FY-85	IYJ	22	7	3
FY-85	IYK	338	106	3
FY-85	IYL	228,076	7,375	31
FY-85		1,575,172	55,021	29

AMXSU-LLSO

20 May 1965

SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing Point (PPP) in Europe

Commander
US Army Depot Systems Command
ATTN: AMSUS-SM-SPD
Chambersburg, PA 17201-4170

1. Reference:

a. Letter, AMCSM-PSP, HQ AMC, 13 February 1965, subject: Study of PPP in Europe.

b. Force Mod Packaging Workload Conference of 16, 17, 18 April 1965.

2. Reference 1a tasked AMSAA to perform an evaluation of the establishment of a PPP facility in Europe.

3. At referenced conference, AMSAA personnel met with representatives of DESCOM, HQ AMC, AMC-E, and Mainz Army Depot to discuss the scope and data requirements for the evaluation.

4. The data requirements for AMSAA's study are at Enclosures 1 through 4.

a. Enclosure 1 requests projected workload by staging site and fielding command for FY 65 and FY 66. DESCOM representatives at reference 1b indicated that the data would be available in May 1965.

b. Enclosure 2 requests historical workload data by storage category. This information is needed to design UMFP facilities for European staging sites.

c. Enclosure 3 requests information on current NCAD UMFP. Data is needed to develop cost estimates to create a single facility in Europe that is equivalent to the existing NCAD UMFP.

d. Enclosure 4 requests discrepancy data for normal supply channels and for NCAD UMFP shipments. Data is needed to compare benefits of alternative systems.

AMXSY-LLSO

28 May 1985

SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing
Point (PPP) in Europe

5. Data is requested by 21 June 1985.

6. AMSAA POCs are Mr. David Bryden, AUTOVON 687-3269, or Mr. Richard D. Abeyta,
AUTOVON 687-3568.

7. AMSAA - Providing Leaders the Decisive Edge.

FOR THE DIRECTOR:

4 Encl


ROBERT D. BELL
LTC, ADA
Acting Manager
Logistics Studies Office

PROJECTED UMFP WORKLOAD

QUARTER/ FISCAL YEAR	STAGING SITE	FIELDING COMMAND	NUMBER LINES	NUMBER NODAACS	NUMBER PROJECT CODES
3QFY85	Mainz	MICOM CECOM ETC.	XXX XXX	XXX XXX	XXX XXX
	Fredericksfeld	MICOM CECOM ETC.	XXX XXX	XXX XXX	XXX XXX
	Seckenheim	MICOM CECOM ETC.	XXX XXX	XXX XXX	XXX XXX
	Vilseck	MICOM CECOM ETC.			
	Etc.				
4QFY85					
.					
.					
.					

NCAD UMFP HISTORICAL WORKLOAD

FIELDING COMMAND	FISCAL YEAR	LINES RECEIVED																		PACKAGES SHIPPED
		BINABLE			RACKABLE			HAZARDOUS			RADIOACTIVE			CLASSIFIED			OTHER*			
		AVG	AVG	STOR	AVG	AVG	STOR	AVG	AVG	STOR	AVG	AVG	STOR	AVG	AVG	STOR	AVG	AVG	STOR	
		NUM	CUBE	TIME	NUM	CUBE	TIME	NUM	CUBE	TIME	NUM	CUBE	TIME	NUM	CUBE	TIME	NUM	CUBE	TIME	
NICON	FY 83																			
	FY 84																			
	FY 85																			
CECOM	FY 83																			
	FY 84																			
	FY 85																			
.	FY 83																			
.	FY 84																			
.	FY 85																			
.	.																			
.	.																			
.	.																			

*Any other special handling categories, i.e., Bulk, . . .

DESCRIPTION OF NCAD UMFP FACILITY

1. Plant layout. Physical dimensions of the building (i.e., length, width, height) to include blueprint or diagram if available. Indicate portion of building (in square feet with brief description) devoted to the following:

- a. Bin storage.
- b. Rack storage.
- c. Special storage, i.e., hazardous, radioactive, classified, ...
- d. Office space.
- e. Receiving.
- f. Packaging.
- g. Holding/shipping.
- h. Other (please specify).

2. Equipment. Complete list of equipment with price and year of purchase. Include such categories as material handling, storage, data entry/retrieval, other.

3. Storage Capacity. Maximum storage capacity for a) bin, b) rack, c) special storage, measured in both square feet and cubic feet. Maximum capacity is the net space available after subtracting structures, aisles, and other losses.

4. Storage Utilization. Percent of storage capacity that was occupied at a given time. Provide average by quarter for FY 83, FY 84, and FY 85.

5. Utilities. Average monthly usage.

6. Manpower. Personnel requirements by type, to effectively operate the plant at current workload at 1 shift per day, 8 hours per shift, 5 days per week.

NCAD UMFP
DISCREPANCY RATE

FISCAL YEAR	NUMBER LINES RECEIVED AT UMFP	NUMBER DISCREPANCIES REPORTED BY UMFP	NUMBER LINES SHIPPED BY UMFP	NUMBER DISCREPANCIES REPORTED BY STAGING SITES
83				
84				
85				

NCAD TO GERMANY
DISCREPANCY RATE (FREE FLOW)

FISCAL YEAR	TOTAL NUMBER CLASS IX LINES SHIPPED	TOTAL NUMBER CLASS IX DISCREPANCIES REPORTED
83		
84		
85		



DEPARTMENT OF THE ARMY
US ARMY DEPOT SYSTEM COMMAND
CHAMBERSBURG, PENNSYLVANIA 17201

REPLY TO
ATTENTION OF

AMSDS-SM-SPD

SUBJECT: Unit Materiel Fielding Point (UMFP) in Europe

Commander
US Army Materiel Systems Analysis Activity
ATTN: AMXSY-LLSO (Dryden)
Ft. Lee, VA 23801

1. Reference:

- a. Message, HQDESCOM, AMSDS-SM-SPD, 241730Z Jun 85, subject: Third Quarterly Force Modernization Packaging Workload Conference, 16-17 July 1985.
- b. Telephone conversations between D. Dryden, AMXSY-LLSO, and K. Mostofi, AMSDS-SM-SPD, 24 and 25 June 1985.
- c. Message, HQDESCOM, AMSDS-SM-SPD, 112015Z Jun 85, subject: Force Mod Staging Workload for MZAD, September 85-March 87.
- d. Message, HQDESCOM, 102015Z Jun 85, subject: Workload Projections for the Tactical Vehicle Staging Facility (TVSF).
- e. Message, HQDESCOM, 092015Z/112015Z Jun 85, subject: Workload Projections for the Friedrichsfeld Staging Area (FSA), June 85-March 87.
- f. Letter, AMSAA, AMXSY-LLSO, 28 May 1985, subject: LSO Project 068, Evaluation of Establishing a Package Processing Point (PPP) in Europe.

2. Shown below are the gross USAREUR workload data requested in Enclosure 1 of reference 1f, by Fielding Command, for each month/quarter remaining in the current "workload window" (through end of second quarter, FY87). Arrayed are the systems ("Project Codes") scheduled for fielding and the total of ASL/PLL packages ("DODAACS") and lines involved for the particular month or quarter. Both Total Package and Force Mod Packaging systems are included, to the extent that they have been workloaded to us. To permit ready comparison with references 1c, 1d, and 1e, which provide a breakout of workload for each of the Central Staging Sites under our control, only that workload provided to us on or before 10 June 1985 was included in the breakout below; minor corrections to references 1c, 1d, and 1e were provided during reference 1b.

AMSDS-SM-SPD

2 JUL 85

SUBJECT: Unit Materiel Fielding Point (UMFP) in Europe

FY85:	JUN	JUL	AUG	SEP
TACOM:	4/150/2817	5/109/4275	3/82/1723	6/107/2366
MICOM:	2/5/1565	2/7/479	1/3/55	2/2/369
AMCCOM:	--	--	1/62/218	1/107/936
AVSCOM:	--	--	1/2/1360	--
TROSCOM:	--	1/1/49	--	--
CECOM:	8/108/1509	5/60/9867	9/435/8685	3/59/1030
EMRA:	--	--	--	--

FY86:	OCT	NOV	DEC	JAN
TACOM:	5/124/2489	6/124/2499	6/44/2266	5/53/2910
MICOM:	4/50/23748	1/1/164	1/2/1510	1/2/1510
AMCCOM:	3/186/2092	2/242/3186	4/175/2066	1/107/936
AVSCOM:	--	1/4/2418	--	--
TROSCOM:	1/2/250	--	--	1/6/530
CECOM:	4/12/1237	7/72/2559	3/53/687	8/67/3784
EMRA:	--	--	1/11/460	--

FY86:	FEB	MAR	3Q	4Q
TACOM:	4/33/849	3/53/1123	5/168/8308	6/136/3772
MICOM:	--	1/2/1510	2/11/3565	3/17/12940
AMCCOM:	1/107/936	1/107/936	1/321/2808	--
AVSCOM:	--	--	--	--
TROSCOM:	--	--	--	2/5/501

AMSDS-SM-SPD

SUBJECT: Unit Materiel Fielding Point (UMFP) in Europe

2 JUL 85

CECOM: 4/162/2328 7/60/2530 8/63/3811 9/116/8647

EMRA: -- 1/9/400 -- 1/1/300

FY87: 1Q 2Q

TACOM: 9/331/7083 9/237/7541

MICOM: 2/8/1825 2/10/13350

AMCCOM: 2/462/2570 1/20/120

TROSCOM: 1/6/6750 --

CECOM: 5/77/7705 1/6/792

EMRA: (Not Available) --

3. As noted during reference 1b, despite the tremendous improvement in the quality of workload input by the Fielding Commands for the 16-17 April 1985 Force Mod Packaging Workload Conference, the AMC community still has some way to go in identifying all Force Mod systems, in stabilizing distribution plans and fielding schedules, and in quantifying what specifically will be fielded, with Force Mod equipment. In numerous cases initial ASL/PLL packages remain "to be determined" or "estimated".

4. Based on input received from the Fielding Commands in preparation for the 16-17 July 1985 Force Mod Packaging Workloading Conference, we anticipate substantial revisions and additions to the projections contained in paragraph 2 above. Accordingly, as discussed during reference 1b and previously, we recommend that representatives from your office attend the upcoming workload conference. Administrative and other details are provided in reference 1a.

5. The remainder of the information requested in reference 1f is being provided, to the extent possible, by NCAD UMFP under separate cover.

AMSDS-SM-SPD

SUBJECT: Unit Materiel Fielding Point (UMFP) in Europe

2 JUL 85

6. HQDESCOM Point of Contact is Keith Mostofi, AUTOVON 238-7935/6407.

7. "DESCOM - Providing Leaders the Decisive Edge."

FOR THE COMMANDER:

for 
RON HULSCHER
Director for Supply, Ammunition
and Transportation

CF:

CDR, AMC, ATTN: AMCSM-PDU

CDR, AMC-E, ATTN: AMXEU-FA

CDR, NCAD, ATTN: SDSNC-TR

WZ
Date OKS
Perry PS
SDSNC-TR (AMXSY-LLSO/28 May 85) 2d Ind
SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing Point (PPP) in Europe

DA, HQ, New Cumberland Army Depot, New Cumberland, PA 17070-5001 26 June 1985

TO: U.S. Army Materiel Systems Analysis Activity, Logistics Studies Office,
Fort Lee, VA 23801

1. Reference:

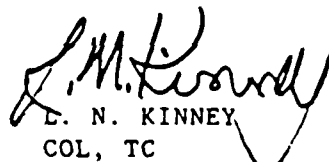
a. Telephone conversation between K. Mostofi, HQDESCOM, and W. Bakos, NCAD, UMFP Div, 5 Jun 85.

b. Telephone conversation between R. Abeyta, AMSAA, and W. Bakos, NCAD, UMFP Div, 21 Jun 85.

2. Available information as requested by basic letter, is provided in Enclosures 2 - 4.

3. As discussed in reference 1b, much of the information requested by Enclosure 2 is not available. In addition the discrepancy rate (free flow) requested by Enclosure 4 cannot be provided for Class IX alone. Therefore, information provided is the total number of discrepancies for all classes.

4 Encl
nc


L. N. KINNEY
COL, TC
Directorate for Supply

CF:
CDRAMC, ATTN: AMCSM-PDU
CDRDESCOM, ATTN: AMSDS-SM-SPD

→ act- ~~FILED~~
EE UNH 40

AMSDS-SM-SPD (AMXSY-LLSO/28 May 85) 1st End Mr. Mostofi/sa/AUTOVON 238-7935
SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing
Point (PPP) in Europe

HQ, US Army Depot System Command, Chambersburg, PA 17201-4170 ' 7 JUN 85

TO: Commander, New Cumberland Army Depot, ATTN: SDSNC-TR, New Cumberland,
PA 17070-5000

1. Reference:

a. Telephone conversation between K. Mostofi, HQDESCOM, and W. Bakos,
NCAD UMFP, 5 June 1985.

b. Telephone conversation between K. Mostofi, HQDESCOM, and R. Abeyta,
AMSAA, 31 May 1985.

2. As discussed in reference 1a, request you provide information requested
in Enclosures 2-4, as available, direct to AMSAA, with copy furnished to
this office. Response to Enclosure 1 is being provided by this office under
separate cover.

3. AMSAA was advised in reference 1b that much of the information requested
in Enclosure 2 is not available; please provide what data you can. Also note
that the categories of information requested in Enclosure 4 are somewhat mis-
leading; what is really requested is a comparison of the overall ROD rate for
NCAD shipments to the ROD rate for UMFP shipments.

4. "DESCOM - Providing Leaders the Decisive Edge."

FOR THE COMMANDER:

4 Encl
nc



RON HULSCHER
Director for Supply, Ammunition,
and Transportation

CF:
Dir, AMSAA, ATTN: AMXSY-LLSO
CDRAMC, ATTN: AMCSM-PDU



DEPARTMENT OF THE ARMY
U.S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
LOGISTICS STUDIES OFFICE
FORT LEE, VIRGINIA 23801

REPLY TO
ATTENTION OF

AMXSU-LLSO

28 May 1985

SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing Point (PPP) in Europe

Commander
US Army Depot Systems Command
ATTN: AMSDS-SM-SPD
Chambersburg, PA 17201-4170

1. Reference:

a. Letter, AMCSM-PSP, HQ AMC, 13 February 1985, subject: Study of PPP in Europe.

b. Force Mod Packaging Workload Conference of 16, 17, 18 April 1985.

2. Reference 1a tasked AMSAA to perform an evaluation of the establishment of a PPP facility in Europe.

3. At referenced conference, AMSAA personnel met with representatives of DESCOM, HQ AMC, AMC-E, and Mainz Army Depot to discuss the scope and data requirements for the evaluation.

4. The data requirements for AMSAA's study are at Enclosures 1 through 4.

a. Enclosure 1 requests projected workload by staging site and fielding command for FY 85 and FY 86. DESCOM representatives at reference 1b indicated that the data would be available in May 1985.

b. Enclosure 2 requests historical workload data by storage category. This information is needed to design UMFP facilities for European staging sites.

c. Enclosure 3 requests information on current NCAD UMFP. Data is needed to develop cost estimates to create a single facility in Europe that is equivalent to the existing NCAD UMFP.

d. Enclosure 4 requests discrepancy data for normal supply channels and for NCAD UMFP shipments. Data is needed to compare benefits of alternative systems.

AMXSY-LLSO

28 May 1985

SUBJECT: LSO Project 068, Evaluation of Establishing a Package Processing Point (PPP) in Europe

5. Data is requested by 21 June 1985.

6. AMSAA POCs are Mr. David Dryden, AUTOVON 687-3269, or Mr. Richard D. Abeyta, AUTOVON 687-3568.

7. AMSAA - Providing Leaders the Decisive Edge.

FOR THE DIRECTOR:

4 Encl

Robert J. Bell
ROBERT J. BELL

LTC, ADA
Acting Manager
Logistics Studies Office

PROJECTED UMFP WORKLOAD

QUARTER/ FISCAL YEAR	STAGING SITE	FIELDING COMMAND	NUMBER LINES	NUMBER DODAACS	NUMBER PROJECT CODES
3QFY85	Mainz	MICOM CECOM ETC.	xxx xxx	xxx xxx	xxx xxx
	Fredericksfeld	MICOM CECOM ETC.	xxx xxx	xxx xxx	xxx xxx
	Seckenheim	MICOM CECOM ETC.	xxx xxx	xxx xxx	xxx xxx
	Vilseck	MICOM CECOM ETC.			
	Etc.				
4QFY85					
.					
.					
.					

NCAD UMFP HISTORICAL WORKLOAD

FIELDING COMMAND	FISCAL YEAR	LINES RECEIVED																		PACKAGES SHIPPED			
		BINABLE						RACKABLE			HAZARDOUS			RADIOACTIVE			CLASSIFIED				OTHER*		
		NUM	AVG CUBE	AVG STOR TIME	NUM	AVG CUBE	AVG STOR TIME	NUM	AVG CUBE	AVG STOR TIME	NUM	AVG CUBE	AVG STOR TIME	NUM	AVG CUBE	AVG STOR TIME	NUM	AVG CUBE	AVG STOR TIME				
MICOM	FY 83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33			
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	104			
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	202			
CECOM	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	175			
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	409			
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	419			
TACOM	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	175			
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	412			
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	660			
AVRADCOM	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	16			
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0			
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0			

*Any other special handling categories, i.e., Bulk, . . .

NCAD UMFP HISTORICAL WORKLOAD

FIELDING COMMAND	FISCAL YEAR	LINES RECEIVED																		PACKAGES SHIPPED
		BINABLE			RACKABLE			HAZARDOUS			RADIOACTIVE			CLASSIFIED			OTHER*			
		NUM	AVG CUBE	STOR TIME	NUM	AVG CUBE	STOR TIME	NUM	AVG CUBE	STOR TIME	NUM	AVG CUBE	STOR TIME	NUM	AVG CUBE	STOR TIME	NUM	AVG CUBE	STOR TIME	
TROSCOM	FY 83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	54	
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	55	
ANCCOM	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	14	
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	48	
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	25	
AVSCOM	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	4	
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	20	
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	22	
USASPTA	FY 83	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	0	
	FY 84	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	20	
	FY 85	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	49	

*Any other special handling categories, i.e., Bulk, . . .

DESCRIPTION OF NCAD UMFP FACILITY

1. Plant layout. Physical dimensions of the building (i.e., length, width, height) to include blueprint or diagram if available. Indicate portion of building (in square feet with brief description) devoted to the following:
 - a. Bin storage.
 - b. Rack storage.
 - c. Special storage, i.e., hazardous, radioactive, classified, ...
 - d. Office space.
 - e. Receiving.
 - f. Packaging.
 - g. Holding/shipping.
 - h. Other (please specify).
2. Equipment. Complete list of equipment with price and year of purchase. Include such categories as material handling, storage, data entry/retrieval, other.
3. Storage Capacity. Maximum storage capacity for a) bin, b) rack, c) special storage, measured in both square feet and cubic feet. Maximum capacity is the net space available after subtracting structures, aisles, and other losses.
4. Storage Utilization. Percent of storage capacity that was occupied at a given time. Provide average by quarter for FY 83, FY 84, and FY 85.
5. Utilities. Average monthly usage.
6. Manpower. Personnel requirements by type, to effectively operate the plant at current workload at 1 shift per day, 8 hours per shift, 5 days per week.

DESCRIPTION OF NCAD UMFP FACILITY

1. Plant Layout

a. Bin Storage

- (1) Length - 90'
- (2) Width - 5' 3"
- (3) Height - 10'

Total Square ft. - 15,120

Description of Bin Storage

Type of Bins - Carrousels

There are 28 carrousels with 90 locations per carrousel
Each location has 5 bins. Max. weight per bin is 70 lbs.

b. Rack Storage

- (1) Length - 80'
- (2) Width - 200'
- (3) Height - 10'

Total Square ft. - 16,000

Description of Rack Storage

Racks are 80' long with 96 locations per row
Each row is 7' wide. Rack storage is used for multiwalls and large items, over 70 lbs.

c. Special Storage

- (1) Hazardous Area

- (a) Area is 60' X 20' Total 1,200 Squarte ft.

Description of Hazardous Area

Area is used for all hazardous materiel to be packed, stored and shipped.

(2) Security Area

(a) Area is 60' X 120' Total 1,200 Square ft.

Description of Security Area

Area is used for storing pilferage item's. No classified materiel is stored in the UMFP.

(3) Special Projects

(a) Area is 40' X 20' Total 800 Square ft.

Description of Special Projects Area

Area is used for projects with high priority.

d. Office Space

(1) Offices are 8' X 20'

Description: There are eight offices within the Division.

- | | |
|-----------------------|----------------------------|
| (a) Chief | (b) Secretary |
| (c) Supply - Clerk | (d) Two Foremans |
| (e) Quality Assurance | (f) Non-Smoking Break Area |
| (g) ADP Site | |

e. Receiving

(1) Length - 260'

(2) Width - 60'

Total Square ft. - 15,600

Description of Receiving Area

Area is used for inchecking all materiel. Materiel is checked and worked up before sent up to Storage.

f. Packing Area

(1) Area Pack Station 40' X 20'

Description of Pack Area

UMFP has 6 (six) pack areas. Once release message is received from the command, materiel is selected, consolidated, inventoried and packed for shipment.

g. Holding/Shipping Area

(1) Area for holding or shipments is 100' X 80'

Total of 8,000 Square ft.

Description of Holding/Shipping Area

Area is used for consolidation of projects and DODAAC's ready for shipment. It is also used for labeling and building of air pallets.

h. Other Areas

(1) ADP Sites

(a) Area where BBC & D6S cards are punched and loaded to the LIF file. Also location receipts (1381) are produced before materiel is sent to Storage, manifests and packing listed are also created at ADP sites.

2. Equipment

(a) Narrow Aisle Forklift

1. Price - \$64,000 ea
2. Date purchased - Aug 82

(b) Front Side to Side

1. Price - \$100,312
2. Date purchased - May 83

(c) Stretch Wrap Machine

1. Price - \$7,995
2. Date purchased - May 82

(d) Drive on Floor Scales

1. Price - \$5,035
2. Date purchased - May 82

(e) Small items sortation system

1. Price - \$105,000
2. Date purchased - Apr 83

(f) Automatic Guided Vehicle System

1. Price - \$27,500
2. Date purchased - Jun 83

(g) Pneumatic Tube System

1. Price - \$27,500
2. Date purchased - Apr 83

(h) Bin Carrousel

1. Price - \$649,452
2. Date purchased - Feb 83

(i) Transformer

1. Price - \$40,000
2. Date purchased - Feb 83

(j) ADP Equipment

1. CRT Screens - 5 ea
 2. Line Printer
 3. Matrix Printer - 5 ea
 4. Card Reader - 3 ea
 5. Card Punch
- Total Price \$200,000
Date purchased - NA

3. Storage Capacity - Total Storage Capacity - 65,920 Square ft.

4. Storage Utilization

a. Average per quarter

- (1) FY 82 - 35%
- (2) FY 83 - 75%
- (3) FY 84 - 100%
- (4) FY 85 - 100%

5. Utilities Average Monthly Use - NA

AD-A166 619

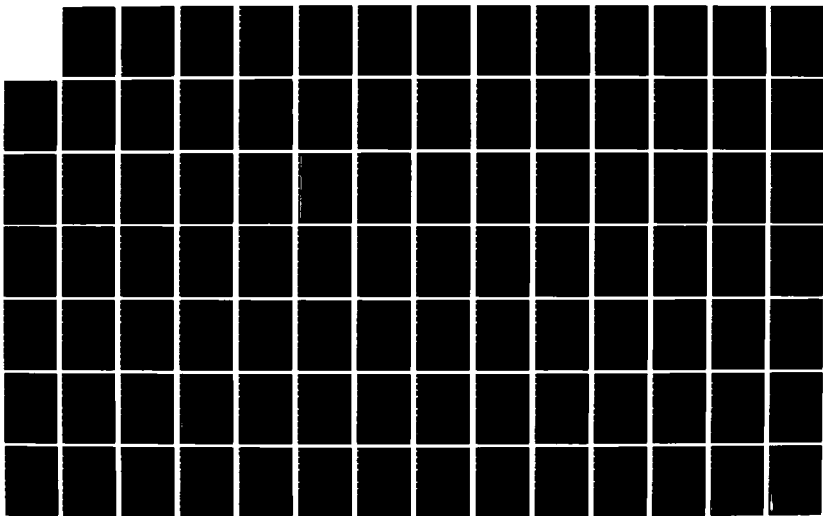
UNIT MATERIEL FIELDING POINT EUROPE(U) LOGISTICS
STUDIES OFFICE (ARMY) FORT LEE VA D DRYDEN ET AL.
OCT 85

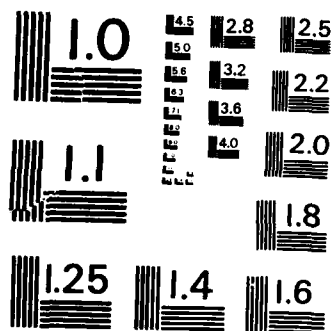
273

UNCLASSIFIED

F/G 15/5

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

6. Manpower

a. Total number of personnel assigned to UMFP - 42

(1) Chief - 1

(2) Secretary - 1

(3) Warehouse Foreman - 2

FUNCTIONS

Document Processing	-	6
Receiving	-	12
Storage	-	7
Consolidation	-	13

NCAD UMFP
DISCREPANCY RATE

FISCAL YEAR	NUMBER LINES RECEIVED AT UMFP	NUMBER DISCREPANCIES REPORTED BY UMFP	NUMBER LINES SHIPPED BY UMFP	NUMBER DISCREPANCIES REPORTED BY STAGING SITES
83	64,307	153 .2%	39,964	NA
84	85,385	113 .13%	65,582	NA
85	47,384	86 .18%	68,736	NA

NCAD TO GERMANY
DISCREPANCY RATE (FREE FLOW)

FISCAL YEAR	TOTAL NUMBER LINES SHIPPED	TOTAL NUMBER DISCREPANCIES REPORTED
83	NA	5,806
84	2,642,521	5,813 .2%
85	1,674,926	2,736 .16%

PRIORITY

PT 00250 162/2339Z

PAGE 01

DAN

AG	A I	IC	A I	DT	A I	FM	LOGC	SUPVR
SGS	A I	PM	A I	FV	A I	FP	FFSA	
IG	A I	CM	A I	FSN	A I	ACC/CF	SECOR	MRR
AC7	A I	CP	A I	AMN	A I	DS/DFN	CIN	
PAO	A I	EE	A I	LCD	A I	MD/KAM	CSC	OTC
DPCA	A I	IS	A I	PFS	A I	300TH	240TH	
QOL	A I	JA	A I	SFS	A I	ARG	SOD	RTR---
PTS	A I	CD	A I	TP	A I	TSA	ADO	
DEH	A I	OS	A I	DOC	A I	ALMC	COM GUARD	CKR---

PCTUZYUW RUEPSRA4679 1622331-UUUU--RUFOAGA.

ZNR UUUUU

P 112015Z JUN 85

FM COMDESCOM CHAMBERSBURG PA //AMSDS-SM-SPD//
 TO RUECIAFR/CDRAMCOM RIA ROCK ISL IL //AMSMC-RDF-F//
 RUEORIA/CDRCECOM FT MONMOUTH NJ //AMSEL-RF-FM-PP//
 RUEOPER/CDREMPA VHES WARRENTON VA //SELEM-ME-FM-I//
 RUEODGA/CDRMICOM RSA AL //AMSMI-SSDM/SRL//
 RUEIFPA/CDRTROSCOM STL MO //AMSTR-SOM//
 RUEFLWOU/CDRM740 MAINZ GE //SDSMZ-P/PSF//
 RUEOPEG/DIR USASWL VHES WARRENTON VA //DFLSW-ML//
 RUEONOR/CDRAMC-EUROPE SECKENHEIM GE //AMXEU-FA//
 INFO RUEKLDAR/CDRAMC ALEX VA //AMCSM-PDU//
 RUEGARA/CDRAMSAA FT LEE VA //AMXSY-LLSO//
 RUEBARA/CDRNCAD NEW CUMBERLAND PA //SDSNC-TR//
 RUEPARA/CDRLCAD CHAMBERSBURG PA //SDSLE-TG//
 RUECRFA/CDRTOAD TORYHANNA PA //SDSTO-S//

BT

UNCLAS

SECTION 001 OF 002

SUBJ: WORKLOAD PROJECTIONS FOR THE FRIEDRICHSELD STAGING AREA (ESA). JUNE 85-MAR 87

A. LTR. HQDESCOM. AMSDS-SM-SPD, 29 MAY 85. SUBJ: FORCE MODERNIZA-

PAGE 02 RUEPSRA4679 UNCLAS
 TION PACKAGING WORKLOAD.

B. LTR. AMSAA. AMXSY-LLSO, 28 MAY 85. SUBJ: LSO PROJECT NAR. EVALUATION OF ESTABLISHING A PACKAGE PROCESSING POINT (PPP) IN EUROPE. (NOTAL)

C. LTR. HQDESCOM. AMSDS-SM-SPD, 28 MAY 85. SUBJ: REQUESTS FOR USE OF DESCOM OCONUS STAGING/HANDOFF SITES TO SUPPORT NEW EQUIPMENT FIELDINGS.

D. MSG. HQDESCOM. AMSDS-SM-SPD, 261200Z APR 85. SUBJ: SECOND QUARTERLY FORCE MODERNIZATION PACKAGING WORKLOAD CONFERENCE. 16-17 APR 85.

E. MSG. HQDESCOM. AMSDS-SM-SPD, 261330Z JAN 85. SUBJ: WORKLOAD PROJECTIONS FOR THE ESA. JAN-DEC 85.

PRIORITY

PRIORITY

THIS MSG IS IN THREE PARTS.

PART ONE FOR ALL.

1. IN REF D, WE ADVISED THAT WE WOULD ISSUE AN UPDATE OF OUR INITIAL REF F "TIMELINE" FOR THE FSA. SHOWN BELOW IS THAT UPDATE, BASED ON DATA SUBMITTED BY THE AMC FIELDING COMMANDS FOR THE 16-17 APR 85 FORCE MOD PACKAGING (FMP) WORKLOAD CONF. AS NOTED IN REF D, THIS TIMELINE WILL REMAIN TENTATIVE UNTIL AMC-EUROPE FORMALLY COORDINATES THE FIELDING SCHEDULES WITH USAREUR.

PAGE 03 RHEPSRA4479 UNCLAS

2. THE FOLLOWING SHOWS THE SYSTEMS SCHEDULED FOR FIELDING IN EACH PARTICULAR MONTH/QUARTER. ALL OF THE SYSTEMS ARE CECOM-MANAGED EXCEPT FOR:

- A. BACKUP COMPUTER SYSTEM (BUCS)--AMCCOM.
- B. POSITION AZIMUTH DETERMINATION SYSTEM (PADS, AN/USW-70) AND TOPOGRAPHICAL SUPPORT SYSTEM (TSS)--TROSCOM.
- C. AN/UAS-11 NIGHT SIGHT--MTCOM.
- D. TRAILBLAZER (AN/TSQ-114(V)1): AN/TRQ-32(V)1: AND TACJAM (AN/MLO-74)--EXRA/SUL.

THOSE SYSTEMS PRECEDED BY AN ASTERISK (*) ARE TENTATIVELY ASSIGNED TO THE FSA PENDING COMPLETION OF A FORMAL SUPPORTABILITY ASSESSMENT BY M740. AS DISCUSSED IN REF C, THIS ASSESSMENT IS NECESSARY TO ENSURE THAT THE CAPABILITIES OF THE REQUESTED STAGING SITE ARE COMPATIBLE WITH SYSTEM REQUIREMENTS. SHOWN IN PARENTHESES AFTER EACH SYSTEM ARE THE NUMBER OF FIELDINGS AND THE TOTAL NUMBER OF SYSTEMS/END ITEMS INVOLVED. IT IS ANTICIPATED THAT THE NUMBER OF FIELDINGS SHOWN WILL CHANGE IN SUBSEQUENT UPDATES (E.G., FOLLOWING THE 16-17 JUL 85 CONF) TAW GUIDANCE PROVIDED IN REF A. DATA ON ASIOF AND ASL/PLL PACKAGES/DENSITY BY FIELDING COMMAND ARE PROVIDED (WHEN AVAILABLE) TO ASSIST M740 IN WORKLOAD PLANNING FOR THE

PAGE 04 RHEPSRA4479 UNCLAS

FSA AND AMSAA IN COMPLETING STUDY DISCUSSED IN REF B: IT SHOULD BE NOTED THAT THEY ARE VERY INCOMPLETE, ESPECIALLY FROM MAR 86 ON. BECAUSE OF FLUIDITY IN FIELDING PLANS/PACKAGE CONFIGURATIONS, AND IN SOME CASES HAD TO BE ESTIMATED/EXTRAPOLATED FROM FIELDING COMMAND INPUT.

KV85:

JUN	JUL	AUG	SEP
AN/USM-48A(1/1795)	AN/TRQ-35(3/9)	AN-A21A(4/105)A	TN-1288(2/131)
AN/PRM-34(1/1317)	AN/ITC-39(1/2)	AN/PRC-69(A/A1A1A)	TN-1289(1/100)
SG-1139(14/33)A	OS-261C(1/334)	AN/UGC-74A(1/139)	AN/TRC-152(1/9)

PRIORITY

PRIORITY

MICROFIX(7/15)A	SG-1170(1/33R)	AN/GRC-193A(4/140)	
TD-12RA(1/44)	PADS(1/25)	AN/GRC-213A(3/134)	
TD-12R9(1/149)	AN/GVS-5(1/335)R	AN/USM-48A(1/102)	
C-6709(8/25)		TD-10A5(1/810)	
AN/URM-20A(1/104)		HUCS(16/394)	
ASIOE: PACKAGES/TOTAL LINES:			
CECOM: --	2/104	244/800	1/3
AMCCOM: --	--	--	--
TROSCOM: --	1/7	--	--
TOTAL: 0	3/111	244/800	1/3

PAGE 05 RIEPSRA4679 UNCLAS

ASL/PLL: PACKAGES/TOTAL LINES:			
CECOM: 108/1509	AN/98A7	435/8685	59/1030
AMCCOM: --	62/218	--	--
TROSCOM: --	1/49	--	--
TOTAL: 108/1509	123/10134	435/8685	59/1030

FY86:

OCT	NOV	DEC	JAN
TCT(1/1)C	TCT(1/3)	TCT(1/7)	TCT(1/7)
TCS(2/4)D	TCS(2/4)	AN/USM-48A(1/1383)	TCS(1/2)
AN/TRC-151(1/1A)	AN/TRC-151(1/9)	TD-12RA(2/117)	AN/TRC-151(1/11)
AN/TRC-152(1/9)	OE-303(6/731)A	*AN/TRQ-32(1/11)	AN/TRC-152(1/9)
*AN/HAS-11(1/195)	AN/URM-200(1/11)A		TD-10A9(1/32)
	AN/GRC-193A(1/182)		AN/GRC-193A(1/17)
	AN/GRC-213A(1/174)		AN/USM-489(1/176)
	HUCS(12/90)		AN/USM-490(1/100)

ASICE: PACKAGES/TOTAL LINES			
CECOM: 19/57	--	--	19/57
FY86: --	--	11/11	--
TOTAL: 19/57	--	11/11	19/57
ASL/PLL: PACKAGES/TOTAL LINES			

PAGE 06 RIEPSRA4679 UNCLAS

CECOM: 12/1237	72/2559	53/687	67/3484
AMCCOM: --	12/36	--	--
FY86: --	--	11/460	--
MICOM: 33/1155R	--	--	--
TOTAL: 85/12758	84/2595	68/1187	67/3484
FEB	MAR	~~APR~~ 30	~~MAY~~ 40
TCT(1/2)	TSS(1/49)	TCT(1/2)	TCT(2/14)
AN/TRC-151(1/4)	SG-1219(1/183)	TCS(1/2)	TCS(2/4)

PRIORITY

PRIORITY

AN/TRC-152(2/7)	TCT(1/2)	AN/TRC-151(2/25)	AN/TRC-151(2/27)
TD-1065(1/360)	TD-1225A(1/50)	TD-1288(1/120)	AN/TRC-152(1/2)
	AN/TRC-151(2/10)	AN/TSQ-84A(1/4)	AN/TSQ-85A(2/10)
	TD-1288(1/118)	AN/GRC-213A(3/42)	AN/GRC-193A(1/91)
	AN/TSQ-84A(1/2)	SG-1139(12/48)	SG-1139(21/85)
	*AN/TRQ-32(1/9)		TD-1288(1/120)
			AN/TSQ- 4A(1/7)
			*TRAILRL47FR(2/20)
			PADS(1/6)

ASIOE: PACKAGES/TOTAL LINES

CECOM: 1/3

2/4

8/16E

23/7RE

FMRA: --

9/9

--

5/37

PT

#4679

NNNN

PRIORITY

PRIORITY

PT 00251

162/23802

F/2

PAGE 01

AG	A I	IC	A I	DT	A I	FW	LOGC	SUPVR
SGS	A I	PM	A I	EV	A I	FP	FFSA	
IG	A I	CM	A I	FSN	A I	ACC/CE	SECOR	M&R
ACZ	A I	CP	A I	ARN	A I	OS/DEFN	CIN	
PAO	A I	EE	A I	LCN	A I	MO/KAW	CSC	OTC
OPCA	A I	IS	A I	PFS	A I	300TH	240TH	
NOL	A I	JA	A I	SFS	A I	ARG	S00	RTR- ~~CS~~
PTS	A I	CO	A I	TP	A I	TSA	A00	
DEH	A I	OS	A I	DOC	A I	AL MC	COM GUARD	CKR--- --

PCTH7YUW RUEPSRA4480 1622331-UUUU--RUF044A.

ZNR IIIIIII

P 112015Z JUN 85

FM CDRDESCOM CHAMBERSBURG PA //AMSDS-SM-SPD//
 TO RUECIAF/CDRAMCCOM RTA ROCK ISL IL //AMSMC-RNF-F//
 RUEADRIA/CDKCECOM FT MONMOUTH NJ //AMSEL-RF-FM-PP//
 RUEOPEH/CDKFMRA VHES WARRENTON VA //SELEM-ME-FM-I//
 RUHOGDA/CDRMICOM RSA AL //AMSMI-SSDM/SRL//
 RUOIFRA/CDRTHOSCOM STL MO //AMSTR-SDM//
 RUFLWDD/CDRMZAD MAINZ GE //SDSMZ-P/PSF//
 RUEOPEG/DIR USASWL VHES WARRENTON VA //DFLSW-ML//
 RUFBNDR/CDRAMC-EUROPE SECKENHEIM GE //AMXFU-FA//
 INFO RUUKLDR/CDRAMC ALEX VA //AMCSM-POU//
 RUEOAGA/CDRAMSAA FT LEE VA //AMXSX-LLSO//
 RUEMANA/CDRNCAD NEW CUMBERLAND PA //SDSNC-TR//
 RUEP44A/CDRLCAD CHAMBERSBURG PA //SDSLE-TG//
 RUECRFA/CDRTDAD TORYHANNA PA //SDSTO-S//

BT

UNCLAS

TROSCOM: --

1/2

--

FINAL SECTION OF 002

1/7

TOTAL: 1/3

12/15

8/16

29/102

ASL/PLL/STTE:

PAGE 02 RUEPSRA4480 UNCLAS

CECOM: 162/2328 57/2081E

61/3601E

114/8437E

FKRA: -- 9/400E

--

1/300F

TROSCOM: -- 0(F)

--

1/49

TOTAL: 162/2328 66/2481

61/3601

8886

EY87:

10

20

AN/TSC-R5A(3/6)

AN/TSC-R5A(2/8)

AN/TSC-93A(6/30)

AN/TSC-R4A(1/4)

TD-128R(1/106)

*TACJAN(1/10)

ASIOE: PACKAGES/TOTAL LINES

PRIORITY

PRIORITY

CECOM: 84/484E	A/48
FMRA: 10/10	--
TOTAL: 94/494E	A/48
ASL/PLL: PACKAGES/TOTAL LINES	
CECOM: 75/5405	A/792
FMRA: 10/NOT PROVIDED	--
NOTES: A - NO PLL OR ASL WORKLOADED	
B - NOT REFLECTED IN CECOM WORKLOAD. BECAUSE OF MIS-	

PAGE 03 RIIEPSR4440 UNCLAS

ADDRESSING OF THESE SHIPMENTS. SOME MATERIEL HAS ALREADY
 "FREEFLOWED" TO CUSTOMER UNITS. AS A RESULT, ANTICIPATE ONLY PARTIAL
 FIELDING THROUGH FSA.

C - AN/UYQ-30: ASL/PLL "TO BE DETERMINED"

D - AN/UYQ-19: ASL/PLL "TO BE DETERMINED"

E - ESTIMATED

F - ASL/PLL FOR THE TSS WILL BE PLACED IN SECTION SHELTERS
 AND SHIPPED DIRECT FROM THE CONTRACTOR; ONLY THE ASIOF
 (21 GENERATORS OF TWO DIFFERENT TYPES) WILL BE CONSOL-
 IDATED AT THE NCAD UMFP

3. AT THIS TIME, PROJECTED REQUIREMENTS FOR COVERED STORAGE AT THE
 FSA REMAIN WELL BELOW TOTAL CAPACITY. OPEN STORAGE, ALTHOUGH
 LIMITED, SHOULD ALSO REMAIN ADEQUATE, IF FIELDING SCHEDULES PROVIDED
 IN WORKLOAD PROJECTIONS ARE ADHERED TO. WE AGAIN REMIND FIELDING
 COMMANDS THAT ORGANIC DEPROCESSING FACILITIES FOR WHEELED AND
 TRACKED VEHICLES, HOWEVER, ARE VIRTUALLY NONEXISTENT AT THE FSA.

4. WE WILL UPDATE THE PARA 2 "TIMELINE" AGAIN IN MID-AUGUST 85,
 BASED ON THE RESULTS OF THE 14-17 JUL FMP WORKLOAD CONFERENCE.
 PART TWO FOR AMC-EUROPE.

5. PER AGREEMENT, THE FSA "TIMELINE" IS BEING FORWARDED FOR

PAGE 04 RIIEPSR4440 UNCLAS

VALIDATION/COORDINATION WITH USARFMR FORCE MOD PERSONNEL.

6. EXPERIENCE HAS SHOWN THAT THE PROCEDURE INFORMALLY COORDINATED
 BETWEEN AMC-E AND HQDESCOM PERSONNEL, 20-22 FEB, AT 1740 AND USED IN
 PREPARATION FOR THE 14-17 APR COMF IS UNWELDY. TO SPEED THE
 PROCESS, WE HAVE ASKED THE FIELDING COMMANDS IN REF A TO PROVIDE
 YOU COPIES OF WORKLOAD DATA SHEETS FOR SYSTEMS TO BE FIELDING IN
 USAREUR. WE WILL CONTINUE, HOWEVER, TO PROVIDE COPIES OF THE INPUT
 WE RECEIVE TO ASSURE AS COMPLETE COVERAGE AS POSSIBLE.
 PART THREE FOR ALL.

7. YOUR CONTINUING SUPPORT FOR THIS EFFORT IS APPRECIATED.

PRIORITY

PRICRITY

- 8. HODESCOM POC IS KEITH MOSTOFT, AV 238-7935.
- 9. "DESCOM - PROVIDING LEADERS THE DECISIVE EDGE."

BT

#4680

NNNN

PRIORITY

PRIORITY

PT 00190

163/2146Z

PAGE 01

AG A2 I2	IC A1 I1	OT A2 I1	FP A2 I1	FESA A1 I1	SUPVR A1
SGS A1 I1	PM A1 I1	EV A2 I1	ACC/CE A4 I4	SEFO A1 I1	
ACZ A1 I1	CP A1 I1	AHN A2 I1	MD/KAH A2 I1	CSC A1 I1	M & R I1
TG A1 I1	CM A4 I1	ESD A2 I1	DS/DEN A2 I1	CID A1 I1	
PAO A1 I1	EE A1 I1	LCD A2 I1	300TH A2 I1	240TH A1 I1	OTC I1
PA A3 I1	IS A1 I1	PFS A2 I1	ARG A1 I1	SNO A1 --	
DI A2 I1	JA A1 I1	SFS A2 I1	TSA A1 I1	AND A1 --	RTR-C2
PTS A2 I1	CD A2 I1	TP A2 I1	ALMC A3 I1	CGRF -- T4	
EE A1 I1	OS A2 I1	FH A2 I1	LOGC A3 I3	COM GUARD A3	CKR-----

PCT07YUW RUEPCVC0305 1632100-0000--RUEOAGA.

ZNR 000000

112015Z JUN 85

FM CDR DESCOM CHAMBERSBURG PA //AMSDS-SM-SPD//

TO RUECIAFA/CDR AMCCOM RIA ROCK ISL IL //AMSMC-RDE-F/MMP-T/AS(R)//

RUEFLWDD/CDR M7AD MAINZ GE //SDSM7-FMD/P//

RUEFONOR/CDR AMC-EUROPE SECKENHEIM GE //AMXEU-FA//

INFO RUEKLDAR/CDR AMC ALEX VA //AMCSM-PDU//

RUEOAGA/DIR AMSAA FT LEE VA //AMXSY-LLSO//

UNCLAS

SUBJ: FORCE MOD STAGING WORKLOAD FOR M7AD. SEP 85-MAR 87

A. MSG. HQDESCOM. AMSDS-SM-SPD. 092015Z JUN 85. SUBJ: WORKLOAD PROJECTIONS FOR THE FRIEDRICHSFELD STAGING AREA (FSA). JUN 85-MAR 87.

H. FONECON ATTN M. WALSH, AMCCOM, AND K. MOSTOFT, HQDESCOM. 11 JUN 85.

C. LTR. HQDESCOM. AMSDS-SM-SPD. 28 MAY 85. SUBJ: REQUESTS FOR USE OF DESCOM OCONUS STAGING/HANDOFF SITES TO SUPPORT NEW EQUIPMENT FIELDINGS.

D. LTR. AMSAA. AMXSY-LLSO. 28 MAY 85. SUBJ: LSO PROJECT OAR. EVALUATION OF ESTABLISHING A PACKAGE PROCESSING POINT (PPP) IN EUROPE. (NOTAL)

PAGE 2 RUEPCVC0305 UNCLAS

E. MSG. HQDESCOM. AMSDS-SM-SPD. 261200Z APR 85. SUBJ: SECOND QUARTERLY FORCE MODERNIZATION PACKAGING WORKLOAD CONFERENCE. 16-17 APR 85.

F. MSG. HQDESCOM. AMSDS-SM-SPD. 261330Z JAN 85. SUBJ: WORKLOAD PROJECTIONS FOR THE FSA. JAN-DEC 85.

THIS MSG IS IN THREE PARTS.

PART ONE FOR ALL.

1. AS DISCUSSED IN REF A, M7AD IS BEING MADE AVAILABLE ON A LIMITED, INTERIM BASIS FOR THE STAGING/HANDOFF OF SYSTEMS WITH SPECIAL STORAGE AND HANDLING REQUIREMENTS BEING FIELDED IN USAREUR. IN REF D, WE ADVISED THAT WE WOULD PROVIDE A FORCE MOD STAGING WORKLOAD "TIMELINE" FOR M7AD, SIMILAR TO THE REFS A AND F TIMELINES FOR

PRIORITY

JUN 13 7 55 AM '85

PRIORITY

FRIEDRICHSFELD. SHOWN BELOW IS THE MZAD TIMELINE, BASED ON INPUT PROVIDED FOR AND IN THE AFTERMATH OF THE 16-17 APR WORKLOAD CONFERENCE. AS DISCUSSED IN REF E, THIS "TIMELINE" WILL REMAIN TENTATIVE UNTIL AMC-E FORMALLY COORDINATES THE FIELDING SCHEDULES WITH USAREUR.

2. THE FOLLOWING SHOWS THE SYSTEMS SCHEDULED FOR EACH MONTH/QUARTER IN THE CURRENT WORKLOAD "WINDOW". ALL ARE AMCCOM-MANAGED SYSTEMS. SHOWN FOR EACH SYSTEM ARE THE NUMBER OF PROJECTED FIELDINGS

PAGE 3 RIIEPCVC0305 UNCLAS

AND THE TOTAL NUMBER OF END ITEMS/SYSTEMS INVOLVED. DATA ON ASL/PLL PACKAGES/DENSITY ARE ALSO PROVIDED TO ASSIST MZAD IN WORK PLANNING AND AMSAA IN COMPLETING ITS REF D STUDY. NOTE THAT FIRST FIELDINGS ARE SCHEDULED TO BEGIN IN SEP 85; AT THE PRESENT TIME, NO FIELDINGS ARE SCHEDULED FOR THE 4TH QTR, FY86.

	FY85 SEP	FY86 OCT	NOV	DEC	JAN
SYSTEM:					
MRA1 CAAA:					
100/1000	100/1000	100/1000	100/1000	100/1000	100/1000
GEMSS(A):				4/22	
M3A4(R):				4/48	
SAWS:		1/472	1/945	1/472	
TOTAL:	100/1000	101/1472	101/1945	109/1542	100/1000
ASL/PLL PACKAGES/LINES:					
7/936	74/2056	142/3186	75/2066	7/936	
FY86 FEB	MAR	30	40	FY87 10	20

PAGE 4 RIIEPCVC0305 UNCLAS

MRA1:

100/1000 100/1000 300/3000

M3A4(R):

1/160

CAM:

410/2500

120HMS(C):

1/62

1/63

M-252(D):

1/34

PRIORITY

PRIORITY

GEMSS(A):

2/33

TOTAL:

100/1000 101/1160

300/3000 0

411/2652

4/130

ASL/PLL PACKAGES/LINES:

7/936

7/936

21/2808

-- 444/2465

NOTES: (A) NO ASL/PLL WILL BE FIELDN WITH SYSTEM

(B) WILL BE FIELDN FOLLOWING APPLICATION OF MWO AT MZAD

(C) 120MM BATTALION MORTAR SYSTEMS: SKELETON DATA ONLY

(D) IMPROVED 81MM MORTAR: SKELETON DATA ONLY

PAGE 5 RUEPCVCO305 UNCLAS

3. NOT INCLUDED IN THE FORGOING IS THE XM17 LIGHTWEIGHT DECON SYSTEM. TENTATIVELY SCHEDULED FOR INITIAL FIELDING IN USARFUR IN SEP 85. BUT LACKING A DA DCSOPS APPROVED DISTRIBUTION. PER REF A. STATUS OF THIS SYSTEM WILL BE UPDATED PRIOR TO NEXT WORKLOADING CONF (16-17 JUL 85).

4. WE WILL UPDATE PARA 2 "TIMELINE" IN MID-AUGUST 85. BASED ON THE RESULTS OF THE 16-17 JUL FORCE MOD WORKLOAD CONF.

PART TWO FOR AMC-EUROPE.

5. PER AGREEMENT, THE MZAD "TIMELINE" IS FORWARDED FOR VALIDATION/COORDINATION WITH USAREUR.

PART THREE FOR ALL.

6. YOUR CONTINUING SUPPORT FOR THIS EFFORT IS APPRECIATED.

7. HQDESCOM POC IS KIFTH MOSTOFI, AV 238-7935.

8. "DESCOM - PROVIDING LEADERS THE DECISIVE EDGE."

BT

E0305

NNNN

PRIORITY

PT 00201

163/2216Z

PAGE 01

AG A2 I2	IC A1 I1	DT A2 I1	FP A2 I1	FFSA A1 I1	SUPVR A1
SGS A1 I1	PM A1 I1	EV A2 I1	ACC/CF A4 I4	SEFO A1 I1	
AC7 A1 I1	CP A1 I1	AKN A2 I1	MO/KAH A2 I1	CSC A1 I1	M & R I1
IG A1 I1	CH A4 I1	ESD A2 I1	DS/DEN A2 I1	CIN A1 I1	
PAO A1 I1	FE A1 I1	LCD A2 I1	300TH A2 I1	240TH A1 I1	OIC I1
PA A3 I1	IS A1 I1	PFS A2 I1	ARR A1 I1	SNO A1 --	
DI A2 I1	JA A1 I1	SFS A2 I1	TSA A1 I1	ADD A1 --	RTR- (C)
PTS A2 I1	CH A2 I1	TP A2 I1	ALMC A3 I1	CGRF -- I4	
EF A1 I1	OS A2 I1	FH A2 I1	LOGC A3 I3	COM GUARD A3	CKR-----

PC017YUW RUEPCVC0306 1632143-UUUU--RUEOAGA.

ZNR UUUUUU

P 102015Z JUN 85

FM CDR DEFCOM CHAMBERSBURG PA //AMSDS-SM-SPD//
 TO RUCIWM4/CDR TACOM WARREN MI //AMSTA-KF/F//
 RUCIWM4/PM FOR TVS WARREN MI //AMCPM-TV//
 RUEFLWDD/CDR M740 MAINZ GE //SDSMZ-FM/PST//
 RUEFBNDR/CDR AMC-EUROPE SECKENHEIM GE //AMXEU-FA//
 INFO RUEKLDAR/CDR AMC ALEX VA //AMCSM-PDU//
 RUEFLWDE/TVET-E MAINZ GE //AMCPM-TV-F//
 RUEOAGA/DIR AMSAA FT LEE VA //AMXSY-LLSO//

UNCLAS

SUBJ: WORKLOAD PROJECTIONS FOR THE TACTICAL VEHICLE STAGING FACILITY (TVSF)

1. MSG. HODESCOM. AMSDS-SM-SPD. 092015Z JUN 85. SUBJ: WORKLOAD PROJECTIONS FOR THE FRIEDRICHSELD STAGING AREA (ESA). JUNE 85-MARCH 87.

2. LTR. AMSAA. AMXSY-LLSO. 23 MAY 85. SUBJ: LSO PROJECT 068. EVALUATION OF ESTABLISHING A PACKAGE PROCESSING POINT (PPP) IN EUROPE. (NOTAL)

3. MSG. HODESCOM. AMSDS-SM-SPD. 261200Z APR 85. SUBJ: SECOND

PAGE 2 RUEPCVC0306 UNCLAS

QUARTERLY FORCE MODERNIZATION PACKAGING WORKLOAD CONFERENCE. 16-17 APR 85.

4. MSG. HODESCOM. AMSDS-SM-SPD. 241330Z JAN 85. SUBJ: WORKLOAD PROJECTIONS FOR THE ESA. JAN-DEC 85.

THIS MSG IS IN THREE PARTS.

PART ONE FOR ALL.

1. IN REF C WE ADVISED THAT WE WOULD BE ISSUING A "TIMELINE" FOR THE TVSF. MODELLED ON THOSE FOR THE ESA (REFS A AND D). BASED ON TACOM INPUT FOR AND FOLLOWING THE 16-17 APR 85 WORKLOADING CONF. AS NOTED IN REF C. THIS TIMELINE WILL REMAIN TENTATIVE UNTIL AMC-F FORMALLY COORDINATES THE FIELDING SCHEDULES WITH USARFUR.

2. SHOWN BELOW ARE THE NUMBER OF FIELDINGS AND TOTAL END ITEMS.

PRIORITY

JUN 13 7 55 AM '85

PRIORITY

BY MONTH AND QUARTER IN THE CURRENT WORKLOAD "WINDOW". FOR THE SYSTEMS THAT TACOM HAS SCHEDULED TO US. ALSO SHOWN ARE TOTAL NUMBER OF ASL/PLL PACKAGES AND TOTAL LINES INVOLVED TO ASSIST M240 IN WORK PLANNING AND AMSAA IN ACCOMPLISHING ITS TASK SET FORTH IN REF A.

FY85:	JUN	JUL	AUG	SEP
SYSTEM:				
HEMTT		2/84	5/92	7/115
M939:	9/120	9/121	9/121	9/120

77/11668 ASL/PLL 53/1904 52/1723 84/1745

PAGE 3 RHEPCVCN306 UNCLAS

CHICV(A): 57/688 57/688 57/688 57/688

TOTAL FIELDINGS/END ITEMS: 66/808 68/849 71/897 73/919

SPECIAL TOOL SETS (HEMTT)(RT):

FY86:	OCT	NOV	DEC	JAN
HEMTT:	8/164	8/140	5/113	6/98
M939:	8/54	8/54	3/53	8/54
CHICV:	57/688	57/688		
HEMTT:	2/96	7/124	3/120	2/226
M939:		1/25		

TOTAL FIELDINGS/END ITEMS:

71/998 77/1027 11/286 12/378

ASL/PLL PKGS/TOT LINES:

90/2251 100/2331 10/449 35/1210

SPECIAL TOOL SETS (HEMTT):

FY86:	FEB	MAR		
HEMTT:	12/53	18/282	74/375	45/152
M939:	8/54	3/53	11/160	11/160

PAGE 4 RHEPCVCN306 UNCLAS

HEMTT: 1/163 4/838 8/1898 4/1218

TOTAL FIELDINGS/END ITEMS:

17/270 25/773 91/2029 60/1530

ASL/PLL PKGS/TOTAL LINES:

29/517 53/1123 142/2982 109/2237

SPECIAL TOOL SETS (HEMTT):

FY87:				
HEMTT:	27	41	77	28
M939:		10		
		40/74	3/42	
		15/226	15/226	

PRIORITY

PRIORITY

HMMVV:	7/1616	4/1276
TOTAL FIELDINGS/END ITEMS:		
	82/1916	22/1548
ASL/PLL PKGS/TOTAL LINES:		
	163/3538	97/1968
SPECIAL TOOL SETS (HEMIT):		

44

0

NOTE: (A) WORKLOAD NOT UPDATED FOR 16-17 APR CONFERENCE: ORIGINAL
DEC 84 PROJECTIONS USED PER ADVICE OF TACOM WORKLOADING
REPRESENTATIVE

PAGE 5 RHPCVC0306 UNCLAS

(R) ORG. DS AND GS LEVEL

3. WE WILL UPDATE THE "TIMELINE" SHOWN ABOVE IN MID-AUGUST 85, BASED
ON RESULTS OF THE UPCOMING (16-17 JUL 85) WORKLOAD CONFERENCE.

PART TWO FOR AMC-EUROPE.

4. PER AGREEMENT, TVSF TIMELINE IS FORWARDED FOR VALIDATION/
COORDINATION WITH USAREUR.

PART THREE FOR ALL.

5. YOUR SUPPORT FOR THIS EFFORT IS APPRECIATED.

6. HQDESCOM POC IS KEITH MOSTOFI, AV 238-7935.

7. "DESCOM - PROVIDING LEADERS THE DECISIVE EDGE".

BT

#0306

NNNN

PRIORITY

AMXSY-LLSO

15 July 1985

SUBJECT: Data Call for LSO Project 068 (Unit Materiel Fielding Point (UMFP) - Europe)

Commander
Logistic Control Activity
ATTN: AMXLC-LM
Presidio of San Francisco, CA 94129

1. Reference:

- a. Letter, AMXSY-LLSO, this HQ, 14 May 85, subject as above.
- b. Letter, AMXLC-S, your HQ, 13 Jun 85, subject: NCAD UMFP Analysis (Report Number 514101).

2. Reference 1a requested supply data on shipments originating from the Unit Materiel Fielding Point (UMFP) at New Cumberland Army Depot (NCAD). Reference 1b provided the desired data.

3. Data requested and received provided descriptive information on the number and nature of supply transactions processed by the UMFP at NCAD. To complete our analysis, this office requires transportation information on shipments processed by NCAD.

4. Request that LCA provide the transportation information depicted in enclosure. Information is needed by 2 August 1985. LSO points of contact are Dave Dryden, AUTOVON 687-3264/2302, and Richard Abeyta, AUTOVON 687-3568.

5. If requested data cannot be provided by 2 August 1985, request that figures identified in enclosure be submitted on an incremental basis within the following priority sequence:

- a. Priority 1: Figure 1 titled NCAD UMFP Storage Requirements.
- b. Priority 2: Figure 2 titled Class IX Europe Shipments by Mode of Transportation.

AMXSJ-LLSO

15 July 1985

SUBJECT: Data Call for LSO Project 068 (Unit Materiel Fielding Point (UMFP) -
Europe

c. Priority 3: Figures 3 and 4.

FOR THE DIRECTOR:

Enclosure

ROBERT J. BELL
LTC, ADA
Acting Manager
Logistics Studies Office

DATA CALL

LSO PROJECT 068

General Description: Summary printout of New Cumberland Army Depot (NCAD) UMFP Storage Requirements (Figure 1).

Time Frame: Data required for requisitions received in FY 84 and first six months of FY 85.

Limits: Data will be limited to Class IX requisitions received at the NCAD UMFP and destined for Europe. Data will also be limited to items with valid weights and cubes; that is, a weight or cube other than 0 or another absurd number.

Data Elements:

1. Fielding Command - AMC subordinate command responsible for the fielding of equipment supported by the requisition.
2. Special Handling - Requisitions with an AMDF Special Control Item Code (SCIC) of other than 1, 2, 4, and 0. Note: Binable, rackable, and special handling categories are mutually exclusive. Therefore, if an item requires special handling, it cannot be a candidate for normal bin or rack storage.
3. Binnable - All requisitions without a Special Control Item Code (SCIC) of 1, 2, 4, and 0 and with an extended weight less than or equal to 70 lbs and an extended cube less than or equal to one cubic foot.
4. Rackable - All requisitions without a Special Control Item Code (SCIC) of 1, 2, 4, and 0 and with an extended weight over 70 lbs or an extended cube greater than one cubic foot.
5. Number of requisitions - Count of requisitions falling within each category.
6. Average cube - Total cube of all requisitions within each category divided by number of requisitions within the category.
7. Average weight - Total weight of all requisitions within each category divided by number of requisitions within the category.
8. Requisitions ignored - Number of actual requisitions unable to be categorized due to inadequate or invalid or absurd weight/cube data.

NCAD IMFP STORAGE REQUIREMENTS

CLASS IX REQUISITIONS PROCESSED														NO. OF REQS IGNORED DUE TO INVALID WGT OR CUBE 13			
FIELDING COMMAND	SPECIAL HANDLING				BINABLE				RACKABLE				TOTAL ALL CATEGORIES				
	NUM OF REQS	AVG WGT PER REQ	AVG CUBE PER REQ	NUM OF REQS	AVG WGT PER REQ	AVG CUBE PER REQ	NUM OF REQS	AVG WGT PER REQ	AVG CUBE PER REQ	NUM OF REQS	AVG WGT PER REQ	AVG CUBE PER REQ	NUM OF REQS				
	1	2	3	4	5	6	7	8	9	10	11	12					
MICOM FY 84 FY 85*																	
CECOM FY 84 FY 85*																	
.																	
.																	
.																	

*1st and 2nd quarters only

1, 4, 7, 10 - include only REQS with valid weight/cube data

Figure 1

DATA CALL

LSO PROJECT 068

General Description: Summary printout of New Cumberland Army Depot shipments destined for Europe by transportation mode (see Figure 2).

Time Frame: Records available for shipments made in FY 84 and first six months of FY 85.

Limits: Data should be limited to requisitions for Class IX items shipped from NCAD to Europe during the time frame cited above.

Data Elements:

1. UMFP Shipments - Requisitions with project codes beginning with the letter "I" and project codes BAP, BGE, BGF, BJG, BNY, BRF, BRK, BRL, BPS, and JVA destined for Europe.
2. Non-UMFP Shipments - All requisitions lacking project codes and those requisitions with project codes different from the project codes cited above.
3. Water Transport - Class IX shipments to Europe by water carrier.
4. Air Transport - Class IX shipments to Europe by air transport.
5. Total Weight - Weight of all requisitions shipped to Europe by mode of transport.

CLASS IX EUROPE SHIPMENTS FROM NCAD BY MODE OF TRANSPORTATION

TYPE OF SHIPMENT	FISCAL YEAR	WATER TRANSPORT		AIR TRANSPORT	
		NUMBER REQUISITIONS	TOTAL WEIGHT	NUMBER REQUISITIONS	TOTAL WEIGHT
NCAD UMFP	FY 84				
	FY 85*				
NCAD NON-UMFP	FY 84				
	FY 85*				
TOTAL NCAD SHIPMENTS	FY 84				
	FY 85*				

*1st and 2nd quarters only

Figure 2

DATA CALL

LSO PROJECT 068

General Description: Histogram type data of NCAD UMFP requisitions weight and cube (see Figures 3 and 4).

Time Frame: Data required for requisitions received in FY 84 and first six months of FY 85.

Limits: Data should be limited to Class IX requisitions received at the NCAD UMFP and destined for Europe. Data should also be limited to items with valid weights and cubes; that is, a weight or cube other than 0 or some absurd number.

Data Elements:

1. Fielding Command - AMC subordinate command responsible for the fielding of equipment supported by the requisition.
2. Total Requisitions - Count of all Class IX requisitions received at the NCAD UMFP and destined for Europe.
3. Requisitions with valid weight or cube - Subset of total requisitions consisting of count of requisitions with weight or cube other than 0 or some absurd number.
4. Ten Even Intervals - Distribution of requisitions with valid weights and cube. Distribution is formed by screening valid requisitions for each fielding command. Identify maximum and minimum extended weight/cube of requisition for each command. Subtract minimum values from maximum values to derive range. Divide range quantity by 10 to determine interval width. Add interval width to minimum limits sequentially to establish 10 intervals between minimum and maximum extended weight. Provide count of requisition falling within each of the ten intervals.

PROFILE OF NCAD UMFP REQUISITION WEIGHT

FIELDING COMMAND	SAMPLE SIZE		TEN EVEN INTERVALS OF EXTENDED HEIGHT (IN LBS)									
	TOTAL REQS	REQS W/VALID WEIGHT	1	2	3	4	5	6	7	8	9	10
NICOM			XXX $W_{min}-W_1$	XXX W_1-W_2	XXX W_2-W_3	XXX W_3-W_4	XXX W_4-W_5	XXX W_5-W_6	XXX W_6-W_7	XXX W_7-W_8	XXX W_8-W_9	XXX W_9-W_{max}
CECOM	41	25	1 1-3	5 3-5	3 5-7	0 7-9	0 9-11	0 11-13	2 13-15	4 15-17	0 17-19	10 19-21
.												
.												
.												

*

**

* - notation to assist programmer

** - example of what table could look like for minimum weight of 1 lb and maximum weight of 21 lbs.

Note: XXX = number of requisitions falling within established weight limits
 W_{min} = minimum requisition weight (extended) for that fielding command
 W_{max} = maximum requisition weight (extended) for that fielding command
 $W_i = 1 \left(\frac{W_{max} - W_{min}}{10} \right)$
 count for all $i = (W_i - 1) < W < W_i$

Figure 3

PROFILE OF NCAD UMFP REQUISITION CUBE

FIELDING COMMAND	SAMPLE SIZE		TEN EVEN INTERVALS OF EXTENDED CUBE (IN CU FT)									
	TOTAL REQS	REQS W/VALID CUBE	1	2	3	4	5	6	7	8	9	10
MICON			XXX C _{min} -C ₁	XXX C ₁ -C ₂	XXX C ₂ -C ₃	XXX C ₃ -C ₄	XXX C ₄ -C ₅	XXX C ₅ -C ₆	XXX C ₆ -C ₇	XXX C ₇ -C ₈	XXX C ₈ -C ₉	XXX C ₉ -C _{max}
CECON												

Note: XXX = number of requisitions falling within all limits
 C_{min} = minimum requisition cube (extended) for that fielding command
 C_{max} = maximum requisition cube (extended) for that fielding command
 $C_{\bar{i}} = 1 \left(\frac{C_{max} - C_{min}}{10} \right)$
count for all $\bar{i} = (C_{\bar{i}-1} < C < C_{\bar{i}})$

Figure 4

CLASS D EQUIP SUBSIDIARIES FOR FISCAL YEAR 1970-1971
BY QUANTITIES OF EQUIP

CLASS	QUANTITY	UNIT PRICE	TOTAL
1	2ND	620,000	12,400,000
2	3RD	10,000	100,000
3		7,000,000	7,000,000
4	2ND	70,000	14,000,000
5	3RD	10,000	100,000
6		7,000,000	7,000,000
7		70,000	14,000,000
8		10,000	100,000
9		7,000,000	7,000,000
10		70,000	14,000,000
11		10,000	100,000
12		7,000,000	7,000,000
13		70,000	14,000,000
14		10,000	100,000
15		7,000,000	7,000,000
16		70,000	14,000,000
17		10,000	100,000
18		7,000,000	7,000,000
19		70,000	14,000,000
20		10,000	100,000
21		7,000,000	7,000,000
22		70,000	14,000,000
23		10,000	100,000
24		7,000,000	7,000,000
25		70,000	14,000,000
26		10,000	100,000
27		7,000,000	7,000,000
28		70,000	14,000,000
29		10,000	100,000
30		7,000,000	7,000,000
31		70,000	14,000,000
32		10,000	100,000
33		7,000,000	7,000,000
34		70,000	14,000,000
35		10,000	100,000
36		7,000,000	7,000,000
37		70,000	14,000,000
38		10,000	100,000
39		7,000,000	7,000,000
40		70,000	14,000,000
41		10,000	100,000
42		7,000,000	7,000,000
43		70,000	14,000,000
44		10,000	100,000
45		7,000,000	7,000,000
46		70,000	14,000,000
47		10,000	100,000
48		7,000,000	7,000,000
49		70,000	14,000,000
50		10,000	100,000
51		7,000,000	7,000,000
52		70,000	14,000,000
53		10,000	100,000
54		7,000,000	7,000,000
55		70,000	14,000,000
56		10,000	100,000
57		7,000,000	7,000,000
58		70,000	14,000,000
59		10,000	100,000
60		7,000,000	7,000,000
61		70,000	14,000,000
62		10,000	100,000
63		7,000,000	7,000,000
64		70,000	14,000,000
65		10,000	100,000
66		7,000,000	7,000,000
67		70,000	14,000,000
68		10,000	100,000
69		7,000,000	7,000,000
70		70,000	14,000,000
71		10,000	100,000
72		7,000,000	7,000,000
73		70,000	14,000,000
74		10,000	100,000
75		7,000,000	7,000,000
76		70,000	14,000,000
77		10,000	100,000
78		7,000,000	7,000,000
79		70,000	14,000,000
80		10,000	100,000
81		7,000,000	7,000,000
82		70,000	14,000,000
83		10,000	100,000
84		7,000,000	7,000,000
85		70,000	14,000,000
86		10,000	100,000
87		7,000,000	7,000,000
88		70,000	14,000,000
89		10,000	100,000
90		7,000,000	7,000,000
91		70,000	14,000,000
92		10,000	100,000
93		7,000,000	7,000,000
94		70,000	14,000,000
95		10,000	100,000
96		7,000,000	7,000,000
97		70,000	14,000,000
98		10,000	100,000
99		7,000,000	7,000,000
100		70,000	14,000,000

AIR

5640

83,934

809,939 = 10%

DATE	DESCRIPTION	AMOUNT	BALANCE
1/1/61	OPENING BALANCE		100.00
1/15/61	SALES	100.00	200.00
1/20/61	SALES	100.00	300.00
1/25/61	SALES	100.00	400.00
2/1/61	SALES	100.00	500.00
2/15/61	SALES	100.00	600.00
2/20/61	SALES	100.00	700.00
2/25/61	SALES	100.00	800.00
3/1/61	SALES	100.00	900.00
3/15/61	SALES	100.00	1000.00
3/20/61	SALES	100.00	1100.00
3/25/61	SALES	100.00	1200.00
4/1/61	SALES	100.00	1300.00
4/15/61	SALES	100.00	1400.00
4/20/61	SALES	100.00	1500.00
4/25/61	SALES	100.00	1600.00
5/1/61	SALES	100.00	1700.00
5/15/61	SALES	100.00	1800.00
5/20/61	SALES	100.00	1900.00
5/25/61	SALES	100.00	2000.00
6/1/61	SALES	100.00	2100.00
6/15/61	SALES	100.00	2200.00
6/20/61	SALES	100.00	2300.00
6/25/61	SALES	100.00	2400.00
7/1/61	SALES	100.00	2500.00
7/15/61	SALES	100.00	2600.00
7/20/61	SALES	100.00	2700.00
7/25/61	SALES	100.00	2800.00
8/1/61	SALES	100.00	2900.00
8/15/61	SALES	100.00	3000.00
8/20/61	SALES	100.00	3100.00
8/25/61	SALES	100.00	3200.00
9/1/61	SALES	100.00	3300.00
9/15/61	SALES	100.00	3400.00
9/20/61	SALES	100.00	3500.00
9/25/61	SALES	100.00	3600.00
10/1/61	SALES	100.00	3700.00
10/15/61	SALES	100.00	3800.00
10/20/61	SALES	100.00	3900.00
10/25/61	SALES	100.00	4000.00
11/1/61	SALES	100.00	4100.00
11/15/61	SALES	100.00	4200.00
11/20/61	SALES	100.00	4300.00
11/25/61	SALES	100.00	4400.00
12/1/61	SALES	100.00	4500.00
12/15/61	SALES	100.00	4600.00
12/20/61	SALES	100.00	4700.00
12/25/61	SALES	100.00	4800.00
1/1/62	SALES	100.00	4900.00
1/15/62	SALES	100.00	5000.00
1/20/62	SALES	100.00	5100.00
1/25/62	SALES	100.00	5200.00
2/1/62	SALES	100.00	5300.00
2/15/62	SALES	100.00	5400.00
2/20/62	SALES	100.00	5500.00
2/25/62	SALES	100.00	5600.00
3/1/62	SALES	100.00	5700.00
3/15/62	SALES	100.00	5800.00
3/20/62	SALES	100.00	5900.00
3/25/62	SALES	100.00	6000.00
4/1/62	SALES	100.00	6100.00
4/15/62	SALES	100.00	6200.00
4/20/62	SALES	100.00	6300.00
4/25/62	SALES	100.00	6400.00
5/1/62	SALES	100.00	6500.00
5/15/62	SALES	100.00	6600.00
5/20/62	SALES	100.00	6700.00
5/25/62	SALES	100.00	6800.00
6/1/62	SALES	100.00	6900.00
6/15/62	SALES	100.00	7000.00
6/20/62	SALES	100.00	7100.00
6/25/62	SALES	100.00	7200.00
7/1/62	SALES	100.00	7300.00
7/15/62	SALES	100.00	7400.00
7/20/62	SALES	100.00	7500.00
7/25/62	SALES	100.00	7600.00
8/1/62	SALES	100.00	7700.00
8/15/62	SALES	100.00	7800.00
8/20/62	SALES	100.00	7900.00
8/25/62	SALES	100.00	8000.00
9/1/62	SALES	100.00	8100.00
9/15/62	SALES	100.00	8200.00
9/20/62	SALES	100.00	8300.00
9/25/62	SALES	100.00	8400.00
10/1/62	SALES	100.00	8500.00
10/15/62	SALES	100.00	8600.00
10/20/62	SALES	100.00	8700.00
10/25/62	SALES	100.00	8800.00
11/1/62	SALES	100.00	8900.00
11/15/62	SALES	100.00	9000.00
11/20/62	SALES	100.00	9100.00
11/25/62	SALES	100.00	9200.00
12/1/62	SALES	100.00	9300.00
12/15/62	SALES	100.00	9400.00
12/20/62	SALES	100.00	9500.00
12/25/62	SALES	100.00	9600.00
1/1/63	SALES	100.00	9700.00
1/15/63	SALES	100.00	9800.00
1/20/63	SALES	100.00	9900.00
1/25/63	SALES	100.00	10000.00

$$\frac{2446}{6655} = 37\%$$

$$\frac{4269}{6655} = 63\%$$

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APPENDIX B

ITEM WEIGHT/CUBE/PRICE ANALYSIS

Item Characteristics Statistics. The enclosed listings contain weight, cube, and price data used in the analysis. These listings represent computer printouts resulting from statistical analyses of magnetic tapes provided by LCA. A separate listing is provided for each characteristic (i.e.; weight, cube) by storage category (i.e.; bin, rack, cube) by fielding command. Summary sheets are also provided at the front of the appendix.

WEIGHT STATISTICS

STORAGE CATEGORY	STATISTIC	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM
B I N	Sample Size (N)	9168	5382	5922	1603	18194	2938
	Min Value (MIN)	0.01	0.01	0.01	0.01	0.01	0.01
	1st Quartile (Q1)	0.18	0.57	0.37	0.63	1.42	0.63
	Median (Q2)	0.85	1.74	1.15	1.40	5.32	1.96
	3d Quartile (Q3)	3.78	4.40	4.50	3.11	15.15	6.00
	Max Value (MAX)	70.00	70.00	70.00	70.00	70.00	67.90
	Mode (M)	0.02	1.00	1.00	1.50	21.00	1.00
	Mean ($\bar{x}$)	4.13	4.00	5.31	3.36	11.11	5.23
	St Dev (SD) ¹	0.09	0.09	0.13	0.16	0.10	0.15
	Skewness (S) ²	3.59	4.20	3.32	5.39	1.87	3.15
	Kurtosis (K) ³	15.37	24.50	12.56	41.66	3.35	12.85
R A C K	Sample Size (N)	883	771	653	240	7291	386
	Min Value (MIN)	0.94	0.25	3.00	0.40	0.12	2.00
	1st Quartile (Q1)	36.36	17.50	51.20	31.26	58.00	40.95
	Median (Q2)	74.50	41.10	100.00	57.50	106.38	80.00
	3d Quartile (Q3)	130.00	85.00	216.00	105.06	216.60	150.48
	Max Value (MAX)	1323.00	1449.00	2414.72	1800.00	2496.00	1880.00
	Mode (M)	82.00	None	50.00	57.50	42.00	60.00
	Mean ($\bar{x}$)	113.03	74.74	209.89	89.26	198.73	123.51
	St Dev (SD) ¹	4.67	4.12	11.92	8.81	3.24	8.14
	Skewness (S) ²	3.81	5.40	3.31	8.62	3.88	5.75
	Kurtosis (K) ³	20.33	45.86	13.25	100.80	19.58	49.27
B U L K	Sample Size (N)	52	127	14	36	1183	42
	Min Value (MIN)	36.42	32.00	507.50	0.03	38.94	260.00
	1st Quartile (Q1)	313.86	518.00	800.00	56.25	869.24	340.00
	Median (Q2)	634.52	640.00	2450.50	384.00	2336.00	593.50
	3d Quartile (Q3)	1392.94	1163.00	4259.50	414.00	4265.00	1518.00
	Max Value (MAX)	19680.00	2612.00	26250.00	4680.00	53152.00	3910.00
	Mode (M)	None	604.00	800.00	384.00	3086.00	None
	Mean ($\bar{x}$)	1429.06	832.25	4028.25	478.99	4217.90	1119.93
	St Dev (SD) ¹	396.11	48.72	1771.10	132.47	185.35	161.39
	Skewness (S) ²	5.11	1.11	2.64	4.14	3.68	1.31
	Kurtosis (K) ³	29.26	1.03	6.06	18.84	16.56	0.51

$$^1SD = [\sum (x_i - \bar{x})^2 / (N - 1)]^{1/2}$$

$$^2S = \sum (x_i - \bar{x})^3 / (N)(SD)^3$$

$$^3K = \sum (x_i - \bar{x})^4 / [(N)(SD)^4] - 3$$

CUBE STATISTICS

STORAGE CATEGORY	STATISTIC	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM
B I N	Sample Size (N)	9168	5385	5922	1603	18192	2938
	Min Value (MIN)	0.001	0.001	0.001	0.001	0.001	0.001
	1st Quartile (Q1)	0.009	0.040	0.018	0.042	0.048	0.040
	Median (Q2)	0.040	0.120	0.050	0.120	0.190	0.120
	3d Quartile (Q3)	0.180	0.360	0.180	0.260	0.570	0.320
	Max Value (MAX)	2.000	2.000	2.000	2.000	2.000	2.000
	Mode (M)	0.001	0.040	0.006	0.182	0.020	0.040
	Mean ($\bar{x}$)	0.190	0.290	0.190	0.240	0.400	0.270
	St Dev (SD) ¹	0.003	0.005	0.004	0.008	0.003	0.007
	Skewness (S) ²	2.820	2.060	2.960	2.540	2.010	2.310
	Kurtosis (K) ³	8.270	3.930	9.320	6.810	13.300	5.590
R A C K	Sample Size (N)	883	772	653	240	7291	386
	Min Value (MIN)	0.03	0.02	0.15	2.00	0.002	0.22
	1st Quartile (Q1)	2.60	2.95	2.06	3.27	2.740	3.14
	Median (Q2)	4.46	4.70	3.59	4.49	5.050	6.00
	3d Quartile (Q3)	8.86	9.04	6.24	9.68	10.940	12.62
	Max Value (MAX)	39.98	40.00	37.17	39.98	40.000	38.78
	Mode (M)	None	6.00	3.59	3.88	2.600	3.00
	Mean ($\bar{x}$)	7.20	7.37	5.58	7.37	8.340	9.24
	St Dev (SD) ¹	0.24	0.24	0.24	0.44	0.090	0.43
	Skewness (S) ²	2.09	2.05	2.54	2.31	1.730	1.57
	Kurtosis (K) ³	4.52	4.55	7.40	6.01	2.510	1.84
B U L K	Sample Size (N)	52	127	14	36	1183	42
	Min Value (MIN)	0.34	40.29	38.70	40.10	1.52	42.00
	1st Quartile (Q1)	46.51	64.32	57.50	45.39	55.40	52.00
	Median (Q2)	71.63	78.36	70.23	53.44	95.20	68.85
	3d Quartile (Q3)	104.66	114.00	86.68	55.65	181.57	102.00
	Max Value (MAX)	915.99	503.00	465.00	915.90	2131	507.42
	Mode (M)	None	78.36	None	55.65	95.20	None
	Mean ($\bar{x}$)	115.76	115.83	102.37	84.34	156.80	112.39
	St Dev (SD) ¹	20.49	8.96	29.35	24.31	5.19	17.84
	Skewness (S) ²	3.59	2.49	2.55	5.15	3.78	2.37
	Kurtosis (K) ³	14.82	5.98	5.54	26.34	23.61	4.50

$$^1SD = [\sum (x_i - \bar{x})^2 / (N - 1)]^{1/2}$$

$$^2S = \sum (x_i - \bar{x})^3 / (N)(SD)^3$$

$$^3K = \sum (x_i - \bar{x})^4 / [(N)(SD)^4] - 3$$

PRICE STATISTICS

STORAGE CATEGORY	STATISTIC	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM
B I N	Sample Size (N)	9551	5679	6029	1609	18872	3050
	Min Value (MIN)	0.01	0.07	0.05	0.05	0.02	0.05
	1st Quartile (Q1)	6.11	36.00	48.06	110.88	11.33	15.70
	Median (Q2)	34.08	124.00	168.32	356.00	37.63	55.22
	3d Quartile (Q3)	140.40	507.00	533.00	1314.00	109.00	168.42
	Max Value (MAX)	223136.00	352000.00	308200.00	45350.00	310222.00	83615.00
	Mode (M)	35.28	99.96	3060.00	2308.00	55.37	2.78
	Mean ($\bar{x}$)	308.04	1456.11	775.51	1404.10	168.07	313.61
	St Dev (SD) ¹	40.62	198.60	61.24	79.26	18.25	33.73
	Skewness (S) ²	35.40	21.47	48.09	5.90	104.10	31.29
	Kurtosis (K) ³	1580.11	486.06	2959.83	49.68	12498.00	1323.44
R A C K	Sample Size (N)	883	773	653	240	7291	386
	Min Value (MIN)	0.39	2.73	15.12	10.81	2.08	25.00
	1st Quartile (Q1)	288.00	446.00	277.20	2351.00	145.60	201.00
	Median (Q2)	700.00	1785.00	570.00	8201.50	292.80	464.18
	3d Quartile (Q3)	1907.04	5068.00	1991.00	25741.00	705.00	993.60
	Max Value (MAX)	398121.00	111100.00	332973.00	170592.00	51132.00	147908.00
	Mode (M)	13129.00	32421.00	362.00	68591.00	126.00	201.00
	Mean ($\bar{x}$)	3283.65	5316.00	2883.72	22265.00	21.33	1929.87
	St Dev (SD) ¹	522.91	381.69	571.06	2039.56	761.53	455.17
	Skewness (S) ²	19.79	4.60	18.43	2.15	10.64	12.46
	Kurtosis (K) ³	477.34	28.94	400.99	4.80	173.02	186.71
B U L K	Sample Size (N)	52	127	14	36	1183	42
	Min Value (MIN)	232.00	446.00	1125.00	7.10	43.62	1193.92
	1st Quartile (Q1)	3923.68	10820.00	2585.00	175.27	1430.00	2669.00
	Median (Q2)	7880.24	28044.00	9695.24	176745.00	4464.00	4623.00
	3d Quartile (Q3)	18475.14	63438.00	17257.00	--	12144.00	10279.00
	Max Value (MAX)	110720.00	874200.00	106350.00	413496.00	707610.00	103155.00
	Mode (M)	None	11620.00	None	206748.00	11626.00	None
	Mean ($\bar{x}$)	17548.87	75804.00	15996.69	124161.00	20145.00	9824.90
	St Dev (SD) ¹	3579.20	12891.00	7128.87	19370.00	1591.00	2516.00
	Skewness (S) ²	2.27	3.73	2.73	0.26	6.43	4.51
	Kurtosis (K) ³	4.46	14.94	6.43	-1.15	56.44	22.65

$$^1SD = [\sum (x_i - \bar{x})^2 / (N - 1)]^{1/2}$$

$$^2S = \sum (x_i - \bar{x})^3 / (N)(SD)^3$$

$$^3K = \sum (x_i - \bar{x})^4 / [(N)(SD)^4] - 3$$

PAGE 3 GROUP PRICE & WEIGHT & CUBE

• **LSM3** •

[illegible]

MEAN	ESTIMATE
4.1215310	
0.0500000	
0.0200000	

51-50004
0-0271007
0-0200075

952 CONFIDENTIAL
LCHB
3-5527943

P21PUM	70-000000
P21PUM	0-010000
PANCE	69-530000
ADVANCE	69-552233
SLEAV.	0-330005
(03-61)2	1-000000
PH-SI-SC.	7-90
PH-SI-SC.	-0-49

II

EACH OF THE
REPRESENTS
602
COUNT(S)

EACH 1-0 ABOVE = 2.0000
L = 0.0000
U = 22.0000

CASE NO. OF MIN.	VAL. = 73
CASE NO. OF MAX.	VAL. = 0020

01= 0-100000
03= 3-700000
5= -4-2103295
5= 12-4693514

VALUE	VALUE / S.E.
3.59	148.16
15.37	300.35

51501974
55349345

0052-0 = 40130 6-0 43V3

.....

PERCENTS			VOLLE			PERCENTS			VALUE			COUNT			PERCENTS			VALUE			COUNT			PERCENTS		
CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM	CUM	CELL	CUM
0.010000	241	2.6	2.6	0.0	71.0	3.420000	4	0.0	71.0	5.094000	1	0.0	26.0	19.040000	1	0.0	94.0	19.040000	1	0.0	94.0	19.040000	1	0.0	94.0	
0.020000	330	3.6	6.2	0.0	73.0	3.630000	1	0.0	73.0	9.180000	5	0.1	86.0	19.080000	1	0.0	94.0	19.080000	1	0.0	94.0	19.080000	1	0.0	94.0	
0.030000	157	1.7	7.9	0.0	73.9	3.640000	2	0.0	73.9	9.182000	6	0.1	86.9	19.200000	1	0.0	94.0	19.200000	1	0.0	94.0	19.200000	1	0.0	94.0	
0.040000	199	2.2	10.1	0.0	74.5	3.450000	5	0.1	73.9	9.138000	1	0.0	86.9	19.130000	2	0.0	94.5	19.130000	2	0.0	94.5	19.130000	2	0.0	94.5	
0.050000	182	1.3	11.4	0.0	73.9	3.660000	2	0.0	73.9	5.152000	2	0.0	86.5	19.160000	1	0.0	94.5	19.160000	1	0.0	94.5	19.160000	1	0.0	94.5	
0.060000	92	2.1	13.5	0.0	74.0	3.670000	2	0.0	74.0	5.160000	1	0.0	86.9	19.180000	3	0.0	94.5	19.180000	3	0.0	94.5	19.180000	3	0.0	94.5	
0.070000	82	0.9	14.4	0.1	74.1	3.680000	11	0.1	74.1	9.161000	3	0.0	87.0	19.150000	1	0.0	94.5	19.150000	1	0.0	94.5	19.150000	1	0.0	94.5	
0.080000	169	1.4	16.3	0.1	74.2	3.580000	11	0.1	74.2	5.162000	4	0.0	87.0	19.150000	2	0.0	94.5	19.150000	2	0.0	94.5	19.150000	2	0.0	94.5	
0.090000	65	0.7	17.0	0.0	74.2	3.510000	2	0.0	74.2	5.218000	1	0.0	87.0	19.150000	4	0.0	94.6	19.150000	4	0.0	94.6	19.150000	4	0.0	94.6	
0.100000	132	1.4	18.4	0.0	74.3	3.520000	2	0.0	74.3	9.244000	2	0.0	87.0	19.156000	1	0.0	94.6	19.156000	1	0.0	94.6	19.156000	1	0.0	94.6	
0.110000	92	1.0	19.4	0.0	74.3	3.540000	2	0.0	74.3	5.252000	1	0.0	87.1	19.1590000	1	0.0	94.6	19.1590000	1	0.0	94.6	19.1590000	1	0.0	94.6	
0.120000	160	1.0	20.2	0.0	74.3	3.550000	3	0.0	74.3	5.260000	1	0.0	87.1	19.160000	2	0.0	94.6	19.160000	2	0.0	94.6	19.160000	2	0.0	94.6	
0.130000	47	0.5	21.7	0.0	74.3	3.570000	2	0.0	74.3	5.280000	2	0.0	87.1	19.1640000	1	0.0	94.6	19.1640000	1	0.0	94.6	19.1640000	1	0.0	94.6	
0.140000	63	0.7	22.4	0.2	74.5	3.600000	16	0.2	74.5	5.160000	1	0.0	87.1	19.1700000	1	0.0	94.7	19.1700000	1	0.0	94.7	19.1700000	1	0.0	94.7	
0.150000	75	0.9	23.3	0.0	74.5	3.610000	2	0.0	74.5	5.162000	1	0.0	87.1	19.1720000	3	0.0	94.7	19.1720000	3	0.0	94.7	19.1720000	3	0.0	94.7	
0.160000	66	0.7	24.0	0.0	74.6	3.630000	2	0.0	74.6	5.154000	1	0.0	87.1	19.1800000	1	0.0	94.7	19.1800000	1	0.0	94.7	19.1800000	1	0.0	94.7	
0.170000	25	0.3	24.3	0.0	74.6	3.640000	1	0.0	74.6	5.160000	2	0.0	87.2	19.1800000	1	0.0	94.7	19.1800000	1	0.0	94.7	19.1800000	1	0.0	94.7	
0.180000	70	0.9	25.1	0.1	74.6	3.660000	5	0.1	74.6	5.182000	1	0.0	87.2	19.1900000	1	0.0	94.7	19.1900000	1	0.0	94.7	19.1900000	1	0.0	94.7	
0.190000	27	0.3	25.4	0.0	74.7	3.670000	1	0.0	74.7	5.195000	2	0.0	87.2	20.000000	0	0.0	94.0	20.000000	0	0.0	94.0	20.000000	0	0.0	94.0	

AMCOM CUBE BIN LINES

PAGE 4 GROUP PRICE & HEIGHT & CUBE

* ECU *

VARIABLE NUMBER - - - - - 3
NUMBER OF ESTIMATE VALUES - 930
NUMBER OF VALUES COUNTED - 916
NUMBER OF VALUES NOT COUNTED 350

MEAN ESTIMATE ST-EMDIF
0.1060002 C-0035026
MEDIAN 0.0420000
MODE 0.0010000

PADJUP 2-CCCC000
PIMIN 0-0010000
PAGE 1-0550000
VARIANCE 0-1160024
ST-DEV. 0-1435140
C03-C03/2 0-0047500
PH-ST-SC. 5-22
PH-ST-SC. -0.54

95% CONFIDENCE
LEVER UPPER
0.1799557 0.1540200

EACH *1*
REPRESENTS
559
COUNT(S)

EACH *-- ABOVE = 0.0750
L= 0.0000
U= 2.9250

CASE NO. OF MIN. VAL. = 10
CASE NO. OF MAX. VAL. = 115

SHEDESS VALUE VALUE/S.E.
PLATOSIS 2-22 110.37
6-27 161.57
Q1= 0.0090000
Q3= 0.1705000
S= -0.1565266
S0= 0.3305030

EACH *.. BELOW = 0.0200

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 25

MAXIMUM	1321.000000
MINIMUM	0.940000
RANGE	1322.060000
VARIANCE	19269.5015076
ST-DEV.	138.8269179
(Q3-Q1)/2	46.0200000
4X-ST-SC.	0.71
5X-ST-SC.	-0.01

95% CONFIDENCE
LOWER UPPER
103.0575011 122.2039779

LOWER UPPER
01-0573A11 122-2014779

EACH "H"
REPRESENTS
31
COUNT(S)

EACH --- ABOVE =	50.0000
L =	0.0000
U =	1450.0000
CASE NO. OF MIN. VAL. =	311
CASE NO. OF MAX. VAL. =	391

Q1=	36.3600000
Q3=	110.0000000
S=	-23.8562584
S0=	251.9176174

EACH . . 95LDW = 15.0000

.....

COUNT			PERCENTS			VALUE			COUNT			PERCENTS			VALUE		
COUNT	CELL	CUM	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
0-9400	1	0-1	0-1	0-1	25-0	36-3600	1	0-1	25-0	76-0000	1	0-1	50-0	130-2500	1	0-1	75-0
1-1000	2	0-2	0-3	0-1	25-1	36-6000	1	0-1	25-1	77-2000	1	0-1	51-0	139-1000	1	0-1	77-0
1-4000	1	0-1	0-5	0-1	25-3	36-8200	1	0-1	25-3	77-5000	1	0-1	51-3	139-1900	1	0-1	77-9
1-5000	1	0-1	0-6	0-1	25-4	36-9000	1	0-1	25-4	78-0000	1	0-1	51-4	139-5000	1	0-1	78-0
1-7200	1	0-1	0-7	0-1	25-5	37-0000	1	0-1	25-5	78-3000	1	0-1	51-5	140-9700	1	0-1	78-1
1-9400	1	0-1	0-8	0-1	25-6	37-3500	1	0-1	25-6	78-5000	1	0-1	51-6	141-5000	1	0-1	78-3
2-1300	1	0-1	0-9	0-1	25-7	37-5000	1	0-1	25-7	78-8100	1	0-1	51-6	142-6000	1	0-1	78-4
4-1200	1	0-1	1-0	0-1	25-8	37-6600	1	0-1	25-8	79-0000	1	0-1	51-9	143-1000	1	0-1	78-7
4-1800	1	0-1	1-1	0-1	25-9	37-7600	1	0-1	25-9	79-0500	1	0-1	52-0	143-7500	1	0-1	78-8
6-0000	2	0-2	1-4	0-2	26-2	38-0000	2	0-2	26-2	79-2000	1	0-1	52-1	144-0000	0	0-9	79-7
6-3900	1	0-1	1-5	0-2	26-4	38-7500	2	0-2	26-4	79-3000	1	0-1	52-2	144-3200	1	0-1	79-9
7-3600	1	0-1	1-6	0-1	26-5	39-3700	1	0-1	26-5	79-5000	1	0-1	52-5	145-7000	1	0-1	80-3
7-6500	1	0-1	1-7	0-1	26-6	39-4400	1	0-1	26-6	79-9200	1	0-1	52-7	147-2500	1	0-1	80-3
8-0000	2	0-2	1-9	0-1	26-7	39-5000	1	0-1	26-7	79-9000	1	0-1	52-8	150-0000	2	0-2	80-5
8-1600	1	0-1	2-0	0-2	27-0	39-6000	2	0-2	27-0	80-0000	1	0-1	53-1	150-2400	1	0-1	80-6
8-9700	1	0-1	2-2	0-1	27-1	39-7600	1	0-1	27-1	80-5000	1	0-1	53-2	151-0500	1	0-1	80-7
9-0000	2	0-2	2-4	0-1	27-2	39-9600	1	0-1	27-2	80-5200	1	0-1	53-3	151-5500	1	0-1	80-9
9-2600	1	0-1	2-5	0-3	27-5	40-0000	1	0-3	27-5	80-6500	1	0-1	53-5	152-0000	1	0-1	81-0
9-3600	1	0-1	2-6	0-1	27-6	40-4000	1	0-1	27-6	81-3000	1	0-1	53-6	152-0700	1	0-1	81-1

PAGE 2 SHOPPE PRICE & WEIGHT & CURE

BACK LINES

• EPAC •

VARIABLE NUMBER	1
NUMBER OF DISTINCT VALUES	741
NUMBER OF VALUES COUNTED	803
NUMBER OF VALUES NOT COUNTED	0

	ESTIMATE	STANDARD
MEAN	3283.653547	522.9129115
MEDIAN	700.000000	55.2761179
MODE	13129.000000	

95% CONFIDENCE	
LOWER	UPPER
2257-3547121	4309-9523773

MAXIMUM	396121-0000000
MINIMUM	0-3960000
RANGE	396120-6100006
VARIANCE	*****
ST-DEV.	15538-5223130
(03-03-01)/2	609-5200000
NY-ST-SC.	25-41
WM-ST-SC.	-0-21

EACH "H"
REPRESENTS
85
COUNT(S)

[illegible]

EACH -- ABOVE = 15000-0000
L = 0-0000
U = 41500-0000
CASE NO. OF MIN. VAL. = 614
CASE NO. OF MAX. VAL. = 643

QUARTUSIS	477.14	2695.10	S=16822-1759077
QUARTUSIS	19.79	240.14	S=-
SKENWESS	19.79	240.14	Q1= 1907.0400000
SKENWESS	19.79	240.14	Q1= 288.0000000

EACH 0.0 BELOW = 5000.0000

S O N N H O S
- - - E - O -
M A D E

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0-39000	1	0.1	0.1	267.82	1	0.1	24.8	659.84	1	0.1	49.8	2007.7	1	0.1	76.3
0-52000	1	0.1	0.2	268.80	2	0.2	25.0	760.00	2	0.2	50.1	2010.3	1	0.1	76.4
3-24000	1	0.1	0.3	292.50	1	0.1	25.1	702.21	1	0.1	50.2	2030.0	1	0.1	76.6
8-0000	1	0.1	0.5	292.92	1	0.1	25.3	703.60	1	0.1	50.3	2038.6	1	0.1	76.7
22-440	1	0.1	0.6	293.00	1	0.1	25.4	704.46	1	0.1	50.4	2040.0	1	0.1	76.8
23-530	1	0.1	0.7	294.55	1	0.1	25.5	711.62	1	0.1	50.5	2047.5	1	0.1	76.9
27-040	2	0.2	0.9	297.18	1	0.1	25.6	717.99	1	0.1	50.6	2071.4	1	0.1	77.0
28-200	1	0.1	1.0	297.50	1	0.1	25.7	724.00	1	0.1	50.7	2083.4	1	0.1	77.1
31-200	1	0.1	1.1	299.52	1	0.1	25.8	725.20	2	0.2	51.3	2104.0	1	0.1	77.2
33-020	1	0.1	1.2	299.82	1	0.1	25.9	726.60	1	0.1	51.4	2130.0	1	0.1	77.3
33-020	1	0.1	1.4	301.29	1	0.1	26.0	730.66	1	0.1	51.5	2135.6	1	0.1	77.5
33-660	1	0.1	1.5	301.40	1	0.1	26.2	730.80	1	0.1	51.6	2137.2	1	0.1	77.6
34-020	1	0.1	1.6	303.71	1	0.1	26.3	741.66	1	0.1	51.8	2146.3	1	0.1	77.7
39-300	1	0.1	1.7	303.75	1	0.1	26.4	743.60	2	0.2	52.0	2172.0	1	0.1	77.8
40-560	1	0.1	1.8	308.25	1	0.1	26.5	748.50	3	0.3	52.3	2192.6	2	0.2	78.0
40-950	1	0.1	1.9	308.49	1	0.1	26.6	756.00	1	0.1	52.4	2194.0	1	0.1	78.1
41-630	1	0.1	2.0	310.61	1	0.1	26.7	762.50	1	0.1	52.5	2210.6	2	0.2	78.4
41-820	1	0.1	2.2	310.60	1	0.1	26.8	763.65	1	0.1	52.7	2260.7	1	0.1	78.5
45-630	1	0.1	2.3	312.16	1	0.1	27.0	768.64	1	0.1	52.8	2275.0	1	0.1	78.5

AMCCOM CUBE

BULK LINES

PAGE 4 BUDGET PRICE \$ METRIC & CUBE

 * ECUB *

VARIABLE NUMBER 3
 NUMBER OF DISTINCT VALUES . . . 50
 NUMBER OF VALUES COUNTED . . . 52
 NUMBER OF VALUES NOT COUNTED . . 0

ESTIMATE
 115.7631154
 71.6330000
 NOT UNIQUE

MEAN
 20.4893381
 10.1736566

MAXIMUM 915.9890000
 MINIMUM 0.3360000
 RANGE 915.6530000
 VARIANCE 21429.8436640
 STANDARD 147.7492764
 COEFFICIENT 29.0762500
 MAXIMUM 5.42
 MINIMUM -0.74

95% CONFIDENCE
 LOWER 74.6254349
 UPPER 150.9977759

EACH OF
 REPRESENTS
 COUNT(S)

*****U

EACH OF ABOVE = 75.0000
 L = 0.0000
 U = 1275.0000
 CASE NO. OF MIN. VAL. = 26
 CASE NO. OF MAX. VAL. = 15

VALUE VALUE/5.E.
 14.82 10.57
 21.81 5.42
 263.5123517 0.74

EACH OF BELOW = 7.5000

S
 M 1 2 3 4
 N 1 2 3 4
 C 1 2 3 4
 I 1 2 3 4
 A 1 2 3 4
 N 1 2 3 4

VALUE	LCOUNT	PERCENTS	CELL	CUM	VALUE	CCOUNT	PERCENTS	CELL	CUM	VALUE	LCOUNT	PERCENTS	CELL	CUM
0.3360	1	1.9	1.9	1.9	47.1820	1	1.9	20.7	20.7	01.1800	1	1.9	53.8	53.8
40.5160	1	1.9	3.8	3.8	47.1580	1	1.9	28.6	28.6	62.3200	1	1.9	57.7	57.7
40.9200	1	1.9	5.8	5.8	49.2260	1	1.9	31.8	31.8	83.0000	1	1.9	59.6	59.6
41.4160	1	1.9	7.7	7.7	50.0960	1	1.9	32.7	32.7	84.0720	1	1.9	61.5	61.5
41.8500	1	1.9	9.6	9.6	52.5760	2	1.9	36.5	36.5	89.0320	1	1.9	63.5	63.5
41.8540	1	1.9	11.5	11.5	53.5280	1	1.9	38.5	38.5	91.7000	1	1.9	65.4	65.4
43.5720	1	1.9	13.5	13.5	54.2640	1	1.9	40.4	40.4	92.7520	1	1.9	67.3	67.3
44.2680	1	1.9	15.4	15.4	56.4610	2	1.9	44.2	44.2	94.3640	1	1.9	69.2	69.2
44.2960	1	1.9	17.3	17.3	66.5660	1	1.9	46.2	46.2	99.5250	1	1.9	71.2	71.2
44.4800	1	1.9	19.2	19.2	67.0120	1	1.9	48.1	48.1	103.5480	1	1.9	73.1	73.1
44.5160	1	1.9	21.2	21.2	69.6660	1	1.9	50.0	50.0	103.6670	1	1.9	75.0	75.0
45.3840	1	1.9	23.1	23.1	73.6000	1	1.9	51.9	51.9	105.6480	1	1.9	76.9	76.9
45.8240	1	1.9	25.0	25.0	81.0320	1	1.9	53.8	53.8	112.9220	1	1.9	78.8	78.8

NUMBER OF INTEGER WORDS OF STORAGE USED IN PRECEDING
 CPU TIME USED IN PRECEDING PROBLEM 12.933 SECONDS
 CUMULATIVE CPU TIME USED 12.933 SECONDS

AMCOM PRICE
BULK LINES

PAGE 2 BUDGET PRICE & WEIGHT & LUBE

* EPHC *

VARIABLE NUMBER 1
NUMBER OF DISTINCT VALUES . . . 50
NUMBER OF VALUES COUNTED . . . 52
NUMBER OF VALUES NOT COUNTED . . 0

MEAN 17548.8723077
MEDIAN 7880.2400000
MODE NOT UNIQUE

95% CONFIDENCE

LOWER UPPER
10763.1209809 24734.6236165

MAXIMUM 110720.000000
MINIMUM 212.0000000
RANGE 110498.0000000
VARIANCE
STANDARD DEVIATION 25019.0055416
COEFFICIENT OF VARIATION 22.752775000
MEAN STANDARD ERROR 3.61
MEAN STANDARD ERROR -0.57

EACH *P*
REFRIGERANTS
COUNTS

*****U

EACH *P* ADVCE = 7500.0000
L = 0.0000
U = 127530.0000
CASE NO. OF MIN. VAL. = 49
CASE NO. OF MAX. VAL. = 43
VALUE VALUE/S.E.
2.27 0.98
4.46 6.56
CI = 3923.6000000
CI = 10475.1350000
S = 2261.1332339
S = 43358.8776456

EACH *P* BELOW = 1000.0000

S - M I M E P S
N 0 0 1 A

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
232.0	1	1.9	1.9	1.9	2924.6	1	1.9	20.7	8110.4	1	1.9	53.8	1	1.9	26134.0	1	1.9	80.8	1
203.9	1	1.9	3.8	3.8	4011.4	1	1.9	26.6	9199.1	1	1.9	52.8	1	1.9	26139.6	1	1.9	82.7	1
325.5	1	1.9	5.8	5.8	4351.1	1	1.9	30.6	8340.6	1	1.9	57.7	1	1.9	32248.0	1	1.9	84.6	1
464.0	1	1.9	7.7	7.7	4427.8	1	1.9	32.7	8435.0	1	1.9	59.6	1	1.9	32748.5	1	1.9	86.5	1
825.9	1	1.9	9.6	9.6	4647.0	2	3.8	36.5	9337.9	1	1.9	61.5	1	1.9	39009.0	1	1.9	88.5	1
1219.0	1	1.9	11.5	11.5	4733.4	1	1.9	38.5	9704.7	1	1.9	63.5	1	1.9	42494.0	1	1.9	90.4	1
1395.0	1	1.9	13.5	13.5	4979.1	1	1.9	40.4	11227.5	1	1.9	65.4	1	1.9	57704.0	1	1.9	92.3	1
2198.9	1	1.9	15.4	15.4	5048.5	1	1.9	42.3	11800.8	1	1.9	67.3	1	1.9	60961.5	1	1.9	94.2	1
2212.6	1	1.9	17.3	17.3	5480.0	1	1.9	44.2	11990.2	1	1.9	69.2	1	1.9	84562.0	1	1.9	96.2	1
3356.5	1	1.9	19.2	19.2	6333.0	1	1.9	46.2	13003.0	2	3.8	73.1	1	1.9	104024.0	1	1.9	98.1	1
3616.8	1	1.9	21.2	21.2	7430.9	1	1.9	48.1	18406.0	1	1.9	75.0	1	1.9	110720.0	1	1.9	100.0	1
3660.6	1	1.9	23.1	23.1	7869.3	1	1.9	50.0	18544.3	1	1.9	76.9	1	1.9					
3912.7	1	1.9	25.0	25.0	7851.2	1	1.9	51.9	26006.0	1	1.9	78.8	1	1.9					

AVSCOM CUBE
BIN LINES

VARIABLE	MURDER	...	...	...	...
NUMBER OF DISTINCT VALUES	3				
NUMBER OF VALUES COUNTED	737				
NUMBER OF VALUES NOT COUNTED	5105				
	296				

MEAN	ESTIMATE	ST. ERROR
0.2090756		0.0053549
MEDIAN	0.1240000	0.0046100
MODE	0.0360000	

95% CONFIDENCE
LOWER
0.2705779

MAXIMUM	2.5000000
MINIMUM	0.0010000
RANGE	2.4990000
VARIANCE	0.1544122
STDEV.	0.3929332
STDEV. 1/2	0.1575600
KL-S7-SC-	3.63
HN-S7-SC-	-0.71

工 工 工 工 工 工 工 工 工

EACH "H"
REPRESENTS
212
COUNT(S)

EACH -- ABOVE	=	0.0750
L =		0.0000
U =		2.7750
CASE NO. OF MIN. VAL.	=	273
CASE NO. OF MAX. VAL.	=	2052

SCREENING	VALUE	VALUE/\$.K.	Q1=
2-06	2.06	19.61	0.3550000
3-93	3.93	58.00	-0.1038776
MURTOSS			0.6020200

EACH . . . BELOW = 0.0250

Figure 1

PERCENTS				PERCENTS				PERCENTS			
COUNT	CELL	VALUE	CUM	COUNT	CELL	VALUE	CUM	COUNT	CELL	VALUE	CUM
34	0.6	0.000000	0.6	2	0.0	0.213000	0.6	2	0.0	0.530000	0.6
42	0.0	0.002000	1.6	1	0.0	0.215000	64.1	1	0.0	0.531000	82.1
23	0.4	0.003000	2.0	0	0.4	0.216000	64.5	2	0.0	0.532000	82.3
40	0.7	0.004000	2.6	2	0.0	0.218000	64.5	3	0.1	0.534000	82.4
20	0.5	0.005000	3.1	1	0.0	0.219000	64.5	5	0.1	0.540000	82.5
28	0.4	0.006000	3.5	5	0.1	0.220000	64.6	1	0.0	0.541000	82.5
27	0.5	0.007000	4.0	12	0.2	0.222000	64.9	1	0.0	0.544000	82.6
25	0.5	0.008000	4.5	1	0.0	0.223000	64.9	1	0.0	0.546000	82.6
20	0.4	0.009000	4.9	5	0.1	0.224000	65.0	3	0.1	0.547000	82.7
67	1.2	0.010000	6.1	31	0.6	0.225000	65.0	1	0.0	0.548000	82.7
10	0.2	0.011000	6.3	0	0.1	0.227000	65.7	3	0.1	0.550000	82.7
21	0.4	0.012000	6.7	6	0.1	0.228000	65.7	1	0.0	0.551000	82.7
22	0.4	0.013000	7.1	4	0.1	0.230000	66.3	0	0.1	0.552000	82.9
47	0.9	0.014000	8.0	23	0.4	0.231000	66.3	1	0.0	0.554000	82.9
23	0.4	0.015000	8.4	3	0.1	0.232000	66.4	2	0.0	0.555000	82.9
60	1.3	0.016000	9.7	7	0.1	0.234000	66.5	3	0.1	0.557000	83.0
33	0.6	0.017000	10.3	2	0.0	0.235000	66.5	1	0.0	0.559000	83.0
67	1.2	0.018000	11.5	1	0.0	0.236000	66.6	1	0.1	0.562000	83.1
27	0.5	0.019000	12.0	1	0.0	0.238000	66.6	1	0.0	0.563000	83.1

PAGE 2 DROP2D PRICE & WEIGHT & CUBE

• 3M43 •

VARIABLE NUMBER	1
NUMBER OF DISTINCT VALUES	3115
NUMBER OF VALUES COUNTED	5679
NUMBER OF VALUES NOT COUNTED	2

	ESTIMATE	ST. ERROR
MEAN	1456.1130986	196.5985908
MEDIAN	124.0000000	4.6100043
MODE	99.9600000	

MAXIMUM	352000.000000
MINIMUM	0.070000
RANGE	351999.930000
VARIANCE	0.000000
STDEV.	14966.2196330
(95-01)/2	235.500000
PN-ST-SC-	23.42
	-0.10

95% CONFIDENCE	
LOWER	UPPER
1066.7840176	1045.4429795

EACH "H"
REPRESENTS
561
COUNT(S)

[illegible]

```

EACH -- ABOVE = 10000.0000
L = 0.0000
U = 370000.0000
CASE NO. OF MIN. VAL. = 273
CASE NO. OF MAX. VAL. = 5106

```

VALUE	VALUE/S.E.	Q1=	36.000000
21.47	560.43	Q3=	507.000000
486.06	7476.70	S=	507.000000
		S--	16442.335324
		S--	16442.335324

EACH 0.0 BELOW = 3000.0000

5 4 3 2 1

VALUE	COUNT	PERCENTS CELL CUM	VALUE	COUNT	PERCENTS CELL CUM	VALUE	COUNT	PERCENTS CELL CUM	VALUE	COUNT	PERCENTS CELL CUM
-700000-01	1	0.0	33.520	2	0.0	100.00	1	0.0	416.00	9	0.2
0.24000	1	0.0	33.530	1	0.0	100.12	1	0.0	417.00	1	0.0
0.25000	2	0.0	33.560	1	0.0	100.46	1	0.0	417.70	1	0.0
0.33000	2	0.0	33.630	1	0.0	100.96	1	0.0	420.86	1	0.0
0.34000	1	0.0	33.640	1	0.0	101.00	5	0.1	420.00	3	0.1
0.35000	1	0.0	33.700	1	0.0	101.10	1	0.0	420.36	1	0.0
0.36000	2	0.0	33.720	1	0.0	101.10	1	0.0	422.00	1	0.0
0.39000	1	0.0	33.760	1	0.0	101.16	3	0.1	422.80	6	0.1
0.40000	1	0.0	33.820	5	0.1	101.55	1	0.0	423.00	1	0.0
0.42000	1	0.0	33.900	1	0.0	101.76	3	0.1	424.00	4	0.1
0.43000	3	0.0	33.980	1	0.0	101.86	1	0.0	425.00	1	0.0
0.51000	3	0.1	34.060	1	0.0	101.96	1	0.0	425.20	1	0.0
0.54000	1	0.0	34.080	2	0.0	102.00	4	0.0	426.00	2	0.0
0.58000	1	0.0	34.190	1	0.0	102.06	2	0.0	427.00	1	0.0
0.60000	1	0.0	34.300	1	0.0	102.24	2	0.0	429.00	1	0.0
0.66000	2	0.0	34.320	1	0.0	102.40	1	0.0	430.00	1	0.0
0.68000	1	0.0	34.420	2	0.0	102.72	1	0.0	431.34	1	0.0
0.72000	4	0.1	34.460	1	0.0	102.92	1	0.0	434.00	2	0.0
0.74000	1	0.0	34.500	2	0.0	103.00	6	0.1	435.97	2	0.0

PAGE 4 SHOP20 PRICE & WEIGHT & CUBE

• 803 •

VARIABLE NUMBER	.	.	.	.	.	.
NUMBER OF DISTINCT VALUES	.	.	.	.	.	395
NUMBER OF VALUES COUNTED	.	.	.	.	.	872
NUMBER OF VALUES NOT COUNTED	.	.	.	.	.	1

MEAN	ESTIMATE	ST.FERROR
7.3749058	0.2425003	
MEAN	6.6950000	0.1018654
MODE	6.0000000	

95% CONFIDENCE
LOWER UPPER
6.8989467 7.0510248

MAXIMUM	40.0000000
MINIMUM	0.0200000
RANGE	39.9800000
VARIANCE	45.3905196
ST-DEV.	6.7376424
(Q3-Q1)/2	1.0495000
PT-ST-SC.	4.84
MM-ST-SC.	-1.09

[illegible]

EACH	0.0	ABOVE	=	1.5000
L				0.0000
U				62.0000
CASE NO. OF	MIN.	VAL.	=	562
CASE NO. OF	MAX.	VAL.	=	702

VALUE	VALUE/S.E.	Q1=	2.9460000
2.05	23.30	Q3=	9.0450000
4.55	25.03	S=	0.6371434
		S+=	14.1120281

SYMBOLS AND MEANS

EACH 0.5 BELOW = 0.5005.0

5
3
2
1
0
-1
-2
-3
-4
-5

VALUE	CARRY	CELL	PERCENTS	CUM
0.02000	1	0-1	0.1	0.1
0.20000	4	0-5	0.6	0.6
0.35000	1	0-4	0.4	1.0

VALUE	COUNT	PERCENTS
2.96400	3	0.4
2.97900	1	0.1
2.98200	1	0.1

VALUE	COUNT	PERCENT
4-54500	1	0.1
4-54600	1	0.1
4-54800	1	0.1

VALUE	COUNT	PERCENTS
	CELL	CUM
9-20000	1	0.1 75.0
9-31000	6	0.8 76.6
9-19200	1	0.1 76.7

PAGE 2 SHOP20 PRICE & WEIGHT & CUWE

• EPAC •

1	AVAILABLE NUMBER	..	..	..	..	..
450	NUMBER OF DISTINCT VALUES	..	..	..	..	..
773	NUMBER OF VALUES COUNTED	..	..	..	..	..
0	NUMBER OF VALUES NOT COUNTED	..	..	..	..	..

	ESTIMATE	ST. ERROR	LOWER	UPPER
MEAN	5315.0100466	101.6091276	4566.5660064	6065.1100967
MEDEV	1705.0000000			
MODE	12420.0000000	141.1622066		

95X CONFIDENCE

LONGER UPPER
33% CONFIDENCE

456-566064 605-1109267

EACH --- ABOVE =	5000.0000
L =	0.0000
U =	100000.0000
CASE NO. OF MIN. VAL. =	464
CASE NO. OF MAX. VAL. =	732

VALUE	VALUE/\$-E-	Q1=	446.0000000
4.60	52.24	Q3=	5060.0000000
20.94	164.23	S=-	2296.223515
		S+=	15927.0996045

00000-00001 * MD 738 0-0, HCV3

NAME _____

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
2-300	1	0-1	0-1	21-1	199-4	1	0-1	45-5	4647-0	1	0-1	74-1	0-1	74-1
3-900	1	0-1	0-3	28-6	312-0	4	0-5	28-6	4816-0	1	0-1	74-3	0-1	74-3
22-250	1	0-1	0-4	30-1-76	1513-0	1	0-1	21-7	5006-0	2	0-3	74-4	0-1	74-4
25-350	1	0-1	0-5	30-5-06	1515-0	1	0-1	21-9	5069-0	1	0-1	75-4	0-1	75-4
41-020	2	0-3	0-6	39-2-00	1549-0	1	0-1	22-0	5100-0	10	1-3	75-5	0-1	75-5
49-620	1	0-1	0-9	49-6-20	1580-0	2	0-3	22-3	5176-0	1	0-1	76-2	0-1	76-2
50-200	3	0-4	1-3	39-6-64	1586-0	1	0-1	22-4	5185-0	1	0-1	77-2	0-1	77-2
50-600	1	0-1	1-4	39-6-96	1616-0	1	0-1	22-5	5170-0	1	0-1	77-4	0-1	77-4
55-200	1	0-1	1-6	39-9-51	1630-0	1	0-1	22-6	5180-0	1	0-1	77-5	0-1	77-5
55-900	1	0-1	1-7	39-9-84	1644-0	4	0-5	23-2	5322-0	1	0-1	77-6	0-1	77-6
56-450	1	0-1	1-8	40-2-00	1652-0	1	0-1	23-3	5355-0	2	0-3	77-7	0-1	77-7
57-030	3	0-4	2-2	40-2-04	1687-0	1	0-1	23-4	5380-0	2	0-3	77-9	0-1	77-9
57-810	2	0-3	2-5	37-8-10	1674-0	1	0-1	23-5	5416-0	3	0-4	78-3	0-1	78-3
58-560	1	0-1	2-6	41-1-00	1682-0	1	0-1	23-7	5436-0	1	0-1	78-1	0-1	78-1
62-440	1	0-1	2-7	42-3-45	1710-0	1	0-1	23-8	5530-0	1	0-1	78-4	0-1	78-4
65-200	2	0-3	3-0	65-2-00	1752-0	1	0-1	23-9	5613-0	1	0-1	78-5	0-1	78-5
67-640	2	0-3	3-2	45-6-19	1767-0	1	0-1	24-1	5656-0	1	0-1	78-7	0-1	78-7
68-090	1	0-1	3-4	45-6-66	1776-0	1	0-1	24-2	5720-0	1	0-1	79-0	0-1	79-0
69-800	1	0-1	3-5	46-3-90	1795-0	3	0-4	24-6	5743-0	4	0-5	79-2	0-1	79-2

• ECU8 •

3	VARIABLE NUMBER	
62	NUMBER OF DISTINCT VALUES	
127	NUMBER OF VALUES COUNTED	
0	NUMBER OF VALUES NOT COUNTED	

MEAN	ESTIMATE
115.6312913	
18.3580000	
18.3580000	

SI-EFHLN
M-951525
2-3498167

MAXIMUM	503.000000
MINIMUM	40.2870000
RANGE	462.7130000
VARIANCE	10190.646223
ST-DEV.	100.9487435
(C3-4) / C	24.3400000
MA-SI-SC.	3.84
MA-SI-SC.	-0.75

376.03:384.1

LOWE A UPPFA
98.1041624 133.5584203

	EA CH ' 1 ' 1	REPRESENTS	COUNCILS
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100			

EACH -- ABOVE =	25.0000
L =	25.0000
U =	550.0000
CASE NO. OF MIN. VAL. =	8
CASE NO. OF MAX. VAL. =	55

Q1 =	64.3200000
Q3 =	114.0000000
S =	14.8825678
S+ =	216.7800349

5.0000

.....

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	CCOUNT	CELL	CUM	VALUE	CCOUNT	CELL	CUM	VALUE	CCOUNT	CELL	CUM	VALUE	CCOUNT	CELL	CUM
40.29	1	0.3	0.8	65.17	1	0.3	20.0	94.01	2	1.0	84.6	168.00	3	2.4	63.0
42.64	1	0.8	1.6	66.79	6	4.7	30.7	94.60	1	0.3	65.4	168.58	1	0.3	85.8
44.29	7	5.5	7.1	67.92	3	2.4	33.1	94.99	1	0.3	60.1	169.40	1	0.8	86.6
45.04	1	0.8	7.9	68.10	9	7.1	40.2	100.00	1	0.3	66.9	188.02	2	1.6	88.2
46.22	2	1.6	9.4	71.63	1	0.8	40.9	100.19	1	0.8	67.7	206.00	1	0.8	89.0
46.23	1	0.8	10.2	73.40	1	0.3	41.7	104.00	1	0.3	68.5	216.00	1	0.8	89.8
46.61	2	1.6	11.8	75.06	1	0.3	42.5	109.00	4	3.1	71.7	234.00	1	0.8	90.6
46.85	1	0.8	12.6	76.50	1	2.4	44.9	110.00	4	3.1	74.8	235.07	1	0.8	91.3
47.49	2	1.6	14.2	78.20	1	0.3	45.7	114.00	1	0.8	75.6	244.00	1	0.8	92.1
48.47	1	0.8	15.0	78.22	1	1.6	47.2	115.00	1	0.3	76.4	313.43	2	1.6	93.7
50.20	1	0.8	15.7	78.26	11	8.7	55.9	120.00	1	0.8	77.2	324.00	1	0.8	94.5
50.62	1	0.8	16.5	91.60	2	1.6	57.5	133.58	1	0.8	78.0	327.00	1	0.8	95.3
52.40	1	0.8	17.3	93.20	2	1.6	59.1	146.00	1	0.8	78.7	332.00	2	1.6	96.9
60.00	3	2.4	19.7	94.70	1	0.8	59.8	155.30	1	0.8	79.5	503.00	4	3.1	100.0
62.20	2	1.6	21.3	85.40	3	2.4	62.2	156.72	3	2.4	81.9				
64.32	5	3.9	25.2	85.90	1	0.8	63.0	163.20	1	0.3	82.7				

AVSCOM PRICE

BULK LINES

PAGE 2 GROUPED PRICE & WEIGHT & CUBE

* EPHC *

VARIABLE NUMBER 1
NUMBER OF DISTINCT VALUES . . 64
NUMBER OF VALUES COUNTED . . 127
NUMBER OF VALUES NOT COUNTED 0

MEAN 75004.5542521 ESTIMATE ST-ERR 12051.0335954
MEDIAN 28044.0000000 50793.5767775 101315.317273
MODE 11620.0000000

MAXIMUM 874200.0000000
MINIMUM 440.0000000
RANGE 873754.0000000
VARIANCE *****
ST-DEV. 15274.5751982
COEFF. 26109.0000000
MM-ST-DEV. 3.30
MM-ST-DEV. -0.77

95% CONFIDENCE
LOWER UPPER

EACH 'M'
REPRESENTS
COUNT(S)

FACH --- ABOVE = 50000.0000
L = 0.0000
CASE NO. OF MIN. VAL. = 18
CASE NO. OF MAX. VAL. = 38
U = 1050000.0000

VALUE VALUE (S.E.)
3.73 17.15
14.94 34.36
G1=10320.0000000
G3=63438.0000000
S=*****
S=*****

S --- Q C M
PM M 3 M
AD E A
E I N
X

VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM
446.0	3	2.4	2.4	2.4	10290.0	6	4.7	22.8	35350.0	1	0.8	52.0	1	0.8	74841.0	1	0.8	79.5	79.5
521.6	1	0.8	3.1	3.1	10820.0	8	0.3	29.1	35476.0	1	0.8	52.8	1	0.8	76840.0	3	2.4	81.9	81.9
1330.0	1	0.8	3.9	3.9	11620.0	9	7.1	26.2	37131.0	1	0.8	53.5	1	0.8	64388.0	1	0.8	82.7	82.7
2230.0	1	0.8	4.7	4.7	12559.0	2	1.6	37.8	42199.0	3	2.4	55.9	1	0.8	94404.0	1	0.8	83.5	83.5
2362.4	1	0.8	5.5	5.5	14970.0	1	0.8	34.0	43240.0	2	1.6	57.5	1	0.8	96408.0	1	0.8	84.3	84.3
2431.0	1	0.8	6.3	6.3	15426.0	1	0.8	39.4	43721.0	4	3.1	60.0	2	1.6	105094.0	2	1.6	85.8	85.8
2432.0	1	0.8	7.1	7.1	15475.0	1	0.8	40.2	45012.0	1	0.8	61.4	1	0.8	113412.0	3	2.4	88.2	88.2
3520.0	1	0.8	7.9	7.9	15954.0	1	0.8	40.9	49383.0	1	0.8	62.2	1	0.8	144612.0	1	0.8	89.0	89.0
4137.0	1	0.8	8.7	8.7	17160.0	1	0.8	41.7	57090.0	7	5.5	67.7	1	0.8	174884.0	2	1.6	90.6	90.6
5893.4	1	0.8	9.4	9.4	18366.0	1	0.8	42.5	57312.0	5	3.9	71.7	1	0.8	176564.0	1	0.8	91.3	91.3
6645.0	1	0.8	10.2	10.2	19062.0	2	1.6	44.5	57704.0	2	1.6	73.2	2	1.6	200000.0	2	1.6	92.9	92.9
7405.0	1	0.8	11.0	11.0	20580.0	1	0.8	44.9	60358.0	1	0.8	74.0	1	0.8	243667.0	2	1.6	94.5	94.5
7713.0	1	0.8	11.8	11.8	21640.0	2	1.6	46.5	63438.0	2	1.6	75.6	1	0.8	437100.0	2	1.6	96.1	96.1
8500.0	2	1.6	13.4	13.4	27549.0	1	0.8	47.2	66226.0	1	0.8	75.4	1	0.8	500550.0	3	2.4	98.4	98.4
9183.0	3	2.4	15.7	15.7	28044.0	4	3.1	50.4	70715.0	1	0.8	77.2	1	0.8	873574.0	1	0.8	99.2	99.2
9483.0	3	2.4	18.1	18.1	33644.0	1	0.8	51.2	72223.0	2	1.6	78.7	1	0.8	874200.0	1	0.8	100.0	100.0

PAGE 4 00020 PRICE & WEIGHT & CUBE

• 0023 •

1	AVAILABLE NUMBER	
607	NUMBER OF DISTINCT VALUES	..
5922	NUMBER OF VALUES COUNTED	..
109	NUMBER OF VALUES NOT COUNTED	..

	ESTIMATE	STANDARD
MEAN	0.1076906	0.0042991
MEAN	0.0530000	0.0014434
MODE	0.0060000	

SECRET CONFIDENTIAL

LOWER 629261-0
UPPER 0-1961184

MAXIMUM	2.0000000
MINIMUM	0.0010000
RANGE	1.9990000
VARIANCE	0.1094793
STDEV.	0.3300327
(03-01)/2	0.0020000
MX-ST-SC-	5.40
PM-ST-SC-	-0.56

SECRET

EACH • NO
REPRESENTS
343
COUNTY(S)

NNNNNNNNNNNNNNNNNNNNNN

THE UNIVERSITY OF CHICAGO

EACH -- ABOVE =	0.0750
L =	0.0000
U =	2.7750
CASE NO. OF MIN. VAL. =	39
CASE NO. OF MAX. VAL. =	155

	VALUE	VALUE/\$-E-	
SHENNE SS	2.96	92.94	Q1= 0.0180000
AUTOSIS	9.32	146.39	Q3= 0.1020000
			\$- = -0.131420
			\$= 0.5105233

EACH "O" BELOW = 0.0200

.....

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
COUNT	CELL	VALUE	CUM	COUNT	CELL	VALUE	CUM	COUNT	CELL	VALUE	CUM	COUNT	CELL	VALUE	CUM
64	1-1	0-0014000	1-1	5	0-1	0-1760000	74-5	1	0-0	0-4200000	07-2	1	0-0	0-0620000	94-6
91	1-5	0-0023000	2-6	2	0-0	0-1870000	74-5	2	0-0	0-4290000	07-3	2	0-0	0-0640000	94-6
63	1-1	0-0030000	3-7	2	0-0	0-1700000	74-5	3	0-1	0-4300000	07-3	3	0-0	0-0660000	94-6
64	1-5	0-0040000	5-1	7	0-1	0-1700000	74-7	0	0-2	0-4320000	07-5	1	0-0	0-0600000	94-6
95	1-6	0-0050000	6-7	10	0-3	0-1000000	75-0	3	0-1	0-4340000	07-5	1	0-0	0-0790000	94-6
170	3-0	0-0060000	9-7	4	0-1	0-1020000	75-0	4	0-1	0-4350000	07-6	2	0-0	0-0800000	94-7
40	0-0	0-0070000	10-6	2	0-0	0-1030000	75-1	3	0-1	0-4370000	07-6	1	0-0	0-0820000	94-7
105	1-0	0-0080000	12-3	7	0-1	0-1040000	75-2	2	0-0	0-4380000	07-7	2	0-0	0-0880000	94-7
77	1-3	0-0090000	13-6	2	0-0	0-1050000	75-2	1	0-0	0-4390000	07-7	1	0-0	0-0990000	94-7
101	1-7	0-0100000	15-3	4	0-1	0-1250000	75-3	2	0-0	0-4400000	07-7	5	0-1	0-1000000	94-8
39	0-7	0-0110000	16-0	3	0-1	0-1070000	75-3	1	0-0	0-4410000	07-7	1	0-0	0-1040000	94-8
142	2-4	0-0120000	18-4	2	0-0	0-1080000	75-4	1	0-0	0-4420000	07-8	1	0-0	0-1100000	94-9
86	1-5	0-0130000	20-0	4	0-1	0-1090000	75-4	2	0-0	0-4440000	07-8	1	0-0	0-1120000	94-9
117	2-0	0-0140000	21-0	4	0-1	0-1900000	75-5	1	0-0	0-4460000	07-8	1	0-0	0-1140000	94-9
67	1-1	0-0150000	22-9	7	0-1	0-1920000	75-6	0	0-0	0-4480000	07-9	1	0-0	0-1150000	94-9
59	1-0	0-0160000	23-9	2	0-0	0-1940000	75-6	5	0-1	0-4500000	07-9	1	0-0	0-1160000	94-9
24	0-4	0-0170000	24-3	5	0-1	0-1950000	75-7	1	0-0	0-4520000	07-9	4	0-1	0-1200000	95-0
91	1-5	0-0180000	25-9	6	0-0	0-1960000	75-8	1	0-0	0-4530000	07-9	1	0-0	0-1240000	95-0
13	0-3	0-0190000	26-1	2	0-0	0-1970000	75-8	1	0-0	0-4560000	08-0	2	0-0	0-1280000	95-1

PAGE 2 SHOP20 PRICE 8 WEIGHT 8 CUBE

BIN LINES

• **IPAC** •

VARIABLE	NUMBER	VALUES
NUMBER OF DISTINCT VALUES	1	1
NUMBER OF VALUES COUNTED	1	1
NUMBER OF VALUES NOT COUNTED	1	1

1
3129
6029
2

AMERICAN
T-DE
93-0
X-57

1-11/12
21/12
25/12

2
17
52125

01-61
55-26
42-47
64-65

000000
100000
500000

=====

**EACH
REPRESENTATIVE**

OH •

MEAN	ESTIMATE
MEAN	775.5096709
MEAN	160.3200000
MODE	3060.0000000

ST-5 00000
61-2424460
5-1528536

95X CONFIDENCE
LOWER UP
655-4323794 095-2

PER
5665624



2

man

1571

EACH -- ABOVE =	10000.0000
L =	0.0000
U =	370000.0000
CASE NO. OF MIN. VAL. =	2355
CASE NO. OF MAX. VAL. =	1195

	VALUE	VALUE/\$-E-	
SKENWENESS	48.09	124.54	03= 513.000000
WAT051S	2957.01	4600.28	S=- 1979.760072
			S+ = 5510.793490
			Q1= 48.060000

[illegible]

VALUE		PERCENTS		VALUE		PERCENTS		VALUE		PERCENTS	
COUNT	CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM	CELL
-500000-01	1	0.0	0.0	51.410	2	0.0	26.1	120.00	1	0.0	51.4
-0.10000	1	0.0	0.0	51.570	1	0.0	26.1	180.24	1	0.0	51.4
-0.16000	1	0.0	0.0	51.680	1	0.0	26.1	181.00	20	0.5	51.9
-0.20000	2	0.0	0.0	51.660	2	0.0	26.1	181.74	4	0.1	52.0
-0.24000	1	0.0	0.1	51.470	1	0.0	26.1	182.00	1	0.0	52.0
-0.32000	2	0.0	0.1	51.900	1	0.0	26.2	182.70	1	0.0	52.0
-0.35000	3	0.0	0.2	51.920	2	0.0	26.2	183.00	5	0.1	52.1
-0.36000	1	0.0	0.2	51.960	1	0.0	26.2	183.84	2	0.0	52.1
-0.40000	1	0.0	0.2	52.000	2	0.0	26.2	183.60	3	0.0	52.2
-0.50000	1	0.0	0.2	52.020	1	0.0	26.3	183.84	1	0.0	52.2
-0.51000	2	0.0	0.3	52.360	1	0.0	26.3	183.89	2	0.0	52.2
-0.53000	5	0.1	0.3	52.400	1	0.0	26.3	184.00	2	0.0	52.2
-0.57000	1	0.0	0.4	52.440	1	0.0	26.4	184.14	4	0.0	52.3
-0.60000	4	0.1	0.4	52.500	2	0.0	26.3	184.45	1	0.0	52.3
-0.61000	1	0.0	0.4	52.540	5	0.1	26.4	184.70	1	0.0	52.3
-0.64000	1	0.0	0.5	52.560	1	0.0	26.4	184.80	3	0.0	52.3
-0.68000	2	0.0	0.5	52.600	1	0.0	26.5	184.92	2	0.0	52.4
-0.70000	3	0.0	0.5	52.700	1	0.0	26.5	185.00	4	0.1	52.4
-0.80000	1	0.0	0.5	52.800	5	0.1	26.6	185.40	3	0.0	52.5

CECOM WEIGHT

BACK LINES

PAGE 3 BPO22C PRICE & WEIGHT & CUBE

 * E601 *

VARIABLE NUMBER 2
 NUMBER OF DISTINCT VALUES 405
 NUMBER OF VALUES COLIMED 653
 NUMBER OF VALUES NOT COUNTED 0

MEAN
 MEDIAN
 MODE
 ESTIMATE
 209.8875191
 100.0000000
 50.0000000

ST-ERROR
 11.5192442
 5.8196934

95% CONFIDENCE
 LOWER
 106.4827428
 UPPER
 233.2922555

MAXIMUM
 2434.7200000
 MINIMUM
 3.0000000
 RANGE
 2431.7200000
 VARIABLE
 92770.6535940
 SD-DEV.
 304.5827533
 (C3-G3)72
 92.4000000
 MA-ST-SC.
 7.24
 MA-ST-SC.
 -0.68

EACH *P*
 REPRESENTS
 3;
 COUNT(S)

EACH *--* ABOVE = 100.0000
 L = 0.0000
 U = 2800.0000
 CASE NO. OF MIN. VAL. = 173
 CASE NO. OF MAX. VAL. = 40

VALUE VALUE/S.E.
 3.31 34.25
 13.25 69.11
 SKEWNESS
 KURTOSIS
 Q1 = 51.2000000
 Q3 = 216.0000000
 S = -94.652341
 S* = 514.4702724

EACH *--* BELG = 20.0000

S Q P M Q S
 - P M P M S
 1.0.E.....
 N D C A
 E I N

VALUE	COUNT	CELL	CUM	PERCENTS	VALUE	COUNT	CELL	CUM	PERCENTS	VALUE	COUNT	CELL	CUM	PERCENTS
3.000	2	0.3	0.3	0.3	73.780	2	0.3	35.1	0.3	142.500	1	0.2	61.7	0.2
4.000	2	0.3	0.6	0.6	73.800	1	0.2	35.2	0.2	143.820	1	0.2	61.9	0.2
6.600	1	0.2	0.8	0.8	73.920	2	0.3	35.5	0.3	143.850	1	0.2	62.0	0.2
7.250	1	0.2	0.9	0.9	74.000	1	0.2	35.7	0.2	147.000	1	0.2	62.2	0.2
8.000	2	0.3	1.2	1.2	74.250	1	0.2	35.8	0.2	147.840	2	0.3	62.5	0.3
9.650	1	0.2	1.4	1.4	74.460	1	0.2	36.0	0.2	148.350	1	0.2	62.6	0.2
10.000	1	0.2	1.5	1.5	74.880	1	0.2	36.1	0.2	148.350	1	0.2	62.6	0.2
12.000	1	0.2	1.7	1.7	75.000	10	1.5	37.7	0.2	148.500	1	0.2	62.9	0.2
13.000	1	0.2	1.8	1.8	75.150	1	0.2	37.8	0.2	148.800	1	0.2	63.1	0.2
14.500	1	0.2	2.0	2.0	75.650	1	0.2	38.0	0.2	150.000	6	0.9	64.0	0.3
14.600	5	0.8	2.8	2.8	75.850	1	0.2	38.1	0.2	150.280	1	0.2	64.2	0.2
14.960	1	0.2	2.9	2.9	76.000	4	0.6	38.7	0.2	150.500	1	0.2	64.3	0.2
15.000	2	0.3	3.2	3.2	76.440	1	0.2	38.9	0.2	152.000	1	0.2	64.5	0.2
16.000	2	0.3	3.5	3.5	76.840	1	0.2	39.1	0.2	152.320	1	0.2	64.6	0.2
16.200	1	0.2	3.7	3.7	77.000	2	0.3	39.4	0.2	154.000	4	0.6	65.2	0.2
16.250	1	0.2	3.8	3.8	77.250	1	0.2	39.5	0.2	154.050	1	0.2	65.4	0.2
17.000	10	1.5	5.4	5.4	77.760	1	0.2	39.8	0.2	156.000	1	0.2	65.5	0.2
17.500	1	0.2	5.5	5.5	78.000	1	0.2	39.8	0.2	156.400	1	0.2	65.7	0.2
17.920	1	0.2	5.7	5.7	78.650	1	0.2	40.0	0.2	156.740	1	0.2	65.8	0.2
18.000	1	0.2	5.8	5.8	79.200	1	0.2	40.1	0.2	156.900	1	0.2	66.0	0.2

CECOM PRICE

HACK LINES

PAGE 2 BMDP20 PRICE & WEIGHT CODE

* EPNC *

VARIABLE NUMBER
NUMBER OF DISTINCT VALUES
NUMBER OF VALUES COUNTED
NUMBER OF VALUES NOT COUNTED

1
495
653
0

MAXIMUM 332973.000000
MINIMUM 15.100000
RANGE 332957.900011
VARIANCE
ST. DEV. 14592.9250832
COV-Q11/2 856.9000000
MX-ST-SC 22.62
MN-ST-SC -0.20

95% CONFIDENCE
LOWER UPPER
1762.1690291 4095.0670199

ST. ERROR
571.0652377
50.1655483

ESTIMATE
2803.7160245
570.0000000
362.0000000

HP P P
L-----U

EACH *** ABOVE = 15000.0000
L = 0.0000
U = 420000.0000
CASE NO. OF MIN. VAL. = 633
CASE NO. OF MAX. VAL. = 647

Q1 = 277.2000000
Q3 = 1951.0000000
S = ...
St = 17476.6431077

VALUE VALUE/S.E.
18.43 192.29
400.59 2091.05
SKEWNESS
KURTOSIS

EACH *** BELOW = 30000.0000

S 60 S
- PM +
.....IE.....
NA
N

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
15.12	1	0.2	0.2	25.4	281.88	1	0.2	25.4	678.60	1	0.2	53.0	1	0.2
29.94	1	0.2	0.3	25.7	282.41	2	0.3	53.3	680.64	2	0.3	53.3	1	0.2
30.00	2	0.3	0.6	25.9	286.25	1	0.2	53.6	692.78	2	0.3	53.6	1	0.2
39.45	2	0.3	0.9	26.0	286.30	1	0.2	53.8	694.82	1	0.2	53.8	1	0.2
40.32	1	0.2	1.1	26.2	287.10	1	0.2	53.9	703.00	1	0.2	53.9	1	0.2
46.02	1	0.2	1.2	26.3	288.64	1	0.2	54.5	709.00	4	0.6	54.5	1	0.2
57.50	1	0.2	1.4	26.5	292.32	1	0.2	54.7	714.00	1	0.2	54.7	1	0.2
60.00	2	0.3	1.7	26.6	297.54	1	0.2	54.8	722.50	1	0.2	54.8	1	0.2
62.50	1	0.2	1.8	26.8	297.60	1	0.2	55.6	724.00	3	0.5	55.6	1	0.2
74.88	1	0.2	2.0	27.0	298.75	1	0.2	55.7	737.16	1	0.2	55.7	1	0.2
76.80	3	0.5	2.5	27.1	303.68	1	0.2	55.9	737.63	1	0.2	55.9	1	0.2
77.50	1	0.2	2.6	27.3	305.28	1	0.2	56.5	738.00	3	0.5	56.5	1	0.2
78.00	1	0.2	2.8	27.4	306.84	1	0.2	56.7	741.24	1	0.2	56.7	1	0.2
78.60	1	0.2	2.9	27.6	311.64	1	0.2	56.8	746.46	1	0.2	56.8	1	0.2
80.00	1	0.2	3.1	27.7	313.20	1	0.2	57.0	751.54	1	0.2	57.0	1	0.2
80.10	1	0.2	3.2	27.9	313.80	1	0.2	57.1	765.00	1	0.2	57.1	1	0.2
82.40	1	0.2	3.4	28.5	314.50	4	0.6	57.3	765.72	1	0.2	57.3	1	0.2
82.50	1	0.2	3.5	28.6	319.00	1	0.2	57.4	769.98	1	0.2	57.4	1	0.2
83.75	1	0.2	3.7	29.4	320.00	1	0.2	57.4	779.80	1	0.2	57.4	2	0.3

• 1943 •

0	*****	*****
1	*****	*****
13	*****	*****
2	*****	*****

	ESTIMATE	STANDARD
MEAN	4026.2457143	1871.0954391
MEDIAN	2450.5000000	990.6720910
MODE	600.0000000	

95% CONFIDENCE
LOWER UPPER
202.053735 7054.4376932

MAXIMUM	26250.000000
MINIMUM	502.500000
RANGE	25742.500000
VARIANCE	43916906.7616719
ST.DEV.	6626.632326
COV-01/2	1729.750000
MX-ST-SC-	3.33
MX-ST-SC-	-0.51

EACH "H"
REPRESENTS
1
COUNT(S)

EACH -- ABOVE =	2500.0000
L =	0.0000
U =	2750.0000
CASE NO. OF MIN. VAL. =	4
CASE NO. OF MAX. VAL. =	4

VALUE	VALUE'S-E	Q1=
STRENGTH\$	2.64	4259.508000
NUMTOS\$	6.06	2598.5866103
		S=-2695.070469
		Q1= 800.0000000

EACH 1.0 BELOW = 250.0000

PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
507.5	1	7.1	7.1	1850.0	1	7.1	62.9	2222.0	1	7.1	71.4
567.0	1	7.1	14.3	2401.0	1	7.1	50.0	4255.5	1	7.1	78.6
600.0	2	14.3	28.6	2500.0	1	7.1	57.1	4354.0	1	7.1	85.7
900.0	1	7.1	35.7	2765.0	1	7.1	64.3	6361.4	1	7.1	92.9

CECOM CUBE
BULK LINES

• 8433 •

1	VARIABLE NUMBER	1
10	NUMBER OF NONZERO	1
14	NUMBER OF VALUES	1
14	NUMBER OF VALUES	1
9	NUMBER OF VALUES	1

MEAN	ESTIMATE	ST. ERROR
102.36500		29.3477444
70.227000		0.4229670
MODE	NOT UNIQUE	

95% CONFIDENCE
LOWER UPPER
30.9650019 6100296.51 165.7679981

MAXIMUM	465.000000
MINIMUM	10.700000
RANGE	426.300000
VARIANCE	12058.061390
ST-DEV.	109.803285
(01-01)/2	11.509000
MT-SI-SC.	1.30
PM-SI-SC.	-0.50

H H H H H H
 EACH "H"
 REPRESENTS
 1
 COUNT(S)

EACH	0.0000	50.0000
L=	0.0000	
U=	550.0000	
CASE NO. OF MIN. VAL.	1	
CASE NO. OF MAX. VAL.	4	

VALUE	VALUE/\$.C.	
STRENGTH	2.55	Q3= 86.6020000
QUALITY	5.54	Q1= 57.5040000
		S= 212.1757045
	4.23	S+ = 7.4427045
	3.89	S- = -7.4427045

EACH " " BELOW = 5.000

Figure 1. A schematic diagram of the experimental setup. The subject is seated in a chair, viewing a screen. The screen displays a target (a small circle) and a starting point (a larger circle). The subject's hand is positioned at the starting point, and the distance between the starting point and the target is indicated by a dashed line. The subject is instructed to move their hand from the starting point to the target.

STENTS				PERCENTS				COUNT				VALUE				PERCENTS				COUNT				VALUE				PERCENTS			
VALUE	COUNT	CELL	CUM	PERCENTS	CELL	CUM	PERCENTS	VALUE	COUNT	CELL	CUM	PERCENTS	CELL	CUM	PERCENTS	VALUE	COUNT	CELL	CUM	PERCENTS	CELL	CUM	PERCENTS	VALUE	COUNT	CELL	CUM	PERCENTS			
10.70	1	1	1	100.0	1	1	100.0	59.00	1	1	1	100.0	77.13	1	1	879.70	1	1	1	100.0	77.13	1	1	879.70	1	1	1	100.0			
15.25	1	2	2	100.0	1	2	100.0	64.90	1	2	2	100.0	82.46	1	2	879.70	1	2	2	100.0	82.46	1	2	879.70	1	2	2	100.0			
40.90	1	3	3	100.0	1	3	100.0	65.00	1	3	3	100.0	86.60	1	3	879.70	1	3	3	100.0	86.60	1	3	879.70	1	3	3	100.0			
50.50	1	4	4	100.0	1	4	100.0	75.45	1	4	4	100.0	89.92	1	4	879.70	1	4	4	100.0	89.92	1	4	879.70	1	4	4	100.0			
75.50	1	5	5	100.0	1	5	100.0	75.45	1	5	5	100.0	89.92	1	5	879.70	1	5	5	100.0	89.92	1	5	879.70	1	5	5	100.0			
80.75	1	6	6	100.0	1	6	100.0	75.45	1	6	6	100.0	89.92	1	6	879.70	1	6	6	100.0	89.92	1	6	879.70	1	6	6	100.0			
85.50	1	7	7	100.0	1	7	100.0	59.00	1	7	7	100.0	77.13	1	7	879.70	1	7	7	100.0	77.13	1	7	879.70	1	7	7	100.0			
90.75	1	8	8	100.0	1	8	100.0	59.00	1	8	8	100.0	77.13	1	8	879.70	1	8	8	100.0	77.13	1	8	879.70	1	8	8	100.0			
95.25	1	9	9	100.0	1	9	100.0	59.00	1	9	9	100.0	77.13	1	9	879.70	1	9	9	100.0	77.13	1	9	879.70	1	9	9	100.0			
100.00	1	10	10	100.0	1	10	100.0	59.00	1	10	10	100.0	77.13	1	10	879.70	1	10	10	100.0	77.13	1	10	879.70	1	10	10	100.0			

NUMBER OF INTEGER WORDS OF STORAGE CPU TIME USED IN PRECEDING PROBLEM	USED IN PRECEDING PROBLEM 12.467 SECONDS 12.467 SECONDS	PROBLEM
606		

PAGE 2 ONDP20 PRICE & WEIGHT & CUBE

• **EPAC** •

	NUMBER OF VALUES NOT COUNTED	NUMBER OF VALUES COUNTED	NUMBER OF VALUES COUNTED
0	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	0	0	0
25	0	0	0
26	0	0	0
27	0	0	0
28	0	0	0
29	0	0	0
30	0	0	0
31	0	0	0
32	0	0	0
33	0	0	0
34	0	0	0
35	0	0	0
36	0	0	0
37	0	0	0
38	0	0	0
39	0	0	0
40	0	0	0
41	0	0	0
42	0	0	0
43	0	0	0
44	0	0	0
45	0	0	0
46	0	0	0
47	0	0	0
48	0	0	0
49	0	0	0
50	0	0	0
51	0	0	0
52	0	0	0
53	0	0	0
54	0	0	0
55	0	0	0
56	0	0	0
57	0	0	0
58	0	0	0
59	0	0	0
60	0	0	0
61	0	0	0
62	0	0	0
63	0	0	0
64	0	0	0
65	0	0	0
66	0	0	0
67	0	0	0
68	0	0	0
69	0	0	0
70	0	0	0
71	0	0	0
72	0	0	0
73	0	0	0
74	0	0	0
75	0	0	0
76	0	0	0
77	0	0	0
78	0	0	0
79	0	0	0
80	0	0	0
81	0	0	0
82	0	0	0
83	0	0	0
84	0	0	0
85	0	0	0
86	0	0	0
87	0	0	0
88	0	0	0
89	0	0	0
90	0	0	0
91	0	0	0
92	0	0	0
93	0	0	0
94	0	0	0
95	0	0	0
96	0	0	0
97	0	0	0
98	0	0	0
99	0	0	0
100	0	0	0

MEAN
MEAN
MODE

95% CONFIDENCE
LOWER UPPER
595.0067440 11397.5509703

PARITUM	106350.0000000
MIGNUM	1125.0000000
RAGE	105225.0000000
VARIANCE	
ST-DEV.	26671.7054000
(603-01)/2	7336.0300000
MM-ST-SC.	1.39
MM-ST-SC.	-0.56

EACH "H"
REPRESENTS
1
COUNT(S)

EACH -- ABOVE = 10000-0000
L = 0-0000
U = 110000-0000

CASE NO. OF MIN. VAL. = 1
CASE NO. OF MAX. VAL. = 0

VALUE	VALUE/\$-E-	
2.73	4.16	Q3=17257.059999
6.43	4.91	S=-0.0000000000
		S0=26270.4602651
		Q1= 2505.0000000

0000-0000
EACH 0.0 BELOW = 1000-0000

PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
1125-	1	7-1	7-1	5792-	1	7-1	35-7	1182-	1	7-1	64-3
1491-	1	7-1	14-1	6326-	1	7-1	42-9	12372-	1	7-1	71-4
2131-	1	7-1	21-1	9653-	1	7-1	50-0	12757-	1	7-1	78-6
2503-	1	7-1	26-6	9727-	1	7-1	57-1	17640-	1	7-1	85-7

PAGE 4 GROUP PRICE & WEIGHT & CUBE

• ON3 •

VARIABLE	NUMBER	PERCENT	NUMBER OF MISSING VALUES	PERCENT OF MISSING VALUES
1. SEX	1	100	0	0
2. AGE	1	100	0	0
3. EDUCATION	1	100	0	0
4. INCOME	1	100	0	0
5. OCCUPATION	1	100	0	0
6. MARRIAGE	1	100	0	0
7. CHILDREN	1	100	0	0
8. HEALTH	1	100	0	0
9. RELIGION	1	100	0	0
10. POLITICAL	1	100	0	0
11. RACE	1	100	0	0
12. ETHNICITY	1	100	0	0
13. ANCESTRY	1	100	0	0
14. CULTURE	1	100	0	0
15. LANGUAGE	1	100	0	0
16. IDENTITY	1	100	0	0
17. BELONGING	1	100	0	0
18. BELIEFS	1	100	0	0
19. VALUES	1	100	0	0
20. ATTITUDES	1	100	0	0
21. BEHAVIOR	1	100	0	0
22. EMOTIONS	1	100	0	0
23. COGNITION	1	100	0	0
24. PERSONALITY	1	100	0	0
25. PSYCHOLOGY	1	100	0	0
26. SOCIOLOGY	1	100	0	0
27. ANTHROPOLOGY	1	100	0	0
28. HISTORY	1	100	0	0
29. GEOGRAPHY	1	100	0	0
30. SCIENCE	1	100	0	0
31. ARTS	1	100	0	0
32. LITERATURE	1	100	0	0
33. MUSIC	1	100	0	0
34. FILM	1	100	0	0
35. THEATRE	1	100	0	0
36. DANCE	1	100	0	0
37. SPORTS	1	100	0	0
38. GAMES	1	100	0	0
39. TOYS	1	100	0	0
40. CLOTHING	1	100	0	0
41. FOOD	1	100	0	0
42. DRINKS	1	100	0	0
43. SLEEP	1	100	0	0
44. EATING	1	100	0	0
45. EXERCISE	1	100	0	0
46. TRAVEL	1	100	0	0
47. COMMUNICATION	1	100	0	0
48. TECHNOLOGY	1	100	0	0
49. ENVIRONMENT	1	100	0	0
50. CLIMATE	1	100	0	0
51. WEATHER	1	100	0	0
52. PLANTS	1	100	0	0
53. ANIMALS	1	100	0	0
54. COSMOS	1	100	0	0
55. UNIVERSE	1	100	0	0
56. SPACE	1	100	0	0
57. TIME	1	100	0	0
58. CALENDAR	1	100	0	0
59. HOLIDAYS	1	100	0	0
60. FESTIVALS	1	100	0	0
61. CELEBRATIONS	1	100	0	0
62. TRADITIONS	1	100	0	0
63. CUSTOMS	1	100	0	0
64. RITUALS	1	100	0	0
65. MYTHS	1	100	0	0
66. LEGENDS	1	100	0	0
67. TALES	1	100	0	0
68. STORIES	1	100	0	0
69. POEMS	1	100	0	0
70. SONGS	1	100	0	0
71. MUSIC	1	100	0	0
72. ARTS	1	100	0	0
73. LITERATURE	1	100	0	0
74. FILM	1	100	0	0
75. THEATRE	1	100	0	0
76. DANCE	1	100	0	0
77. SPORTS	1	100	0	0
78. GAMES	1	100	0	0
79. TOYS	1	100	0	0
80. CLOTHING	1	100	0	0
81. FOOD	1	100	0	0
82. DRINKS	1	100	0	0
83. SLEEP	1	100	0	0
84. EATING	1			

MEAN	ESTIMATE	ST-E-RRON
0.2647442	0.2647442	0.0086787
0.1230000	0.1230000	0.0025901
MODE	0.1020000	

95% CONFIDENCE
LOWER 0-2277214
UPPER 0-2617214

MAXIMUM	2.0000000
MINIMUM	0.0010000
RANGE	1.9990000
VARIANCE	0.1207375
STDEV.	0.3474731
(Q1-Q3)/2	0.1065000
W-SI-SC-	5.05
W-SI-SC-	-0.70

EACH ° NO
REPRESENTS
63
COUNTIES

EACH 0-0 ABOVE =	0-0750
L =	0-0000
U =	2-4000

CASE NO.	NO. OF MIN.	VAL.
699	7	669
615	7	615

VALUE	VALUE/S.E.	
2.54	41.54	Q1= 0.062000
6.81	55.62	Q3= 0.250000
		S=-0.1027200
		S+= 0.5922173

EACH . . . BELOW = 00200

● 2011年12月1日

VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM	VALUE	COUNT	PERCENTS CELL	CUM
0-0010000	9	0-6	0-6	0-1200000	2	0-1	52-0	0-2070000	1	0-1	77-0	0-6790000	3	0-2	90-2
0-0020000	17	1-1	1-6	0-1590000	0	0-5	52-5	0-2080000	2	0-1	77-1	0-6800000	1	0-1	90-3
0-0030000	0	0-5	2-1	0-1300000	3	0-2	52-7	0-2090000	2	0-1	77-2	0-6800000	1	0-1	90-3
0-0040000	20	1-7	3-8	0-1320000	14	0-7	53-3	0-2910000	4	0-1	77-3	0-6890000	1	0-1	90-4
0-0050000	7	0-4	4-2	0-1340000	4	0-2	53-6	0-2920000	2	0-1	77-4	0-6910000	2	0-1	90-5
0-0060000	19	1-2	5-4	0-1350000	1	0-1	53-6	0-2940000	0	0-1	77-5	0-6950000	2	0-1	90-6
0-0070000	6	0-4	5-0	0-1360000	1	0-1	53-7	0-2960000	3	0-2	77-7	0-6960000	1	0-1	90-7
0-0080000	20	1-2	7-0	0-1370000	7	0-4	54-1	0-3080000	4	0-2	77-9	0-7020000	1	0-1	90-8
0-0090000	7	0-4	7-5	0-1390000	2	0-1	54-3	0-3020000	1	0-1	78-0	0-7080000	1	0-1	90-9
0-0100000	10	1-1	8-6	0-1400000	14	0-9	55-1	0-3030000	1	0-1	78-0	0-7100000	1	0-1	90-9
0-0110000	12	1-1	9-7	0-1410000	9	0-6	55-7	0-3040000	1	0-1	78-1	0-7170000	2	0-1	91-0
0-0120000	16	1-0	10-7	0-1420000	3	0-2	55-9	0-3060000	1	0-1	78-2	0-7200000	1	0-1	91-1
0-0130000	13	0-8	11-5	0-1430000	7	0-2	56-0	0-3090000	2	0-1	78-2	0-7260000	2	0-1	91-2
0-0140000	13	0-8	12-3	0-1440000	16	1-0	57-0	0-3120000	2	0-1	78-4	0-7300000	1	0-1	91-3
0-0150000	14	0-7	13-0	0-1450000	7	0-4	57-4	0-3150000	1	0-1	78-4	0-7470000	1	0-1	91-4
0-0160000	9	0-6	13-5	0-1460000	1	0-1	57-5	0-3180000	2	0-1	78-5	0-7520000	1	0-1	91-5
0-0170000	6	0-4	13-9	0-1470000	1	0-1	57-5	0-3200000	1	0-1	78-6	0-7580000	1	0-1	91-5
0-0180000	6	0-4	14-3	0-1480000	2	0-1	57-6	0-3240000	2	0-1	78-7	0-7650000	1	0-1	91-5
0-0190000	4	0-2	14-5	0-1500000	2	0-1	57-6	0-3260000	1	0-1	78-8	0-7660000	1	0-1	91-5

PAGE 2 SHOP20 PRICE & WEIGHT & CUBE

• **EPAC** •

VARIABLE	NUMBER	NUMBER OF MISSING VALUES	NUMBER OF VALUES COUNTED	NUMBER OF VALUES NOT COUNTED
1	1096	-	-	-
1096	-	-	-	-
1609	-	-	-	-
3	-	-	-	-

MEAN	ESTIMATE
1406.0710223	
156.0000000	
2100.0000000	

SV J RROH
79-238 3477
18-7630925

95% CONFIDENCE
LOWER
1240-6132901 1559-5

MAXIMUM	45350.000000
MINIMUM	0.000000
RANGE	45349.999999
VARIANCE	10107554.0681763
ST-DEV.	3179.2379697
(Q3-Q1)/2	601.5600000
PN-ST-SC.	13.02
HN-ST-SC.	-0.44

EACH ONE
REPRESENTS
124
COUNT(S)

EACH -- ABOVE = 1500.0000
L = 0.0000
U = 40000.0000
CASE NO. OF MIN. VAL. = 26
CASE NO. OF MAX. VAL. = 1431

01= 110-000000
03= 1314-000000
S-2-1775-1641475
S-2-4503-3417920

SS 304M3MS
SS 304M3MS

VALUE	VALUE / S.E.
5.90	96.57
49.68	406.81

EACH 0.0 BELOW = 500.0000

SECRET

VALUE			PERCENTS			VALUE			PERCENTS			VALUE			PERCENTS		
COUNT	CELL	CUM	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
1	0-1	0-1	1	0-1	20-0	79-960	1	0-1	20-0	360-00	1	0-1	50-3	1374-0	1	0-1	75-5
1	0-1	0-1	1	0-1	20-0	80-260	1	0-1	20-0	360-36	1	0-1	50-4	1383-0	1	0-1	75-5
1	0-1	0-2	1	0-1	20-9	80-660	1	0-1	20-9	361-00	1	0-1	50-5	1388-0	1	0-1	75-6
1	0-1	0-2	1	0-1	20-9	80-760	1	0-1	20-9	362-00	1	0-1	50-5	1391-0	7	0-4	76-0
1	0-1	0-3	1	0-1	21-0	81-260	1	0-1	21-0	363-00	1	0-1	50-6	1395-0	1	0-1	76-1
1	0-1	0-4	1	0-1	21-1	82-060	1	0-1	21-1	360-00	2	0-1	50-7	1400-0	1	0-1	76-1
3	0-2	0-6	1	0-1	21-1	82-120	1	0-1	21-1	369-00	1	0-1	50-0	1404-0	1	0-1	76-2
1	0-1	0-6	1	0-1	21-2	82-330	1	0-1	21-2	373-12	1	0-1	50-0	1406-0	1	0-1	76-3
1	0-1	0-7	1	0-1	21-3	82-520	1	0-1	21-3	375-00	1	0-1	50-9	1410-0	1	0-1	76-3
1	0-1	0-7	1	0-1	21-3	83-580	1	0-1	21-3	376-00	4	0-2	51-8	1415-0	1	0-1	76-4
2	0-1	0-9	1	0-1	21-4	85-130	1	0-1	21-4	376-00	1	0-1	51-2	1420-0	1	0-1	76-4
1	0-1	0-9	1	0-1	21-4	85-380	1	0-1	21-4	380-00	3	0-2	51-4	1430-0	1	0-1	76-5
1	0-1	1-0	1	0-1	21-5	86-250	1	0-1	21-5	381-00	1	0-1	51-5	1436-0	1	0-1	76-6
2	0-1	1-8	3	0-2	21-7	89-550	3	0-2	21-7	385-00	1	0-1	51-5	1474-0	1	0-1	76-6
1	0-1	1-2	2	0-1	21-8	90-000	2	0-1	21-8	386-00	1	0-1	51-6	1476-0	1	0-1	76-7
1	0-1	1-2	1	0-1	21-9	90-000	1	0-1	21-9	386-92	1	0-1	51-6	1483-0	1	0-1	76-8
1	0-1	1-3	1	0-1	21-9	90-970	1	0-1	21-9	388-00	1	0-1	51-7	1491-0	1	0-1	76-9
2	0-1	1-4	1	0-1	22-0	91-050	1	0-1	22-0	391-00	2	0-1	51-0	1493-0	1	0-1	76-9
3	0-2	1-6	1	0-1	22-1	92-130	1	0-1	22-1	392-00	2	0-1	52-0	1495-0	1	0-1	76-9

MICROM WEIGHT

RACK LINES

PAGE 3 BM020 PRICE & WEIGHT & CUBE

* EMGT *
*****VARIABLE NUMBER 2
NUMBER OF DISTINCT VALUES . . . 157
NUMBER OF VALUES COUNTED . . . 24
NUMBER OF VALUES NOT COUNTED . . .MAXIMUM 1301.0000000
MINIMUM 1.6000000
RANGE 1300.4000000
VARIANCE 1307.585600
STDEV. 36.517369
COEFFICIENT 35.7000000
MX-STDEV. 12.58
MN-STDEV. -1.0575% CONFIDENCE
LOWER UPPER
71.9025304 106.6219691
1.2390347ESTIMATE
39.2622500
57.5000000
57.5000003MEAN
MEDIAN
MODE

HHHHH

L

F

J

EACH *** ABOVE = 100.0000
L = 0.0000
U = 200.0000
CASE NO. OF MIN. VAL. = 179
CASE NO. OF MAX. VAL. = 43VALUE 31.2600000
VALUE 105.0600000
VALUE 56.50
VALUE 315.76
VALUE 225.7419469
SKENWFS
KURTOSIS

EACH *** BELOW = 15.0000

S
M I M S
N U A
I N

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
0.4000	1	0.4	0.4	0.4	29.2500	1	0.4	21.3	21.3	65.9800	1	0.4	57.5	57.5
2.4000	1	0.4	0.4	0.8	29.3900	1	0.4	21.7	43.0	67.7300	2	0.8	58.3	58.3
3.9000	1	0.4	1.3	1.3	30.0000	3	1.3	22.9	65.9	69.9800	2	0.8	59.2	59.2
4.5000	1	0.4	1.7	1.7	30.0600	1	0.4	23.3	89.2	70.0000	1	0.4	59.6	59.6
4.5500	1	0.4	2.1	2.1	30.5500	1	0.4	23.3	112.5	71.0000	1	0.4	60.0	60.0
4.7000	1	0.4	2.5	2.5	31.0000	2	0.8	24.6	137.1	71.5000	1	0.4	60.4	60.4
4.7500	1	0.4	2.9	2.9	31.2600	3	1.3	25.4	162.5	72.0000	1	0.4	60.8	60.8
5.0000	1	0.4	3.3	3.3	31.5000	1	0.4	26.3	188.8	73.2000	1	0.4	61.7	61.7
6.5000	1	0.4	3.8	3.8	31.9000	1	0.4	26.7	215.5	74.0000	1	0.4	62.1	62.1
6.9700	1	0.4	4.2	4.2	32.0000	1	0.4	27.1	242.6	76.5000	2	0.8	63.3	63.3
7.5000	2	0.8	5.0	5.0	33.8000	1	0.4	27.5	270.1	76.7800	1	0.4	63.7	63.7
7.9800	1	0.4	5.4	5.4	34.8700	1	0.4	27.5	307.6	77.0000	1	0.4	64.2	64.2
10.7500	2	0.8	6.3	6.3	37.1000	1	0.4	28.3	335.9	79.0000	5	2.1	66.3	66.3
11.2500	1	0.4	6.7	6.7	37.9700	1	0.4	28.4	364.3	79.1300	1	0.4	66.7	66.7
12.2400	1	0.4	7.1	7.1	39.0000	2	0.8	29.6	393.9	79.5200	1	0.4	67.1	67.1
12.9500	1	0.4	7.5	7.5	39.3600	1	0.4	30.3	424.2	83.0000	2	0.8	67.9	67.9
13.0000	1	0.4	7.9	7.9	39.5500	1	0.4	30.4	454.6	84.0000	1	0.4	68.3	68.3
16.9400	1	0.4	8.3	8.3	40.5000	1	0.4	30.3	485.0	85.2000	1	0.4	68.7	68.7
16.0000	2	0.8	9.2	9.2	41.3100	1	0.4	31.3	516.3	85.2200	1	0.4	69.2	69.2
16.5000	1	0.4	9.6	9.6	41.5000	1	0.4	31.3	547.6	87.3500	1	0.4	69.6	69.6

RACK LINES

PAGE 4 USD20 PRICE & WEIGHT & DATE

• 603 •

3	MEMBER 376144	MEMBER	NUMBER OF VALUES NOT COUNTED
15	NUMBER OF DISTINGUISHING VALUES .	NUMBER 4	NUMBER OF VALUES COUNTED . .
24	NUMBER 9	NUMBER 4	NUMBER OF VALUES COUNTED . .
7	NUMBER 1	NUMBER 4	NUMBER OF VALUES COUNTED . .

MEAN	7.365075	0.4330495	51.29405
MEDIAN	6.693000	0.2654609	
MODE	3.040000		

032 CONFIDENTIAL
LUMER, JOSEPH
0-5044042 0-2227052

MAXIMUM	39.740000
MINIMUM	2.001000
RANGE	37.739000
VARIANCE	45.274137
STDEV.	6.728720
COS-DIFF	3.202000
MX-SIG.	2.74
MY-SIG.	-0.10

EACH OF
REPRESENTS
11
COUNTY(C)

EACH	--- ABOVE =	7.0000
L=		0.0000
U=		46.0000
CASE NO. OF MIN.	VAL. =	159
CASE NO. OF MAX.	VAL. =	40

21= 3.274.0000
23= 2.6760000
25= 0.0259466
27= 14.1054304

SKETCHNESS	VALUE	VALUE/3.E.
ADJUSTUS	2.31	14.00
	6.01	19.01

$\log_{10} \frac{1}{\text{M}} = -0.78$

S
-
I
N
T
E
R
V
I
E
W

PERCENTS:-		COUNT		PERCENTS		COUNT		PERCENTS		COUNT		PERCENTS	
CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM	CELL	CUM
2.001	1	0.4	0.4	5.274	0	3.3	27.3	5.114	1	0.4	54.2	11.724	1
2.007	1	0.4	0.4	3.277	2	0.8	28.3	5.253	3	1.3	60.4	11.758	1
2.026	1	0.4	1.3	3.311	1	0.4	26.4	3.342	2	0.4	61.3	11.921	1
2.032	1	0.4	1.7	3.315	1	0.4	24.2	3.344	2	0.4	62.1	12.023	2
2.115	1	0.4	2.1	3.460	1	0.4	24.2	5.466	1	0.4	62.5	12.561	1
2.120	1	0.4	2.5	3.564	1	0.4	30.0	5.241	1	0.4	62.9	12.927	1
2.166	1	0.4	2.9	3.630	1	0.4	30.4	6.126	1	0.4	63.3	13.582	1
2.224	1	0.4	3.3	3.650	1	0.4	30.4	6.143	1	0.4	63.8	13.667	3
2.230	1	0.4	3.4	3.697	1	0.4	31.3	6.315	1	0.4	64.2	13.714	1
2.244	1	0.4	4.2	3.707	1	0.4	31.7	6.343	2	0.8	65.0	13.750	1
2.264	1	0.4	4.6	3.757	1	0.4	32.1	6.418	1	0.4	65.4	14.053	1
2.314	1	0.4	5.0	3.846	1	0.4	32.5	6.475	1	0.4	65.8	14.174	1
2.315	1	0.4	5.4	3.884	29	12.1	44.0	6.320	1	0.4	66.3	14.411	1
2.334	1	0.4	5.8	3.930	1	0.4	45.2	7.029	4	1.7	67.9	14.769	1
2.361	1	0.4	6.3	4.033	1	0.4	45.4	7.412	1	0.4	68.3	14.924	1
2.363	7	2.3	9.2	4.102	1	0.4	45.4	7.451	1	0.4	68.8	14.904	1
2.352	1	0.4	9.6	4.212	1	0.4	46.3	7.491	1	0.4	69.2	15.206	1
2.467	1	0.4	10.0	4.224	1	0.4	46.7	7.514	1	0.4	69.6	16.044	1
2.472	1	0.4	10.4	4.224	1	0.4	47.1	7.660	1	0.4	70.0	16.562	1
2.542	3	1.3	11.7	4.236	1	0.4	47.5	7.768	3	1.3	71.3	16.401	1

PAGE 3 SHOP20 PRICE 3 WEIGHT 8 CUBE

VARIABLE NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
NUMBER OF DISTINCT VALUES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
NUMBER OF VALUES COUNTED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
NUMBER OF VALUES NOT COUNTED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

95% CONFIDENCE
LOWER UPPER
210.0671079 747.9190032

MAXIMUM	4600.000000
MEAN	0.300000
RANGE	4679.970000
VARIANCE	631721.4563179
ST-DEV.	796.0120636
(Q3-Q1)/2	170.0750000
MM-ST-SC.	5.29
MM-ST-SC.	-0.60

H	EACH "H"
M	REPRESENTS
H	A
H	COUNT(S)
H	

EACH -- ABOVE =	500.0000
L =	0.0000
U =	7500.0000
CASE NO. OF MIN. VAL. =	19
CASE NO. OF MAX. VAL. =	20

VALUE	VALUE/\$-E-	Q1=	56.2500000
SUMMARY	4.44	Q3=	415.0000000
AUTOTISS	10.04	S=	-315.017000
		S=	1273.005091

EACH 0.0 BELOW = 50.0000

SECRET

PERCENTS			COUNT			PERCENTS			COUNT			PERCENTS		
VALUE	COUNT	CUM	VALUE	COUNT	CUM	VALUE	COUNT	CUM	VALUE	COUNT	CUM	VALUE	COUNT	CUM
-30000000	7	19.4	94.500	1	2.0	482.00	1	2.0	1380.7	1	2.0	94.4	1	2.0
-60000	1	2.0	101.22	1	2.0	454.00	1	2.0	1560.0	1	2.0	97.2	1	2.0
49.500	1	2.0	304.00	12	33.3	676.00	1	2.0	4680.0	1	2.0	100.0	1	2.0
63.000	1	2.0	614.00	5	13.9	760.00	1	2.0						

SECRET

VARIABLE NUMBER	
NUMBER OF DISTINCT VALUES	:
NUMBER OF VALUES COUNTED	:
NUMBER OF VALUES NOT COUNTED	:

MEAN	ESTIMATE
86.3409167	
53.4300000	
55.6490000	

SY-EMORA
24-5131403
2-8446061

MAXIMUM	915-9000000
MINIMUM	40-0960000
RANGE	875-8040000
VARIANCE	21200-6365671
ST-DEV.	165-8788421
(03-01)/2	5-1302500
PK-ST-SC.	5-70
WN-ST-SC.	-0.10

958 CONF IDENCE

LOWEN UPPER
34-9826229 13J-6992105

EACH "H"
REPRESENTS
COUNTS

M

EACH -- ABOVE =	75-0000
L =	0-0000
U =	1125-0000
CASE NO. OF MIN. VAL. =	4
CASE NO. OF MAX. VAL. =	20

	VALUE	VALUE/S.E.	Q1=
SHRMS58	5.15	12.61	45.3085000
MURLOS8	26.34	12.26	55.6490000
			5=-81.5319254
			S=230.2197587

EACH . . . BELON = 10.0000

3 - 00 N 2
 1E - 00 N 2
 ND 1 00 N 2
 2 00 N 2
 3 00 N 2
 4 00 N 2
 5 00 N 2
 6 00 N 2
 7 00 N 2
 8 00 N 2
 9 00 N 2
 10 00 N 2
 11 00 N 2
 12 00 N 2
 13 00 N 2
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PERCENTS			PERCENTS			PERCENTS			PERCENTS		
VALUE	COUNT	CUM	VALUE	COUNT	CUM	VALUE	COUNT	CUM	VALUE	COUNT	CUM
60-10	8	2.0	51-16	1	47.2	62-92	1	2.8	154.57	1	2.0
44-52	1	2.0	51-23	1	50.0	65-20	1	2.8	180.75	1	2.0
64-90	7	19.4	55-65	10	27.8	97-80	1	2.0	915.90	1	2.0
65-80	7	19.4	60-92	1	2.0	181-30	1	2.0			

NUMBER OF INTEGER WORDS OF STORAGE USED IN PRECEDING CPU TIME	12-017 SECONDS	12-017 SECONDS	PROBLEM
CUMULATIVE CPU TIME USED	12-017 SECONDS	12-017 SECONDS	

TACOM CUBE
BIN LINES

PAGE 6 BMDP20 PRICE & WEIGHT & CUBE

* ECUB *

VARIABLE NUMBER - - - - - 1567
NUMBER OF DISTINCTION VALUES - - - - - 16192
NUMBER OF VALUES COUNTED - - - - - 719
NUMBER OF VALUES NOT COUNTED

MEAN ESTIMATE ST. ERROR
MEDIAN 0.3968295 0.0035891
MODE 0.1860000 0.0043301
0.0240000

MAXIMUM 10.0750000
MINIMUM 0.0010000
RANGE 10.0740000
VARIANCE 0.2143376
ST. DEV. 0.4640843
Q3-Q1 0.2600000
WX-ST-SC. 21.65
MM-ST-SC. -0.02

95% CONFIDENCE
LOWER 0.3897946
UPPER 0.4030644

* ECUB *

EACH "H" ABOVE = 0.3000
L= 0.0000
U= 12.0000
CASE NO. OF MIN. VAL. = 22
CASE NO. OF MAX. VAL. = 16241

* ECUB *

EACH "H" BELOW = 0.1000

SKEWNESS 2.01
KURTOSIS 13.30
VALUE 13.30
VALUE/S.E. 110.66
S.E. 366.00
S.E. 0.0000000
S.E. 0.5600000
S.E. -0.0072548
S.E. 0.0009130

EACH "H" ABOVE = 0.3000

SO 0 5
-HM P3
-RE-E-
ND A
E M

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
-10000E-02	145	0.0	0.0	0.0	0.35100	10	0.1	63.4	0.76300	2	0.0	0.1	0.0	0.1
-20000E-02	195	1.1	1.9	1.9	0.35200	11	0.1	63.5	0.76400	3	0.0	0.1	0.0	0.1
-30000E-02	141	0.0	2.6	2.6	0.35300	17	0.1	63.6	0.76500	8	0.0	0.1	0.0	0.1
-40000E-02	166	0.9	3.6	3.6	0.35400	5	0.0	63.6	0.76600	1	0.0	0.1	0.0	0.1
-50000E-02	185	0.6	4.2	4.2	0.35500	4	0.0	63.6	0.76700	12	0.1	0.1	0.0	0.1
-60000E-02	201	1.1	5.3	5.3	0.35600	9	0.0	63.7	0.76800	9	0.0	0.1	0.0	0.1
-70000E-02	114	0.6	5.9	5.9	0.35700	4	0.0	63.7	0.76900	16	0.1	0.1	0.0	0.1
-80000E-02	159	0.9	6.8	6.8	0.35800	50	0.3	64.0	0.77000	6	0.0	0.1	0.0	0.1
-90000E-02	76	0.4	7.2	7.2	0.35900	1	0.0	64.0	0.77100	1	0.0	0.1	0.0	0.1
-10000E-01	142	0.0	8.0	8.0	0.36000	10	0.1	64.0	0.77200	4	0.0	0.1	0.0	0.1
-11000E-01	64	0.4	8.4	8.4	0.36100	6	0.0	64.0	0.77300	18	0.1	0.1	0.0	0.1
-12000E-01	173	1.0	9.3	9.3	0.36200	21	0.1	64.2	0.77400	5	0.0	0.1	0.0	0.1
-13000E-01	94	0.5	9.8	9.8	0.36300	4	0.0	64.2	0.77500	5	0.0	0.1	0.0	0.1
-14000E-01	120	0.7	10.5	10.5	0.36400	7	0.0	64.2	0.77600	2	0.0	0.1	0.0	0.1
-15000E-01	142	0.8	11.3	11.3	0.36500	13	0.1	64.3	0.77700	5	0.0	0.1	0.0	0.1
-16000E-01	94	0.5	11.8	11.8	0.36600	13	0.1	64.4	0.77800	3	0.0	0.1	0.0	0.1
-17000E-01	59	0.3	12.1	12.1	0.36700	8	0.0	64.4	0.77900	11	0.1	0.1	0.0	0.1
-18000E-01	136	0.7	12.9	12.9	0.36800	12	0.1	64.5	0.78000	6	0.0	0.1	0.0	0.1
-19000E-01	50	0.3	13.2	13.2	0.36900	3	0.0	64.5	0.78100	1	0.0	0.1	0.0	0.1

TACOM PRICE
RACK LINES

PAGE 2 00026 PRICE & HEIGHT & CODE

* EPBC *

VARIABLE NUMBER 1
NUMBER OF DISTRACT VALUES . . . 3405
NUMBER OF VALUES COUNTED . . . 7291
NUMBER OF VALUES NOT COUNTED . . 0

MEAN ESTIMATE ST. ERROR
761-528766 21-3705253
MEDIAN 192-0000000 4-6100043
MODE 126-0000000

PERCENTUM 51132-0000000
PERCENTUM 2-0000000
RANGE 51125-9240001
VARIANCE 5117391-0369514
ST. DEV. 1021-3570050
COV-COV2 275-7000000
PV-ST-SC- 27-66
PV-ST-SC- -0-42

952 CONFIDENCE
LEVER 10000
719-7841756 802-3421816

EACH ONE
REPRESENTS
644
COUNTS)

EACH ONE ABOVE = 1500-0000
L = 0-0000
U = 57000-0000
CASE NO. OF MIN. VAL. = 5737
CASE NO. OF MAX. VAL. = 6729

VALUE VALUE/8-E-
16-64 320-70
171-02 3015-60
SHENNESS
PURTOSES

O1= 145-6000000
O3= 705-0000000
S=-1059-0289064
S0= 2502-0052636

EACH ONE BELOW = 500-0000

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MEC
15

VALUE	COUNT	PERCENTS	CELL	CUP	VALUE	COUNT	PERCENTS	CELL	CUP	VALUE	COUNT	PERCENTS	CELL	CUP
2-000	1	0-0	0-0	0-0	155-000	32	0-4	27-1	343-240	1	0-0	55-5	0-0	00-5
4-330	1	0-0	0-0	0-0	155-170	1	0-0	27-1	346-640	3	0-0	55-5	1	0-0
6-200	1	0-0	0-0	0-0	155-520	1	0-0	27-1	346-400	2	0-0	55-6	6	0-1
10-610	3	0-0	0-1	0-1	155-550	3	0-0	27-1	346-800	8	0-1	55-7	4	0-1
12-640	4	0-0	0-1	0-1	155-600	1	0-0	27-2	346-640	2	0-0	55-7	1	0-0
16-200	1	0-0	0-1	0-1	155-710	1	0-0	27-2	346-560	11	0-2	55-8	1	0-0
16-500	2	0-0	0-1	0-1	156-240	1	0-0	27-2	347-200	3	0-0	55-9	2	0-0
16-700	4	0-1	0-2	0-2	156-600	1	0-0	27-2	347-360	1	0-0	55-9	1	0-0
16-710	1	0-0	0-2	0-2	157-000	2	0-0	27-2	347-400	0	0-1	56-0	6	0-1
16-900	1	0-0	0-2	0-2	157-500	1	0-0	27-2	347-700	1	0-0	56-0	2	0-0
16-920	4	0-1	0-3	0-3	157-600	2	0-0	27-3	347-800	2	0-0	56-1	1	0-0
17-400	1	0-0	0-3	0-3	157-600	3	0-0	27-3	348-100	2	0-0	56-1	1	0-0
17-900	3	0-0	0-3	0-3	158-700	4	0-1	27-4	348-150	1	0-0	56-1	1	0-0
19-320	1	0-0	0-3	0-3	158-760	6	0-1	27-4	348-600	4	0-1	56-2	1	0-0
20-300	1	0-0	0-4	0-4	157-920	1	0-0	27-5	349-600	1	0-0	56-2	3	0-0
20-310	1	0-0	0-4	0-4	158-000	4	0-1	27-5	349-520	1	0-0	56-2	1	0-0
21-300	1	0-0	0-4	0-4	158-040	1	0-0	27-5	350-400	1	0-0	56-2	1	0-0
21-620	1	0-0	0-4	0-4	158-000	2	0-0	27-6	350-220	1	0-0	56-2	1	0-0
21-760	1	0-0	0-4	0-4	158-240	1	0-0	27-6	351-600	1	0-0	56-2	1	0-0

BULK LINES

PAGE 3 ONSP20 PRICE & WEIGHT & CUBE

1967

VARIABLE NUMBER	1	2
NUMBER OF DISTINCT VALUES	657	0
NUMBER OF VALUES COUNTED	1103	0
NUMBER OF VALUES NOT COUNTED	0	0

	ESTIMATE	ST. ERROR
MEAN	4217.960355	105.3505602
MEDIAN	2336.000000	142.0942502
MODE	3006.000000	

95% CONFIDENCE	
LOWER	UPPER
1054.2532973	4501.550337

MAXIMUM	53152.000000
MINIMUM	30.940000
RANGE	53111.059999
VARIANCE	40641764.0601152
STDEV.	6375.0093321
(03-01)/2	1697.000000
HL-ST-SC.	-7.60
HM-ST-SC.	-0.66

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EACH "H"
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EACH *** ABOVE = 2000.0000
L = 0.0000
U = 60000.0000
CASE NO. OF MIN. VAL. = 486
CASE NO. OF MAX. VAL. = 249

VALUE	VALUE/\$-E	
3.60	51.74	
16.56	116.27	50=H0592.9951735
		5=-2157.1013026
		03= 4265.0000000
		01= 869.2400000

EACH . . . BELOW = \$500.000

[illegible]

PERCENTS			PERCENTS			PERCENTS			PERCENTS		
COUNT	CELL	CUM	COUNT	CELL	CUM	COUNT	CELL	CUM	COUNT	CELL	CUM
30.94	0.2	0.2	866.25	1	0.1	24.0	1	0.1	5148.00	1	0.1
45.00	0.3	0.5	867.54	1	0.1	24.9	2	0.2	5174.40	1	0.1
61.56	1	0.5	867.80	1	0.1	25.0	1	0.1	5199.00	2	0.2
65.00	1	0.6	869.24	1	0.1	25.9	1	0.1	5200.00	1	0.1
67.50	1.0	1.6	872.69	1	0.1	25.1	1	0.1	5207.15	1	0.1
75.42	1	1.7	861.21	2	0.2	25.3	2	0.2	5216.00	1	0.1
80.00	1	1.0	882.00	1	0.1	25.4	1	0.1	5219.70	1	0.1
125.44	1	1.9	884.46	1	0.1	25.4	1	0.1	5238.29	1	0.1
150.24	1	1.9	886.00	1	0.1	25.5	1	0.1	5244.00	1	0.1
160.00	5	0.4	895.40	1	0.1	25.6	1	0.1	5205.00	1	0.1
180.00	2	2.5	907.00	1	0.1	25.7	2	0.1	5316.00	3	0.3
182.64	2	2.7	908.00	2	0.2	25.9	2	0.2	5322.00	2	0.2
184.74	1	0.1	906.50	1	0.1	26.0	1	0.1	5343.40	1	0.1
190.50	1	0.1	916.00	1	0.1	26.0	1	0.1	5355.00	1	0.1
200.00	3	0.3	920.00	2	0.2	26.2	1	0.1	5530.00	2	0.2
207.00	5	0.4	936.00	2	0.2	26.4	1	0.1	5600.00	1	0.1
210.32	1	0.1	945.00	1	0.1	26.5	1	0.1	5760.00	1	0.1
219.00	1	0.1	952.00	1	0.1	26.5	1	0.1	5813.50	1	0.1
225.00	0	0.7	968.00	2	0.2	26.7	1	0.1	5850.00	1	0.1

PAGE 4 ONDP20 PRICE & WEIGHT & CUBE

VARIABLE NUMBER	1	641	1163	0
NUMBER OF DISTINCT VALUES	1	641	1163	0
NUMBER OF VALUES COUNTED	1	641	1163	0
NUMBER OF VALUES NOT COUNTED	1	641	1163	0

	ESTIMATE	ST-ERROR	95% CONFIDENCE	
			LOWER	UPPER
MEAN	156.7982190	5.194 9829	146.603034	166.996361
MEDIAN	95.2000000	0.692 8206		

SV-EAFNR
5-194 9229
0-692 0206

EACH -- ABOVE =	75.0000
L =	0.0000
U =	2250.0000
CASE NO. OF MIN. VAL. =	1105
CASE NO. OF MAX. VAL. =	922

EACH . . . BELOW = 20.0000

PERCENTS				PERCENTS				PERCENTS				PERCENTS			
VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM	VALUE	COUNT	CELL	CUM
1-520	1	0.1	0.1	55-680	7	0.6	25.0	91-640	1	0.1	46.2	101-566	1	0.1	75.1
12-000	0	0.7	0.8	55-500	1	0.1	25.9	92-070	1	0.1	46.2	102-500	1	0.1	75.1
13-000	1	0.1	0.9	55-680	1	0.1	26.0	92-200	1	0.1	46.3	104-960	2	0.2	75.3
16-675	1	0.1	0.9	55-719	1	0.1	26.0	92-300	1	0.1	46.4	105-600	4	0.3	75.7
18-590	1	0.1	1.0	56-000	1	0.1	26.1	92-400	2	0.2	46.6	105-607	1	0.1	75.7
23-184	1	0.1	1.1	56-280	1	0.1	26.2	92-600	16	1.4	47.9	107-915	1	0.1	75.0
23-240	1	0.1	1.2	56-303	1	0.1	26.3	93-250	1	0.1	48.0	100-000	3	0.3	76.1
24-000	1	0.1	1.3	56-373	6	0.5	26.8	93-400	1	0.1	48.1	109-000	1	0.1	76.2
26-564	1	0.1	1.4	56-400	2	0.2	27.0	93-600	1	0.1	48.2	109-200	2	0.2	76.3
28-760	3	0.3	1.6	56-640	1	0.1	27.0	94-000	2	0.2	48.4	109-631	1	0.1	76.4
29-700	5	0.4	2.0	56-644	1	0.1	27.1	94-400	1	0.1	48.4	190-400	0	0.7	77.1
36-000	1	0.1	2.1	56-000	1	0.1	27.2	94-600	2	0.2	48.6	192-656	1	0.1	77.2
36-700	2	0.2	2.3	56-940	1	0.1	27.3	94-944	1	0.1	48.7	193-000	4	0.3	77.5
36-900	1	0.1	2.4	57-226	1	0.1	27.4	95-000	1	0.1	48.8	193-380	1	0.1	77.6
38-610	1	0.1	2.5	57-400	1	0.1	27.5	95-040	2	0.2	48.9	195-200	2	0.2	77.8
39-204	1	0.1	2.5	57-610	1	0.1	27.6	95-200	45	3.0	52.7	198-000	1	0.1	77.9
39-234	2	0.2	2.7	57-700	1	0.1	27.6	95-560	2	0.2	52.9	199-269	1	0.1	77.9
40-000	1	0.1	2.8	57-000	2	0.2	27.9	96-000	2	0.2	53.1	200-000	2	0.2	78.1
40-310	1	0.1	2.9	57-334	1	0.1	27.9	96-200	1	0.1	53.2	200-108	1	0.1	78.2

TACOM PRICE
BULK LINES

PAGE 2 SHIP20 PRICE & WEIGHT & CUBE

* EPNC *

VARIABLE NUMBER - - - - -
NUMBER OF DISTINCT VALUES - 712
NUMBER OF VALUES COUNTED - 1103
NUMBER OF VALUES NOT COUNTED 0

MEAN 20145.3112933
MEDIAN 11625.0000000
MODE 11625.0000000

ESTIMATE
20145.3112933
1591.1150960
243.1099506

95% CONFIDENCE
LOWER UPPER

MAXIMUM 707610.0000000
MINIMUM 43.6200000
RANGE 707566.3800000
VARIANCE *****
ST-DEV. 54732.9120493
(03-01)/2 5352.0000000
PX-ST-SC. 12.56
MN-ST-SC. -0.37

EACH *M*
REPRESENTS
103
COUNT(S)

MMHMMHMM H M H
L-----U

EACH *-- ABOVE = 25000.0000
L = 0.0000
U = 750000.0000
CASE NO. OF MIN. VAL. = 406
CASE NO. OF MAX. VAL. = 1150

01= 1430.0000000
03=12144.0000000
5-----
5=74870.2233424

VALUE VALUE /S-E-
6.43 90.27
56.44 396.28

SKEWNESS
KURTOSIS

EACH *.. BELOW = 75000.0000

S UO S
- MM S

10E-----
MHA
EN

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
43.62	2	0.2	0.2	0.2	1350.00	4	0.3	23.0	4215.75	1	0.1	47.0	1	0.1
43.90	1	0.1	0.3	23.0	1301.00	7	0.6	24.4	4210.00	1	0.1	47.9	1	0.1
43.94	1	0.1	0.3	24.4	1386.00	7	0.6	24.5	4240.00	1	0.1	48.0	1	0.1
43.94	1	0.1	0.6	24.5	1391.94	1	0.1	24.6	4240.00	1	0.1	48.1	1	0.1
72.06	3	0.3	0.7	24.6	1392.00	1	0.1	24.7	4251.10	1	0.1	48.2	1	0.1
76.07	1	0.1	0.8	24.7	1404.00	1	0.1	24.8	4284.00	1	0.1	48.3	1	0.1
106.00	1	0.1	0.8	24.8	1430.00	3	0.3	25.0	4308.75	2	0.2	48.4	1	0.1
109.29	12	1.0	1.8	25.0	1444.86	1	0.1	25.1	4340.00	1	0.1	48.5	1	0.1
200.20	1	0.1	1.9	25.1	1469.27	1	0.1	25.2	4354.50	9	0.8	49.3	1	0.1
210.24	2	0.2	2.0	25.2	1470.00	1	0.1	25.3	4358.50	1	0.1	49.4	1	0.1
259.20	1	0.1	2.1	25.3	1476.00	2	0.2	25.4	4368.00	2	0.2	49.5	1	0.1
282.20	1	0.1	2.2	25.4	1480.31	1	0.1	25.5	4362.50	1	0.1	49.6	1	0.1
292.00	3	0.3	2.5	25.5	1480.53	3	0.3	25.8	4366.20	1	0.1	49.7	1	0.1
319.00	3	0.3	2.7	25.8	1520.00	1	0.1	25.9	4398.00	1	0.1	49.8	1	0.1
319.90	2	0.2	2.9	25.9	1525.20	1	0.1	26.0	4410.00	1	0.1	49.9	1	0.1
321.50	1	0.1	3.0	26.0	1530.00	1	0.1	26.1	4425.00	1	0.1	50.0	1	0.1
342.00	1	0.1	3.0	26.0	1540.50	1	0.1	26.1	4464.00	1	0.1	50.0	1	0.1
361.00	5	0.4	3.5	26.1	1546.60	1	0.1	26.2	4483.00	3	0.3	50.3	1	0.1
379.60	1	0.1	3.6	26.2	1548.00	1	0.1	26.3	4515.00	1	0.1	50.4	1	0.1
380.00	3	0.3	3.8	26.3										

TRONCOM PRICE
BTH LINES

PAGE 2 SHOP28 PRICE & WEIGHT & CUBE

* EPIC *****

VARIABLE NUMBER - - - - - 1
NUMBER OF DISTINCT VALUES - 1702
NUMBER OF VALUES COUNTED - 3050
NUMBER OF VALUES NOT COUNTED 2

MEAN 313.6120393
MEDIAN 55.2150000
MODE 2.7000000

95% CONFIDENCE
LOWER 247.4774672 UPPER 379.7466115

MAXIMUM 83615.000000
MINIMUM 0.050000
RANGE 83614.949999
VARIANCE 3469892.2740751
ST-DEV. 1862.7646050
COV-011/2 76.3600000
PI-ST-SC. 44.72
MH-ST-SC. -0.17

EACH *H*
REPRESENTS
299
COUNT(S)

MMMHMM MH
-----U

EACH *--* ABOVE = 2500.0000
L = 0.0000
U = 85000.0000
CASE NO. OF MIN. VAL. = 2508
CASE NO. OF MAX. VAL. = 2872

VALUE VALUE/S.E.
31.29 705.40
1123.44 14919.35
SKENNESS
KURTOSIS

Q1= 15.7000000
Q3= 160.4200000
S=-1549.1526664
S+= 2176.3767251

EACH *..* BELOW = 750.0000

S O S
- N *
-----A
N

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
-50000E-01	1	0.0	0.0	0.0	20.490	1	0.0	10.2	56.900	1	0.0	53.3	1	0.0
-70000E-01	1	0.0	0.1	0.1	20.500	2	0.1	10.3	67.300	1	0.0	53.4	1	0.0
-80000E-01	1	0.0	0.1	0.1	20.510	1	0.0	10.3	67.500	2	0.1	53.4	1	0.0
0.14000	1	0.0	0.1	0.1	20.520	1	0.0	10.4	67.600	1	0.3	53.5	2	0.1
0.17000	3	0.1	0.2	0.2	20.540	2	0.1	10.4	67.700	4	0.1	53.6	2	0.1
0.20000	1	0.0	0.3	0.3	20.570	1	0.0	10.5	67.760	2	0.1	53.7	1	0.0
0.24000	1	0.0	0.3	0.3	20.590	1	0.0	10.6	68.120	2	0.1	53.7	1	0.0
0.26000	1	0.0	0.3	0.3	21.010	3	0.1	10.6	68.240	2	0.1	53.8	3	0.1
0.31000	2	0.1	0.4	0.4	21.200	2	0.1	10.7	68.310	2	0.1	53.8	1	0.0
0.33000	1	0.0	0.4	0.4	21.250	1	0.0	10.7	68.500	1	0.0	53.9	1	0.0
0.34000	2	0.1	0.5	0.5	21.340	2	0.1	10.8	68.560	1	0.0	53.9	1	0.0
0.36000	3	0.1	0.6	0.6	21.520	1	0.0	10.8	69.000	1	0.0	53.9	1	0.0
0.40000	5	0.2	0.8	0.8	21.700	1	0.0	10.8	69.100	1	0.0	54.0	1	0.0
0.50000	1	0.0	0.8	0.8	21.760	2	0.1	10.9	69.220	2	0.1	54.0	1	0.0
0.54000	1	0.0	0.9	0.9	21.780	3	0.1	11.0	69.530	1	0.0	54.1	1	0.0
0.58000	1	0.0	0.9	0.9	21.800	2	0.1	11.0	69.540	1	0.0	54.1	1	0.0
0.59000	1	0.0	0.9	0.9	21.860	1	0.0	11.1	69.580	3	0.1	54.2	1	0.0
0.62000	1	0.0	0.9	0.9	22.000	2	0.1	11.1	70.060	1	0.0	54.2	1	0.0
0.71000	1	0.0	1.0	1.0	22.050	1	0.0	11.2	70.100	1	0.3	54.3	1	0.0

TROSCOM WEIGHT
RACK ITEMS

PAGE 3 BWP2C PRICE & WEIGHT & CUBE

* END *

VARIABLE NUMBER 2
NUMBER OF DISTINGUISHING VALUES 244
NUMBER OF VALUES COLLECTED 386
NUMBER OF VALUES NOT COLLECTED 0

MEAN 123.511140
MEDIAN 80.000000
MODE 60.000000

ESTIMATE
LUMER 107.5163946
UPPER 139.5058333

MAXIMUM 1890.000000
MINIMUM 2.000000
RANGE 1878.000000
VARIANCE 25245.6137794
ST-DEV. 159.8237014
C3-01172 54.7650000
MX-ST-SC. 10.99
MA-ST-SC. -0.78

SYSTEM COUNT
LUMER UPPER

EACH "M"
REPRESENTS
24
COUNTS

EACH "M" AUGUE = 100.0000
L = 0.0000
U = 2500.0000
CASE NO. OF MIN. VAL. = 161
CASE NO. OF MAX. VAL. = 319

VALUE VALUE/5.E.
5.75 46.14
49.27 157.60
Q1 = 40.9500000
Q3 = 150.4000000
S = -36.3175874
S+ = 283.3398154

SKEWNESS
KURTOSIS

EACH "M" BFLOW = 15.0000

S 0 1PM M 3 S
- M 1PM M 3 S
- I...CE...E...
N DU A
E I A

VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM
2.000	1	0.3	0.3		40.950	1	0.3	25.1		90.600	2	0.3	52.1		162.360	1	0.3	77.5	
2.300	1	0.3	0.5		41.000	1	0.3	25.4		81.000	1	0.3	51.3		164.000	1	0.3	77.7	
2.640	1	0.3	0.8		41.340	1	0.3	25.6		82.530	1	0.3	52.6		164.950	1	0.3	78.0	
3.750	1	0.3	1.0		41.500	1	0.3	25.9		83.600	1	0.3	53.1		166.750	1	0.3	78.2	
4.000	1	0.3	1.3		41.600	1	0.3	26.2		85.000	1	0.3	53.4		167.200	2	0.5	78.8	
5.000	1	0.3	1.6		41.800	2	0.5	26.7		86.920	1	0.3	53.6		167.900	1	0.3	79.0	
6.000	1	0.3	1.8		42.000	1	0.3	26.9		87.320	1	0.3	53.9		171.380	1	0.3	79.3	
8.000	2	0.5	2.3		42.640	1	0.3	27.2		87.780	1	0.3	54.1		174.240	1	0.3	79.5	
8.900	1	0.3	2.6		43.460	1	0.3	27.5		88.900	1	0.3	54.2		176.000	1	0.3	79.6	
9.100	1	0.3	2.8		44.060	1	0.3	27.7		90.000	4	1.0	55.2		178.750	1	0.3	80.1	
9.250	4	1.0	3.9		44.320	1	0.3	28.0		91.700	3	0.8	56.0		179.500	1	0.3	80.3	
9.750	1	0.3	4.1		45.200	1	0.3	28.2		92.000	4	1.0	57.0		180.000	3	0.8	81.1	
10.500	2	0.5	4.7		45.980	1	0.3	28.5		93.100	1	0.3	57.3		190.250	1	0.3	81.3	
12.000	1	0.3	4.9		46.000	6	1.5	30.1		94.500	1	0.3	57.5		182.250	1	0.3	81.6	
14.000	1	0.3	5.2		46.330	1	0.3	30.3		97.240	1	0.3	57.8		184.000	5	1.3	82.9	
14.790	2	0.5	5.7		46.900	1	0.3	30.6		98.000	1	0.3	58.0		185.000	1	0.3	83.2	
16.800	1	0.3	6.0		47.230	1	0.3	30.8		100.000	11	2.8	60.9		189.000	1	0.3	83.4	
18.000	1	0.3	6.2		47.250	1	0.3	31.1		100.320	1	0.3	61.1		191.000	1	0.3	83.7	
20.000	3	0.8	7.0		47.500	2	0.5	31.6		101.100	1	0.3	61.4		200.000	4	1.0	84.7	
20.900	1	0.3	7.3		49.500	1	0.3	31.9		101.250	1	0.3	61.7		203.000	1	0.3	85.0	

TROSCOM PRICE

RACK ITEMS

PAGE 2 BPDFC PRICE & WEIGHT & CODE

* E F R C *

VARIABLE NUMBER 1
NUMBER OF DISTINCT VALUES . . . 286
NUMBER OF VALUES COUNTED . . . 306
NUMBER OF VALUES NOT COUNTED . . 0

EACH "M"
REPRESENTS
3F
COUNT(S)

MEAN 1529-R736010
MEDIAN 464-1750000
MODE 201-6000000

SI-TERMUM
655-1873024
24-8145261

951 CONFIDENCE
LUMER UPPFR

1034-9487629 2424-7584392

-----U

EACH "U" AUGVF = 7500.0000
L = 0.0000
CASE NO. OF MIN. VAL. = 302
CASE NO. OF MAX. VAL. = 382

VALUE VALUE/3.E.
12.40 99.95
180.71 740.77

SALWNESS
FURTUSIS

Q1= 201.0000000
Q3= 991.6000000
S=-7012.7449993
S+=10872.4522014

EACH "U" BILGK = 1500.0000

S 0 S
- MP +

NA M

VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM	VALUE	COUNT	PERCENTS	CELL	CLM
25.00	1	0.3	0.3	0.3	228.00	1	0.3	28.2	0.3	438.00	2	0.3	54.4	0.3
28.90	1	0.3	0.5	0.5	225.60	5	1.3	29.5	0.3	488.56	1	0.3	54.7	0.3
35.28	1	0.3	0.8	0.8	231.20	1	0.3	29.8	0.3	496.00	1	0.3	54.9	0.3
55.18	1	0.3	1.0	1.0	234.24	1	0.3	30.1	0.3	496.44	1	0.3	55.2	0.3
56.10	6	1.6	2.6	2.6	235.53	1	0.3	30.3	0.3	499.40	1	0.3	55.4	0.3
56.42	1	0.3	2.8	2.8	238.14	1	0.3	30.6	0.3	502.00	1	0.3	55.7	0.3
68.88	4	1.0	3.9	3.9	245.10	1	0.3	30.8	0.3	519.00	1	0.3	56.0	0.3
72.25	1	0.3	4.1	4.1	245.52	1	0.3	31.1	0.3	535.00	1	0.3	56.2	0.3
75.50	1	0.3	4.4	4.4	245.70	1	0.3	31.3	0.3	543.72	1	0.3	56.5	0.3
76.50	1	0.3	4.7	4.7	247.32	1	0.3	31.6	0.3	549.34	1	0.3	56.7	0.3
88.75	1	0.3	4.9	4.9	247.69	1	0.3	31.9	0.3	551.04	2	0.3	57.3	0.3
91.84	6	1.6	6.5	6.5	248.00	2	0.5	32.4	0.3	555.66	1	0.3	57.5	0.3
93.66	1	0.3	6.7	6.7	252.36	1	0.3	32.6	0.3	564.96	1	0.3	57.8	0.3
97.50	1	0.3	7.0	7.0	258.64	1	0.3	32.9	0.3	567.36	1	0.3	58.0	0.3
100.10	1	0.3	7.3	7.3	263.25	1	0.3	33.2	0.3	592.02	1	0.3	58.3	0.3
104.16	1	0.3	7.5	7.5	264.60	1	0.3	33.4	0.3	595.12	1	0.3	58.5	0.3
107.90	1	0.3	7.8	7.8	268.45	1	0.3	33.7	0.3	595.51	2	0.3	59.1	0.3
112.60	1	0.3	8.0	8.0	274.20	3	0.3	34.5	0.3	595.66	1	0.3	59.3	0.3
114.60	2	0.5	8.5	8.5	278.00	2	0.5	35.0	0.3	596.70	1	0.3	59.6	0.3
117.52	1	0.3	8.8	8.8	282.48	1	0.3	35.2	0.3	601.90	1	0.3	59.8	0.3

THOSCOM PRICE
BULK ITEMS

PAGE 2 SHOPS PRICE & WEIGHT & CUBE

* EPAC *

VARIABLE NUMBER
NUMBER OF DISTINCT VALUES
NUMBER OF VALUES COUNTED
NUMBER OF VALUES NOT COUNTED

MEAN 9826.9247619
MEDIAN 4623.5000000
MODE NOT UNIQUE

95% CONFIDENCE

LOWER UPPER
4743.8773822 84906.7521415

MAXIMUM 103155.0000000
MINIMUM 1191.9200000
RANGE 101961.0799999
VARIANCE
ST-DEV. 16307.6697586
COB-013/2 3005.0000000
PX-ST-SC. 5.72
MW-ST-SC. -0.53

EACH *H*
REPRESENTS
COUNT(S)

L-----U

EACH *-- ABOVE = 7500.0000
L= 0.0000
U= 120000.0000
CASE NO. OF MIN. VAL. = 40
CASE NO. OF MAX. VAL. = 34

VALUE VALUE 75-E
4.51 11.92
22.65 29.96
SKEWNESS
KURTOSIS

01= 2669.0000000
G3=10279.0000000
S=-6482.7449967
S+=26132.5945205

EACH *.. BELOW = 1000.0000

S 0 0 0
M 1 M M S
I-E-E-E-E
N D A
I N

VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM	VALUE	COUNT	PERCENTS	CELL	CUM
1194.	1	2.4	2.4	2.4	3260.	1	2.4	40.5	40.5	6520.	1	2.4	61.9	61.9
2041.	1	2.4	4.8	4.8	3297.	1	2.4	42.9	42.9	8150.	1	2.4	64.3	64.3
2198.	2	4.8	9.5	9.5	3454.	1	2.4	45.2	45.2	9577.	1	2.4	66.7	66.7
2342.	1	2.4	11.9	11.9	3925.	1	2.4	47.6	47.6	10150.	1	2.4	69.0	69.0
2512.	4	9.5	21.4	21.4	4396.	1	2.4	50.0	50.0	10279.	3	7.1	76.2	76.2
2669.	4	9.5	31.0	31.0	4851.	1	2.4	52.4	52.4	10641.	1	2.4	78.6	78.6
2948.	1	2.4	33.3	33.3	5216.	1	2.4	54.8	54.8	10758.	1	2.4	81.0	81.0
2983.	1	2.4	35.7	35.7	5250.	1	2.4	57.1	57.1	11004.	1	2.4	83.3	83.3
3148.	1	2.4	38.1	38.1	6300.	1	2.4	59.5	59.5	13194.	1	2.4	85.7	85.7

APPENDIX C

FACILITY COST ANALYSIS

The sheets included in Appendix C represent computer printouts of a VISICALC program used to estimate facility sizes and costs. A separate sheet is provided for each location within each alternative and for both high and low estimates. The top line on each sheet identifies the alternative, the facility, and the estimate boundary.

FACILITY COSTS																	
STORAGE		OPTION B CENTRAL										EUROPE					
		HIGH					ESTIMATE										
BIN	CMD	LNS/PD	LBS/PKG	PKG/PD	CF/LR	CF/PKG	CF/OPN	OPN/PKG	1-FAC	T-OPNS	BINS	AISSLES	WIDTH	LENGTH	T-SQFT		
	AMCCOM	963	9	107	.19	1.71	5.25	1	.85	125							
	AVSCOM	876	604	1	.29	175.16	5.25	34	.85	58							
	CECOM	12556	49	215	.10	9.31	5.25	2	.85	507							
	MICOM	7459	504	13	.24	140.16	5.25	28	.85	421							
	TACOM	6345	30	212	0.40	12.00	5.25	3	.85	746							
	THOSCOM	586	423	1	.27	114.21	5.25	10	.85	16							
	SUB-TOT	26782		549						1874	468	15	122.479	68	6769		
BULK		LNS/PD	WT/LR	LBS/TOR	TONS SQ/TON		H-GROSS									T-SQFT	
	AMCCOM	5	1429	2000	3.57	1	1									4	
	AVSCOM	20	832.25	2000	8.32	19.6	.52									314	
	CECOM	25	4028.24	2000	50.35	1	1									50	
	MICOM	168	478.99	2000	40.24	17.3	.65									1971	
	TACOM	413	4217.9	2000	871.00	12	.55									19004	
	THOSCOM	8	1119.93	2000	4.48	1	1									4	
	SUB-TOT	639			977.96											20447	
RACK		LNS/PD	E-FAC	OPNS	COLMNS		L-AISLE		AISLES							T-SQFT	
	AMCCOM	89	.35	105													
	AVSCOM	121	.85	142													
	CECOM	1164	.85	1369													
	MICOM	1117	.85	1314													
	TACOM	2543	.85	2992													
	THOSCOM	77	.85	91													
	SUB-TOT	5111	.35	6013	1502	155	25									62134	
OTHER		TYP	CONVEYER	OFFICE	REC/SHP												T-SQFT
SUMMARY																	
FACILITY COSTS	T-SQFT	103981	SPV/ADM	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		
EQUIP COSTS	T-SQFT	103981	SPV/ADM	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		
TOTAL COSTS	T-SQFT	103981	SPV/ADM	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05		

OPTION B CENTRAL ESTIMATE

STORAGE	CHD	LNS/PD	LNS/PKG	PKG/PD	CV/LIN	CT/PKG	CF/OPN	OPN/PKG	OPNS	T-FAC	T-OPRS	BIRS	ALSLES	WIDTH	LENGTH	T-SQFT
AM*COM	968	9	604	107	.04	0.36	5.25	1	107	.85	125					
AVSCOM	876	1			.12	72.48	5.25	34	49	.85	58					
CF*COM	10556	49	215		.05	2.45	5.25	2	431	.85	507					
MI*COM	7459	13	584		.12	70.08	5.25	28	358	.85	421					
TA*COM	6345	30	212		0.19	5.70	5.25	3	635	.85	746					
TRUSCOM	586	423			.12	50.76	5.25	10	14	.85	16					
SUB-TOT	26782			549					1593		1874	468	15	102.4/9	68	6969

BULK	CMD	LNS/PD	WT/LR	LBS/TON	TONS	SQF/TON	N-CROSS	T-SQFT
	AMCSOM	5	634.52	2000	1.59		1	2
	AVSCOM	20	640.00	2000	6.40			241
	CECOM	25	2450.53	2000	30.63	19.6	.52	31
	MLCOM	168	384.00	2000	32.26		1	859
	TACOM	413	2336.00	2000	402.30	17.3	.65	10525
	THOSCOM	8	593.50	2000	2.37	12	.55	2
	SUB-TOT	639			555.63		1	11653

RAIL	CMD	LNS/PD	I-FAC	OPPS	COLUMNS	I-ASL	ISL'S	WIDTH	LENGTH	T-SQFT
1										
2										
3										
4										
5										
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OTHER	TYPE CONVLYER OFFICE REC/SHP

SUMMARY

FACILITY COSTS	T-SOFT 94876	STD 40000	2/35FT 35	SRE .95	ACFI .96	PINDEX 1	F-COST 2996508	C-FAC 1.05	SPV/ADM 1.05	T-COST 3104650
EQUIP COSTS		RACKS 360776	BINS 79641		CONVY 512393	VEHICLE 90000	CARTS 8000	T-COST 1350811		
TOTAL COSTS								GRTOTAL 4316576		

[illegible]

FACILITY COSTS

OPTION C FIELD
LOX ESTIMATE

STORAGE BIN	CMD AMCOM	INS/PO	INS/PKG	PKG/PO	CT/IN	CT/PKG	CT/OPN	OPR/PKG	OPNS	I-FAC	T-OPNS	BINS	AIRES	WIDTH	LENGTH	T-SQFT
	0	0	9	0	.04	0.30	5.25	1	0	.85	0					
	0	0	604	0	.12	2.40	5.25	34	0	.85	0					
	13300	49	2.1	2.1	.05	2.45	5.25	2	543	.85	639					
	2256	584	4	4	.12	70.00	5.25	28	108	.85	127					
	0	0	0	0	.19	5.70	5.25	3	0	.85	0					
	718	423	2	2	.12	50.76	5.25	10	17	.85	21					
	16294	277							668		786	197	6	43.0081	68	2925

BUILD	CMD	INS/PO	WT/IN	INS/TON	TONS	SQF/TON	N-GROSS
	AMCOM	0	634.52	2000	0.00	1	1
	AVSCOM	0	540.00	2000	0.00	19.6	.52
	CLCOM	31	2450.50	2000	37.98	1	1
	MLCOM	51	384.00	2000	9.79	17.3	.65
	TACOM	0	2336.00	2000	0.00	12	.55
	TROSCOM	11	593.50	2000	3.26	1	1
	SUB-TOT	93			51.34		

RACK	CMD	INS/PO	F-FAC	OPNS	COLUMNS	I-ASLE	AIRES
	AMCOM	0	.85	0			
	AVSCOM	0	.85	0			
	CLCOM	1467	.85	1726			
	MLCOM	338	.85	398			
	TACOM	0	.85	0			
	TROSCOM	97	.85	114			
	SUB-TOT	1902	.85	2238	559	155	9

OTHER
CONVEYER
OFFICE
REC/SHIP

WIDTH	LENGTH	T-SQFT
149	155	23122

SUMMARY

FACILITY	T-SQFT	STD	C/SQFT	SRE	ACFI	PINDEX	F-COST	C-FAC	SPV/ADM	T-COST
COSTS	31301	40000	35	.95	.96	1	999131	1.05	1.05	1101541
EQUIP		RACKS	BINS	CONVEY	VEHICLE	CARTS	T-COST			
COSTS		134259	31423	215040	90030	6000	480723			
TOTAL							GRTOTAL			
COSTS							1587045			

FACILITY COSTS

OPTION C MAINZ E. EUROPE
HIGH ESTIMATE

STORAGE BIN	CMD	LBS/PD	LBS/PKG	PKG/PD	CF/IN	CF/PKG	CF/OPN	OPN/PKG	OPNS	F-PAC	T-OPNS	BINS	AISSLES	WIDTH	LENGTH	T-SQFT
AMCOM	1209	9	134	0	.19	1.71	5.25	1	134	.85	158	122	4	26.6446	68	1812
AVSCOM	0	604	0	0	.29	175.16	5.25	34	0	.85	0					T-SQFT
CF/OM	0	49	0	0	.19	9.31	5.25	2	0	.85	0					5
MICOM	0	584	0	0	.24	140.16	5.25	28	0	.85	0					6
TACOM	2798	30	93	0	0.40	12.00	5.25	3	280	.85	329					0
TROSCOM	0	423	0	0	.27	114.21	5.25	10	0	.85	0					8374
SUB-TOT	4007	228	0	0					414		487					8379

BULK	CMD	LBS/PD	WT/LN	LBS/TOM	TONS	SQF/TOM	N-GROSS
AMCOM	1429	2000	5.00	1	1		
AVSCOM	0	832.25	0.00	19.6	.52		
CF/COM	0	4028.24	0.00	1	1		
MICOM	0	478.99	0.00	17.3	.65		
TACOM	182	4217.94	383.83	12	.55		
TROSCOM	0	1119.93	0.00	1	1		
SUB-TOT	189		388.83				

RACK	CMD	LBS/PD	E-PAC	OPNS	COLUMNS	L-AISLE	AISSLES
AMCOM	113	.85	133				
AVSCOM	0	.85	0				
CF/COM	0	.85	0				
MICOM	0	.85	0				
TACOM	1121	.85	1319				
TROSCOM	0	.85	0				
SUB-TOT	1234	.85	1452	363	155	6	

OTHER	TYPE	CONVEYER	OFFICE	REC/SHP

SUMMARY

FACILITY COSTS	T-SQFT	29972	STD	C/SQFT	SQF	ACFI	INDEX	F-COST	C-PAC	SIV/ADM	T-COST
		40000	35	.95	.96	1	956699	1.05	1.05	10.4/61	
EQUIP COSTS		RACKS	BINS	CURVEY	VEHICLE	CARTS	T-COST				
		87106	20707	133223	90000	8000	339036				
TOTAL COSTS											

GRTOTAL
1431680

FACILITY COSTS

OPTION C MAINZ
LOW ESTIMATE

STORAGE BIN	CMD AMCCOM	LNS/PD 1209	LNS/PKG 9	PKG/PD 134	CF/IN .04	CF/PKG 0.36	CT/OPN 5.25	OPR/PKG 1	OPNS 134	E-PAC .85	T-OPNS 158	BINS	AISSLES	WIDTH	LENGTH	T-SQFT
	AVSCOM	0	604	0	.12	72.48	5.25	34	0	.85	0	0	0	0	0	0
	CECOM	0	49	0	.05	2.45	5.25	2	0	.85	0	0	0	0	0	0
	MICOM	0	584	0	.12	70.08	5.25	28	0	.85	0	0	0	0	0	0
	TACOM	2798	30	93	.19	5.70	5.25	3	280	.85	329	0	0	0	0	0
	TROSCOM	0	423	0	.12	50.76	5.25	10	0	.85	0	0	0	0	0	0
	SUB-TOT	4007		228					414		487	122	4	26.6446	68	1812

BULK	CMD AMCCOM	LNS/PD 7	WT/IN 614.52	LBS/TON 2800	TONS 2.22	SQ/TON 1	N-GROSS 1
	AVSCOM	0	640.00	2000	0.00	19.6	.52
	CECOM	0	2450.50	2000	0.00	1	1
	MICOM	0	384.00	2000	0.00	17.3	.65
	TACOM	182	2336.00	2000	212.58	12	.55
	TROSCOM	0	593.50	2000	0.03	1	1
	SUB-TOT	189		2000	214.80		

RACK	CMD AMCCOM	LNS/PD 113	E-PAC .85	OPNS 133	COLUMNS 2	L-AISLE 0	AISSLES
	AVSCOM	0	.85	0	0	0	0
	CECOM	0	.85	0	0	0	0
	MICOM	0	.85	0	0	0	0
	TACOM	1121	.85	1319	0	0	4038
	TROSCOM	0	.85	0	0	0	0
	SUR-TOT	1244	.85	1452	363	155	4640

OTHER	TYPE	CONVEYER	OFFICE	REC/SHP	WIDTH	LENGTH	T-SQFT
					97	155	15002
							T-SQFT 1000 1073 2145
							T-SQFT 25672

SUMMARY	FACILITY COSTS	T-SQFT 25672	STD 40000	C/SQFT 35	SRF .95	ACFT .96	P INDEX 1	F-COST 819440	C-PAC 1.05	SPV/AUM 1.05	T-COST 903433
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EQUIP COSTS	RACKS 87106	BINS 20707	CONVLY VEHICLE 13223	CARTS 8000	T-COST 339036
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TOTAL COSTS	GRTOTAL 1298192
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APPENDIX D

OPERATING COST ANALYSIS

The sheets included in Appendix D represent printouts of a VISICALC program used to estimate operating hours and costs. A separate sheet is provided for each location within each alternative and for both high and low estimates.

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL
	3411	3297	39149	29144	31000	2336	108337

BIN	%	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON
0.91	AMCCOM	3104	9	345	.186	1.67	4.13	.37	14	6	6
0.86	AVSCOM	2835	5	604	.289	174.56	3.99	2410	20	6	6
0.90	CECOM	35234	49	719	.187	9.16	5.31	260	165	94	94
0.85	MICOM	24772	584	42	.244	142.50	3.35	1956	151	41	41
0.68	TACOM	21080	30	703	.396	11.88	11.11	333	209	117	117
0.87	TROSCOM	2032	423	5	.12	50.76	5.23	2212	6	5	5
	SUB-TOT	89058		1819						566	270

BULK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.01	AMCCOM	34	1429.00	115.76	99	24
0.02	AVSCOM	66	832.25	115.83	191	27
0.00	CECOM	0	4028.24	102.36	0	0
0.02	MICOM	583	478.99	84.34	1229	140
0.04	TACOM	1240	4217.90	156.79	4860	2615
0.01	TROSCOM	23	1119.93	112.38	66	13
	SUB-TOT	1946			6445	2820

RACK #	CMD	LNS/PD	WT/LN	CE/LN	T-MTON	T-STON
0.09	AMCCOM	307	113.03	7.20	55	17
0.12	AVSCOM	396	74.74	7.37	73	15
0.10	CECOM	3915	209.88	5.58	546	411
0.13	MICOM	3789	89.26	7.36	697	169
0.27	TACOM	8370	198.72	8.34	1745	832
0.11	TROSCOM	257	123.51	9.24	59	16
	SUB-TOT	17033			3176	1460

	ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECTEVE	108038	1819	4549	1.3	2	11827	1	30.33	358699	35870	394569
INSPECT	108038	1819	4549	.3	1	32411	1	30.33	983035	98304	1081339
STORE	108038	1819	4549	.4	2	3639	1	30.33	110369	11037	121406
INVENTOR	108038	1819	4549	.2	2	43215	1	30.33	1310714	131071	1441785
PACK	108038	1819	4549	.5	2	1819	1	30.33	55156	5516	60672
SHIP	108038	1819	4549	1.7	1	7733	1	30.33	234534	23453	257988
TOTAL						100643			3052500	305251	3357759

184

OPERATING COSTS

OPTIONS A&B CENTRAL SITE
LOW ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL			
	3411	3297	39149	29144	31000	2336	108337			
BIN %	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON
0.91	AMCCOM	3104	9	345	.042	0.38	.85	8	3	1
0.86	AVSCOM	2835	604	5	.124	74.90	1.74	1051	9	2
0.90	CECOM	35234	49	719	.053	2.60	1.15	56	47	20
0.85	MICOM	24772	584	42	.123	71.83	1.4	818	76	17
0.68	TACOM	21080	30	703	.186	5.58	5.32	160	98	56
0.87	TROSCOM	2032	423	5	.266	112.52	1.96	829	14	2
	SUB-TOT	89058		1819					246	99

BULK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.01	AMCCOM	34	634.51	115.76	99	11
0.02	AVSCOM	66	640.00	115.83	191	21
0.00	CECOM	0	2450.50	102.36	0	0
0.02	MICOM	583	384.00	84.34	1229	112
0.04	TACOM	1240	2336.00	156.79	4860	1448
0.01	TROSCOM	23	593.50	112.38	66	7
	SUB-TOT	1946			6445	1599

RACK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.09	AMCCOM	307	74.50	4.45	34	11
0.12	AVSCOM	396	41.10	4.69	46	8
0.10	CECOM	3915	100.00	3.59	351	196
0.13	MICOM	378	57.50	4.49	425	109
0.27	TACOM	8370	106.38	5.05	1057	445
0.11	TROSCOM	257	80.00	6.00	39	10
	SUB-TOT	17033			1952	780

SUMMARY

	ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE	108038	1819	2478	1.3	2	6443	1	30.33	195430	19543	214973
INSPECT	108038	1819	2478	.3	1	32411	1	30.33	983035	98304	1081339
STORE	108038	1319	2478	.4	2	1983	1	30.33	60132	6013	66146
INVENTOR	108038	1819	2478	.2	2	43215	1	30.33	1310714	131071	1441785
PACK	108038	1819	2478	.5	2	1819	1	30.33	55156	5516	60672
SHIP	108038	1819	2478	1.7	1	4213	1	30.33	127781	12778	140559
TOTAL						90084			2732249	273225	3005474

RECEIVE, STOPP, & SHIP IN HOURS PER SHORT TON
INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

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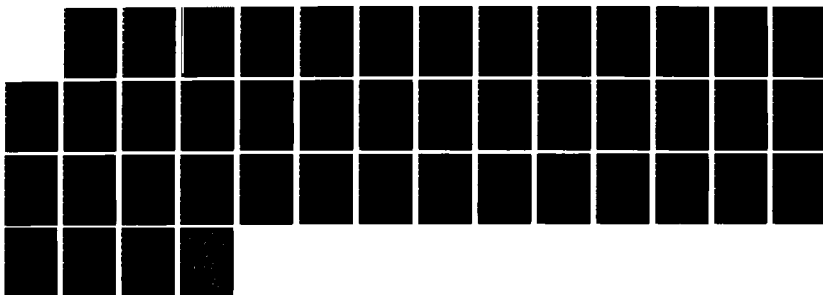
UNIT MATERIEL FIELDING POINT EUROPE(U) LOGISTICS
STUDIES OFFICE (ARMY) FORT LEE VA D DRYDEN ET AL.
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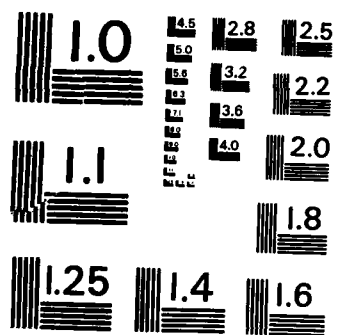
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

OPERATING COSTS
OPTIONS C NCAD
HIGH ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON
0.91	0	3297	0	22149	20150	0	45596	4.13	37	0	0
0.86	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG		1.67			
0.90	AMCCOM	0	9	0	.186	174.56		20	2410	0	6
0.85	AVSCOM	2835	604	5	.289	9.16		5.31	260	0	0
0.87	CECOM	0	49	0	.187	142.50		3.35	1956	115	32
0.88	MICOM	18827	584	32	.244	11.88		11.11	333	136	76
0.89	TACOM	13702	30	457	.396	50.76		5.23	2212	0	0
0.90	TROSCOM	0	423	0	.12			271			113
0.91	SUB-TOT	35364		494							
BULK %	CMD	LNS/PD	WT/LN	CF/LN				T-MTON	T-STON		
0.01	AMCCOM	0	1429.00	115.76				0	0		
0.02	AVSCOM	66	832.25	115.83				191	27		
0.00	CECOM	0	4028.24	102.36				0	0		
0.02	MICOM	443	478.99	84.34				934	106		
0.04	TACOM	806	4217.90	156.79				3159	1700		
0.01	TROSCOM	0	1119.93	112.38				0	0		
0.01	SUB-TOT	1315						4284	1833		
RACK %	CMD	LNS/PD	WT/LN	CF/LN				T-MTON	T-STON		
0.09	AMCCOM	0	113.03	7.20				0	0		
0.12	AVSCOM	396	74.74	7.37				73	15		
0.10	CECOM	0	209.88	5.58				0	0		
0.13	MICOM	2879	89.26	7.36				530	129		
0.27	TACOM	5441	198.72	8.34				1134	541		
0.11	TROSCOM	0	123.51	9.24				0	0		
0.11	SUB-TOT	8716						1737	684		

SUMMARY

ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE	45395	494	1.3	2	6839	1	30.33	207437	20744	228180
INSPECT	45395	494	.3	1	13618	1	30.33	413045	41304	454349
STORE	45395	494	.4	2	2104	1	30.33	63827	6383	70209
INVENTOR	45395	494	.2	2	18158	1	30.33	550726	55073	605799
PACK	45395	494	.5	2	494	1	30.33	14973	1497	16470
SHIP	45395	494	1.7	1	4472	1	30.33	135632	13563	149195
TOTAL					45685			1385639	138564	1524203

RECEIVE, STORE, & SHIP IN HOURS PER SHORT TON
INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

OPERATING COSTS

OPTION C NCAD
LOW ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL
0.91	0	3297	0	22149	20150	0	45596
BIN %	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG	WT/LN
0.86	AMCCOM	0	9	0	.042	0.38	.85
0.90	AVSCOM	2835	604	5	.124	74.90	1.74
0.85	CECOM	0	49	0	.053	2.60	1.15
0.68	MICOM	18827	584	32	.123	71.83	1.4
0.87	TACOM	13702	30	457	.186	5.58	5.32
	TROSCOM	0	423	0	.266	112.52	1.96
	SUB-TOT	35364		494			130
							52

BULK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.01	AMCCOM	0	634.51	115.76	0	0
0.02	AVSCOM	66	640.00	115.83	191	21
0.00	CECOM	0	2450.50	102.36	0	0
0.02	MICOM	443	384.00	84.34	934	85
0.04	TACOM	806	2336.00	156.79	3159	941
0.01	TROSCOM	0	593.50	112.38	0	0
	SUB-TOT	1315			4284	1048

RACK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.09	AMCCOM	0	74.50	4.45	0	0
0.12	AVSCOM	396	41.10	4.69	46	8
0.13	MICOM	0	100.00	3.59	0	0
0.27	TACOM	2879	57.50	4.49	323	83
0.11	TROSCOM	5441	106.38	5.05	687	289
	SUB-TOT	8716	80.00	6.00	0	0
					1056	380

SUMMARY

ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE 45395	494	1480	1.3	2	3848	1	30.33	116706	11671	128376
INSPECT 45395	494	1480	.3	1	13618	1	30.33	413045	41304	454349
STORE 45395	494	1480	.4	2	1184	1	30.33	35909	3591	39500
INVENTOR 45395	494	1480	.2	2	18158	1	30.33	550726	55073	605799
PACK 45395	494	1480	.5	2	494	1	30.33	14973	1497	16470
SHIP 45395	494	1480	1.7	1	2516	1	30.33	76308	7631	83938
TOTAL					39818			1207666	120767	1328433

RECEIVE,STORE, &SHIP IN HOURS PER SHORT TON
INSPECT,INVENTORY AND PACKING IN HOURS PER LINE

OPERATING COSTS
 OPTIONS C FRIEDRICHSELD
 HIGH ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON
BIN %											
0.91	AMCCOM	0	39149	6995	0	2336	48480	4.13	37	0	0
0.86	AVSCOM	0	604	0	.186	1.67	3.99	2410	0	0	0
0.90	CECOM	35234	49	719	.289	174.56	5.31	260	165	94	94
0.85	MICOM	5946	584	10	.187	9.16	3.35	1956	36	10	10
0.68	TACOM	0	30	0	.244	142.50	11.11	333	0	0	0
0.87	TROSCOM	2032	423	5	.396	11.88	5.23	2212	6	5	5
	SUB-TOT	43212		734	.12	50.76			207	109	
BULK %											
0.01	AMCCOM	0	1429.00	115.76	CF/LN						
0.02	AVSCOM	0	832.25	115.83	0						
0.00	CECOM	0	4028.24	102.36	0						
0.02	MICOM	140	478.99	84.34	0						
0.04	TACOM	0	4217.90	156.79	0						
0.01	TROSCOM	23	1119.93	112.38	0						
	SUB-TOT	163									
RACK %											
0.09	AMCCOM	0	113.03	7.20	CF/LN						
0.12	AVSCOM	0	74.74	7.37	0						
0.10	CECOM	3915	209.88	5.58	0						
0.13	MICOM	909	89.26	7.36	0						
0.27	TACOM	0	198.72	8.34	0						
0.11	TROSCOM	257	123.51	9.24	0						
	SUB-TOT	5081									

SUMMARY

ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE	48457	734	623	1.3	1	1	30.33	24552	2455	27007
INSPECT	48457	734	623	.3	1	1	30.33	440907	44091	484998
STORE	48457	734	623	.4	1	1	30.33	7554	755	8310
INVENTOR	48457	734	623	.2	1	1	30.33	293938	29394	323332
PACK	48457	734	623	.5	1	1	30.33	11132	1113	12245
SHIP	48457	734	623	1.7	0	1	30.33	778083	77808	855892
TOTAL					25654					

RECEIVE, STORE, & SHIP IN HOURS PER SHORT TON
 INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

**OPTION C FRIEDRICHSFELD
LOW ESTIMATE**

ANNUAL LINES	AMCCOM 0	AVSCOM 0	CECOM 39149	MICOM 6995	TACOM 0	TROSCOM 2336	TOTAL 48480			
BIN %	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON
0.91	AMCCOM	0	9	0	.042	0.38	.85	8	0	0
0.86	AVSCOM	0	604	0	.124	74.90	1.74	1051	0	0
0.90	CECOM	35234	49	719	.053	2.60	1.15	56	47	20
0.85	MICOM	5946	584	10	.123	71.83	1.4	818	18	4
0.68	TACOM	0	30	0	.186	5.58	5.32	160	0	0
0.87	TROSCOM	2032	423	5	.266	112.52	1.96	829	14	2
SUB-TOT		43212		734					78	26
BULK %	CMD	LNS/PD	WT/LN	CF/LN					T-MTON	T-STON
0.01	AMCCOM	0	634.51	115.76					0	0
0.02	AVSCOM	0	640.00	115.83					0	0
0.00	CECOM	0	2450.50	102.36					0	0
0.02	MICOM	140	384.00	84.34					295	27
0.04	TACOM	0	2336.00	156.79					0	0
0.01	TROSCOM	23	593.50	112.38					66	7
SUB-TOT		163							361	34
BRACK %	CMD	LNS/PD	WT/LN	CF/LN					T-MTON	T-STON
0.09	AMCCOM	0	74.50	4.45					0	0
0.12	AVSCOM	0	41.10	4.69					0	0
0.10	CECOM	3915	100.00	3.59					351	196
0.13	MICOM	909	57.50	4.49					102	26
0.27	TACOM	0	106.38	5.05					0	0
0.11	TROSCOM	257	80.00	6.00					39	10
SUB-TOT		5081							492	232

SUMMARY

	ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE	48457	734	292	1.3	1	380	1	30.33	11528	1153	12681
INSPECT	48457	734	292	.3	1	14537	1	30.33	44907	44091	484998
STORE	48457	734	292	.4	1	117	1	30.33	3547	355	3902
INVENTOR	48457	734	292	.2	1	9691	1	30.33	293938	29394	323332
PACK	48457	734	292	.5	1	367	1	30.33	11132	1113	12245
SHIP	48457	734	292	1.7.	0	0	1	30.33	0	0	0
TOTAL						25092			761052	76105	837157

RECEIVE, STORE, & SHIP IN HOURS PER SHORT TON
INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

OPERATING COSTS
OPTIONS C MAINZ
HIGH ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL
3411	0	0	0	0	10850	0	14261
BIN %	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG	WT/LN
0.91	AMCCOM	3104	9	345	.186	1.67	4.13
0.86	AVSCOM	0	604	0	.289	174.56	3.99
0.90	CECOM	0	49	0	.187	9.16	5.31
0.85	MICOM	0	504	0	.244	142.50	3.35
0.68	TACOM	7378	30	246	.396	11.88	11.11
0.87	TROSCOM	0	423	0	.12	50.76	5.23
SUB-TOT	10482			591			

BULK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.01	AMCCOM	34	1429.00	115.76	99	24
0.02	AVSCOM	0	832.25	115.83	0	0
0.00	CECOM	0	4028.24	102.36	0	0
0.02	MICOM	0	478.99	84.34	0	0
0.04	TACOM	434	4217.90	156.79	1701	915
0.01	TROSCOM	0	1119.93	112.38	0	0
SUB-TOT	468				1800	940

RACK %	CMD	LNS/PD	WT/LN	CF/LN	T-MTON	T-STON
0.09	AMCCOM	307	113.03	7.20	55	17
0.12	AVSCOM	0	74.74	7.37	0	0
0.10	CECOM	0	209.88	5.58	0	0
0.13	MICOM	0	89.26	7.36	0	0
0.27	TACOM	2930	198.72	8.34	611	291
0.11	TROSCOM	0	123.51	9.24	0	0
SUB-TOT	3236				666	308

SUMMARY

ANNUAL LINES	ANNUAL PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
RECEIVE 14187	591	1295	1.3	1	1684	1	30.33	51079	5108	56187
INSPECT 14187	591	1295	.3	1	4256	1	30.33	129084	12908	141992
STORE 14187	591	1295	.4	1	518	1	30.33	15717	1572	17288
INVENTOR 14187	591	1295	.2	1	2837	1	30.33	86056	8606	94662
PACK 14187	591	1295	.5	1	295	1	30.33	8960	896	9856
SHIP 14187	591	1295	1.7	0	9591	1	30.33	290896	29090	319985
TOTAL										

RECEIVE, STORE, & SHIP IN HOURS PER SHORT TON
INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

OPERATING COSTS
OPTION C MAINZ
LOW ESTIMATE

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON
0.91	3411	0	0	0	10850	0	14261	85	8	3	1
0.86	CMD	3104	9	345	.042	0.38		1.74	1051	0	0
0.90	AMCCOM	0	604	0	.124	74.90		1.15	56	0	0
0.85	AVSCOM	0	49	0	.053	2.60		1.4	818	0	0
0.68	CECOM	0	584	0	.123	71.83		5.32	160	34	20
0.87	MICOM	7378	30	246	.186	5.58		1.96	829	38	21
0.87	TACOM	0	423	0	.266	112.52					
0.87	TROSCOM	0	0	591							
	SUB-TOT	10482									
BULK %	CMD	LNS/PD	LNS/PKG	PKG/PD	CF/LN	CF/PKG					
0.01	AMCCOM	34	634.51	115.76							
0.02	AVSCOM	0	640.00	115.83							
0.00	CECOM	0	2450.50	102.36							
0.02	MICOM	0	384.00	84.34							
0.04	TACOM	434	2336.00	156.79							
0.01	TROSCOM	0	593.50	112.38							
	SUB-TOT	468									
RACK %	CMD	LNS/PD	WT/LN	CF/LN							
0.09	AMCCOM	307	74.50	4.45							
0.12	AVSCOM	0	41.10	4.69							
0.10	CECOM	0	100.00	3.59							
0.13	MICOM	0	57.50	4.49							
0.27	TACOM	2930	106.38	5.05							
0.11	TROSCOM	0	80.00	6.00							
	SUB-TOT	3236									
RECEIVE	ANNUAL LINES	PKGS	SHORT TONS	WORK STD	TASK FACTOR	MAN HOURS	AREA RATE	COST HOUR	DIRECT COSTS	ADMIN COSTS	TOTAL COSTS
INSPECT	14187	591	706	1.3	1	918	1	30.33	27834	2783	30618
STORE	14187	591	706	.3	1	4256	1	30.33	129084	12908	141992
INVENTOR	14187	591	706	.4	1	282	1	30.33	8564	856	9421
PACK	14187	591	706	.2	1	2837	1	30.33	86056	8606	94662
SHIP	14187	591	706	.5	1	295	1	30.33	8960	896	9856
TOTAL	14187	591	706	1.7	0	8589	1	30.33	260498	26050	286548

SUMMARY

RECEIVE, STORE, & SHIP IN HOURS PER SHORT TON
INSPECT, INVENTORY AND PACKING IN HOURS PER LINE

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APPENDIX E

TRANSPORTATION COST ANALYSIS

The enclosed listings represent printouts of a VISICALC program used to estimate transportation workload and costs. A separate sheet is provided for each location within each alternative and for both high and low estimates.

OPTION A NCAD

SEA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
LOW ESTIMATE

OPTION A NCAD

ANNUAL LINES	AMCCOM 3411	AVSCOM 3297	CECOM 39149	MICOM 29144	TACOM 31000	TROSCOM 2336	TOTAL 108337						
BIN	1	CMD	LINES	LNS/PKG	PKGS	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON	T-PLTTS	T-CTNS
0.91	AMCCOM	3104	9	345	.042	0.38	0.85	8	3	3	1	1	0
0.86	AVSCOM	2835	604	5	.124	74.90	1.74	1051	9	9	2	1	0
0.90	CECOM	35234	49	719	.053	2.60	1.15	56	47	20	14	1	1
0.85	MICOM	24772	584	42	.123	71.83	1.40	818	76	17	12	2	2
0.68	TACOM	21080	30	703	.186	5.58	5.32	160	98	56	37	2	2
0.87	TROSCOM	2032	423	5	.266	112.52	1.96	829	14	2	1	0	6
SUB-TOT		89058		1819					246	99	65		
BULK	1	CMD	LINES	WT/LN	CF/LN								
0.01	AMCCOM	34	634.51	115.76					99	11	7	2	
0.02	AVSCOM	66	640.00	115.83					191	21	14	5	
0.00	CECOM	0	2450.50	102.36					0	0	0	0	
0.02	MICOM	583	384.00	84.34					1229	112	75	31	
0.04	TACOM	1240	2336.00	156.79					4860	1448	966	122	
0.01	TROSCOM	23	593.50	112.38					66	7	5	2	
SUB-TOT		1946							6445	1599	1066	161	
RACK	1	CMD	LINES	WT/LN	CF/LN								
0.09	AMCCOM	307	74.50	4.45					34	11	8	1	
0.12	AVSCOM	396	41.10	4.69					46	8	5	1	
0.10	CECOM	3915	100.00	3.59					351	196	130	9	
0.13	MICOM	3789	57.50	4.49					425	109	73	11	
0.27	TACOM	8370	106.38	5.05					1057	445	297	26	
0.11	TROSCOM	257	80.00	6.00					39	10	7	1	
SUB-TOT		17033							1952	780	520	49	
COSTS	TOTAL	TOTAL	TOTAL	TOTAL	LOAD	TO	POE	POE	LOAD	MOVE	TOTAL	TOTAL	
S-TONS	M-TONS	PLTTS	CTNS	RATE	POE	POE	POE	POE	COSTS	COSTS	COSTS	COSTS	
MAC	2478	8644	1651	216	0	0	2140	0	0	5303462	5303462	5303462	
SEA	2478	8644	1651	216	3.05	4.01	24.87	3.53	26363	280141	306505	306505	
ALOC	0	0	0	0	19.63	22.77	102	0	0	0	0	0	
SUB TOT	2478	8644	1651	216					26363	280141	306505	306505	

SEA COST IN \$ PER M-TON
MACALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS HIGH ESTIMATE

OPTION B CENTRAL

ANNUAL LINES	AMCCOM 3411	AVSCOM 3297	CECOM 39149	MICOM 29144	TACOM 31000	TROSCOM 2336	TOTAL 108337					
BIN 1	CMD	LINES	LNS/PKG	PKGS	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON	T-PLLT	T-CTNS
0.91	AMCCOM	3104	9	345	.186	1.67	4.13	37	14	6	3	0
0.86	AVSCOM	2835	604	5	.289	174.56	3.99	2410	20	6	3	1
0.90	CECOM	35234	49	719	.187	9.16	5.31	260	165	94	62	4
0.85	MICOM	24772	584	42	.244	142.50	3.35	1956	151	41	28	4
0.68	TACOM	21000	30	703	.396	11.88	11.11	333	209	117	78	5
0.87	TROSCOM	2832	423	5	.12	50.76	5.23	2212	6	5	4	0
	SUB-TOT	89058		1819					566	270	177	14
BULK 1	CMD	LINES	WT/LN	CF/LN								
0.01	AMCCOM	34	1429.00	115.76								
0.02	AVSCOM	66	832.25	115.83								
0.00	CECOM	0	4028.24	102.36								
0.02	MICOM	583	478.99	84.34								
0.04	TACOM	1240	4217.90	156.79								
0.01	TROSCOM	23	1119.93	112.38								
	SUB-TOT	1946										
RACK 1	CMD	LINES	WT/LN	CF/LN								
0.09	AMCCOM	307	113.03	7.20								
0.12	AVSCOM	396	74.74	7.37								
0.13	CECOM	3915	209.88	5.58								
0.13	MICOM	3789	89.26	7.36								
0.27	TACOM	8370	198.72	8.34								
0.11	TROSCOM	257	123.51	9.24								
	SUB-TOT	17033										
COSTS	TOTAL	TOTAL	TOTAL	TOTAL	LOAD	TO	POE-	POD-	LOAD	MOVE	TOTAL	
MHC	S-TONS	M-TONS	PLLT	CTNS	RATE	POE	POD	FRK	COSTS	COSTS	COSTS	
SFA	4549	10186	3030	255	0	0	2140	0	0	9734162	9734162	
ALOC	2820	6445	1880	161	3.05	0	56.71	0	19657	365484	385140	
SUB TOT	1729	3741	1151	94	19.63	22.77	102	0	33942	215738	249680	
	4549	10186	3030	255					53599	581222	634820	

SFA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
LOW ESTIMATE

OPTION B CENTRAL

ANNUAL LINES	AMCCOM 3411	AVSCOM 3297	CECOM 39149	MICOM 29144	TACOM 31000	TROSCOM 2336	TOTAL 108337					
BIN #	CMD	LINES	LNS/PKG	PKGS	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON	T-PLITS	T-CTNS
0.91	AMCCOM	3104	9	345	.042	0.38	0.85	8	3	1	1	0
0.86	AVSCOM	2835	604	5	.124	74.90	1.74	1051	9	2	1	0
0.90	CECOM	35234	49	719	.053	2.60	1.15	56	47	20	14	1
0.85	MICOM	24772	584	42	.123	71.83	1.40	818	76	17	12	2
0.68	TACOM	21080	30	703	.186	5.58	5.32	160	98	56	37	2
0.87	TROSCOM	2032	423	5	.266	112.52	1.96	829	14	2	1	0
	SUB-TOT	89058		1819					246	99	65	6
BULK #	CMD	LINES	WT/LN	CF/LN								
0.01	AMCCOM	34	634.51	115.76					99	11	7	2
0.02	AVSCOM	66	640.00	115.83					191	21	14	5
0.00	CECOM	0	2450.50	102.36					0	0	0	0
0.02	MICOM	583	384.00	84.34					1229	112	75	31
0.04	TACOM	1240	2336.00	156.79					4860	1448	966	122
0.01	TROSCOM	23	593.50	112.38					66	7	5	2
	SUB-TOT	1946							6445	1599	1066	161
RACK #	CMD	LINES	WT/LN	CF/LN								
0.09	AMCCOM	307	74.50	4.45					34	11	8	1
0.12	AVSCOM	396	41.10	4.69					46	8	5	1
0.10	CECOM	3915	100.90	3.59					351	196	130	9
0.13	MICOM	3789	57.50	4.49					425	109	73	11
0.27	TACOM	8370	106.38	5.05					1057	445	297	26
0.11	TROSCOM	257	80.00	6.00					39	10	7	1
	SUB-TOT	17033							1952	780	520	49
COSTS	TOTAL S-TONS	TOTAL H-TONS	TOTAL PLITS	TOTAL CTNS	LOAD RATE	TO POE	POE POD	POD FRK	LOAD COSTS	MOVE COSTS	TOTAL COSTS	
MAC	2478	8644	1651	216	0	0	2140	0	0	5303462	5303462	
SEA	1599	6445	1066	161	3.05	4.01	24.87	3.53	19657	208875	228532	
ALOC	879	2199	585	55	19.63	22.77	102	0	17258	109694	126952	
SUB TOT	2478	8644	1651	216					36915	318569	355484	

SEA COST IN \$ PER M-TON
MACALOC COSTS IN \$ PER S-TON

OPTION C FRIEDRICHSFELD

SEA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
LOW ESTIMATE

OPTION C FRIEDRICHSELD

ANNUAL LINES	AMCCOM	AVSCOM	CLCOM	MICOM	TACOM	TROSCOM	TOTAL	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON	T-STON	T-PLLT	T-CTNS
	0	0	39149	6995	0	2336	48480								
BIN 1	CHD	LINES	LNS/PKG	PKGS											
0.91	AMCCOM	0	9	0				.042	0.38	0.85	8	0	0	0	0
0.86	AVSCOM	0	604	0				.124	74.90	1.74	1051	0	0	0	0
0.90	CECOM	35234	49	719				.053	2.68	1.15	56	47	20	14	1
0.85	MICOM	5946	584	10				.123	71.83	1.40	818	18	4	3	0
0.68	TACOM	0	30	0				.186	5.58	5.32	160	0	0	0	0
0.87	TROSCOM	2032	423	5				.266	112.52	1.96	829	14	2	1	0
	SUB-TOT	43212		734								78	26	18	2
BULK 1	CHD	LINES	WT/LN	CF/LN											
0.01	AMCCOM	0	634.51	115.76								0	0	0	0
0.02	AVSCOM	0	640.00	115.83								0	0	0	0
0.00	CECOM	0	2450.50	102.36								295	27	18	7
0.02	MICOM	140	384.00	84.34								0	0	0	0
0.04	TACOM	0	2336.00	156.79								66	7	5	2
0.01	TROSCOM	23	593.50	112.38								361	34	23	9
	SUB-TOT	163													
RACK 1	CHD	LINES	WT/LN	CF/LN											
0.09	AMCCOM	0	74.50	4.45								0	0	0	0
0.12	AVSCOM	0	41.10	4.69								0	0	0	0
0.10	CLCOM	3915	100.00	3.59								351	196	130	9
0.13	MICOM	909	57.50	4.49								102	26	17	3
0.27	TACOM	0	106.38	5.05								0	0	0	0
0.11	TROSCOM	257	80.00	6.00								39	10	7	1
	SUB-TOT	5081										492	232	155	12
COSTS	TOTAL	S-TONS	TOTAL	TOTAL	TOTAL	LOAD	POE	POE	POD	POD	POD	LOAD	MOVE	TOTAL	
MAC	292	931	195	23	23	RATE	POE	POE	POD	POD	POD	COSTS	COSTS	COSTS	
SEA	34	361	23	9	9	3.05	4.01	4.01	21.40	21.40	3.53	1100	11687	12787	
ALOC	259	570	172	14	14	19.63	22.77	22.77	102	102	0	5076	32263	37339	
SUB-TOT	292	931	195	23	23							6176	43950	50126	

SEA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
HIGH ESTIMATE

OPTION C MAINZ									
ANNUAL LINES	AMCOM 3411	AVSCOM 0	CUCOM 0	MICOM 0	TACOM 10850	TROSCOM 0	TOTAL 14261		
BIN %	CMD	LINES	LNS/PKG	PKGS	CF/LN	CF/PKG	WT/LN	WT/PKG	T-MTON
0.91	AMCOM	3104	9	345	.186	1.67	4.13	37	14
0.86	AVSCOM	0	604	0	.289	174.56	3.99	2410	6
0.90	CECOM	0	49	0	.187	9.16	5.31	260	0
0.85	MICOM	0	584	0	.244	142.50	3.35	1956	0
0.68	TACOM	7378	30	246	.396	11.48	11.11	333	73
0.87	TROSCOM	0	423	0	.12	50.76	5.23	2212	0
	SUB-TOT	10482		591					87
									47
									33
									2
BULK %	CMD	LINES	WT/LN	CF/LN					
0.01	AMCOM	34	1429.00	115.76	99	24	16	2	2
0.02	AVSCOM	0	832.25	115.83	0	0	0	0	0
0.00	CECOM	0	4028.24	102.36	0	0	0	0	0
0.02	MICOM	0	478.99	84.34	0	0	0	0	0
0.04	TACOM	434	4217.90	156.79	1701	915	610	43	43
0.01	TROSCOM	0	1119.93	112.38	0	0	0	0	0
	SUB-TOT	468			1800	940	626	45	45
RACK %	CMD	LINES	WT/LN	CF/LN					
0.09	AMCOM	307	113.03	7.20	55	17	12	1	1
0.12	AVSCOM	0	74.74	7.37	0	0	0	0	0
0.10	CECOM	0	209.88	5.58	0	0	0	0	0
0.13	MICOM	0	89.26	7.36	0	0	0	0	0
0.27	TACOM	2930	198.72	8.34	611	291	194	15	15
0.11	TROSCOM	0	123.51	9.24	0	0	0	0	0
	SUB-TOT	3236			666	308	206	17	17
COSTS	TOTAL	TOTAL	TOTAL	TOTAL	LOAD	TO	POE	POD	POD
MAC	S-TONS	M-TONS	PLT'S	CTNS	RATE	POE	POD	FRK	TOTAL
SEA	1295	2553	865	64	0	0	2140	0	2772317
ALOC	940	1800	626	45	3.05	0	56.71	0	102072
SUB TOT	356	754	239	19	19.63	22.77	102	0	107561
	1295	2553	865	64					51380
									12474
									146467
									158941

SEA COST IN \$ PER M-TON
MACALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
LOW ESTIMATE

OPTION C MAINZ

ANNUAL LINES	AMCCOM 3411	AVSCOM 0	CECOM 0	MICOM 0	TACOM 10850	THOSCOM 0	TOTAL 14261	WT/LN 0.85	WT/PKG 8	T-HTON 3	T-STON 1	T-PLTTS 1	T-CTNS 0
BIN %	CMD	LINES	LNS/PKG	PKGS	CF/LN	CF/PKG							
0.91	AMCCOM	3104	9	345	.042	0.38		1.74	1051	0	0	1	0
0.86	AVSCOM	0	604	0	.124	74.90		1.15	56	0	0	0	0
0.90	CECOM	0	49	0	.053	2.60		1.40	818	0	0	0	0
0.85	MICOM	0	584	0	.123	71.83		5.32	160	34	20	13	1
0.68	TACOM	7378	39	246	.186	5.58		1.96	829	38	21	14	1
0.87	THOSCOM	0	423	0	.266	112.52							
	SUB-TOT	10482		591									
BULK %	CMD	LINES	WT/LN	CF/LN									
0.91	AMCCOM	34	634.51	115.76						99	11	7	2
0.92	AVSCOM	0	640.00	115.83						0	0	0	0
0.90	CECOM	0	2450.50	102.36						0	0	0	0
0.92	MICOM	0	384.00	84.34						1701	507	338	43
0.94	TACOM	434	2336.00	156.79						1800	518	345	45
0.01	THOSCOM	0	593.50	112.38									
	SUB-TOT	468											
RACK %	CMD	LINES	WT/LN	CF/LN									
0.09	AMCCOM	307	74.50	4.45						34	11	8	1
0.12	AVSCOM	0	41.10	4.69						0	0	0	0
0.10	CECOM	0	100.00	3.59						0	0	0	0
0.13	MICOM	0	57.50	4.49						0	0	0	0
0.27	TACOM	2930	106.38	5.05						370	156	104	9
0.11	THOSCOM	0	80.00	6.00						0	0	0	0
	SUB-TOT	3236								404	167	112	10
COSTS	TOTAL	TOTAL	TOTAL	TOTAL	LOAD	TO	POE	POE	POD	LOAD	MOVE	TOTAL	
MAC	S-TONS	M-TONS	PLTTS	CTNS	RATE	POE	POD	POD	FRK	COSTS	COSTS	COSTS	
SEA	706	2241	471	56	0	0	2140	2140	0	0	1510698	1510698	
ALOC	518	1800	345	45	3.05	4.01	24.87	24.87	3.53	5490	58334	63824	
SUB TOT	188	442	126	11	19.63	22.77	102	102	0	3694	23482	27176	
	706	2241	471	56						9184	81816	91000	

SEA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
HIGH ESTIMATE

OPTION C NCAD

ANNUAL LINES	AMCCOM 0	AVSCOM 3297	CECOM 0	MILCOM 22149	TACOM 20150	TROSCOM 0	TOTAL 45596	WT/LN 4.13	CF/PKG 1.67	PKGS 0	CF/LN .186	WT/PKG 37	T-MTON 0	T-STON 0	T-PLLT 0	T-CTNS 0
BIN 1	0.91	AMCCOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.86	AVSCOM	2835	604	5	0	0	0	0	0	0	0	0	0	0	0	0
0.90	CECOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.85	MICOM	18827	584	32	0	0	0	0	0	0	0	0	0	0	0	0
0.68	TACOM	13702	30	457	0	0	0	0	0	0	0	0	0	0	0	0
0.87	TROSCOM	0	423	0	0	0	0	0	0	0	0	0	0	0	0	0
	SUB-TOT	35364	0	494	0	0	0	0	0	0	0	0	0	0	0	0
BULK 1	0.01	AMCCOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.02	AVSCOM	66	832.25	115.83	0	0	0	0	0	0	0	0	0	0	0	0
0.00	CECOM	0	4028.24	102.36	0	0	0	0	0	0	0	0	0	0	0	0
0.02	MICOM	443	478.99	84.34	0	0	0	0	0	0	0	0	0	0	0	0
0.04	TACOM	806	4217.90	156.79	0	0	0	0	0	0	0	0	0	0	0	0
0.01	TROSCOM	0	1119.93	112.38	0	0	0	0	0	0	0	0	0	0	0	0
	SUB-TOT	1315	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RACK 1	0.09	AMCCOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.12	AVSCOM	396	74.74	7.37	0	0	0	0	0	0	0	0	0	0	0	0
0.10	CECOM	0	209.88	5.58	0	0	0	0	0	0	0	0	0	0	0	0
0.13	MICOM	2879	89.26	7.36	0	0	0	0	0	0	0	0	0	0	0	0
0.27	TACOM	5441	198.72	8.34	0	0	0	0	0	0	0	0	0	0	0	0
0.11	TROSCOM	0	123.51	9.24	0	0	0	0	0	0	0	0	0	0	0	0
	SUB-TOT	8716	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COSTS	TOTAL	2631	6292	1750	157	0	0	0	0	0	0	0	0	0	0	0
MAC	S-TONS	2631	6292	1750	157	0	0	0	0	0	0	0	0	0	0	0
SEA	M-TONS	2631	6292	1750	157	0	0	0	0	0	0	0	0	0	0	0
ALOC	S-TONS	2631	6292	1750	157	0	0	0	0	0	0	0	0	0	0	0
SUB TOT	S-TONS	2631	6292	1750	157	0	0	0	0	0	0	0	0	0	0	0

SEA COST IN \$ PER M-TON
MACALOC COSTS IN \$ PER S-TON

TRANSPORTATION COSTS
LOW ESTIMATE

OPTION C NCAD

ANNUAL LINES	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON	T-PLLT	T-CTNS
BIN 1	0.91	0	3297	0	22149	0	45596	0.85	8	0	0	0	0
0.96	AMCCOM	CHD	LINES	PKGS	CF/LN	CF/PKG							
0.98	AVSCOM	0	0	0	.042	0.38		0.85	1051	9	2	0	0
0.85	CECOM	2835	604	5	.124	74.90		1.74	56	0	0	0	0
0.88	MICOM	18827	584	32	.053	2.60		1.15	818	58	13	9	1
0.87	TACOM	13702	30	457	.123	71.83		1.40	160	64	36	24	2
SUB-TOT	TROSCOM	0	423	0	.186	5.58		5.32	829	130	52	33	3
	SUB-TOT	35364	0	494	.266	112.52		1.96					

BULK 1	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON	T-PLLT	T-CTNS
0.01	AMCCOM	0	634.51	115.76	0	0	0	0	0	0	0	0	0
0.02	AVSCOM	66	640.00	115.83	0	0	0	0	0	0	0	0	0
0.00	CECOM	0	2450.50	102.36	0	0	0	0	0	0	0	0	0
0.02	MICOM	443	384.00	84.34	0	0	0	0	0	0	0	0	0
0.04	TACOM	806	2336.00	156.79	0	0	0	0	0	0	0	0	0
0.01	TROSCOM	0	593.50	112.38	0	0	0	0	0	0	0	0	0
SUB-TOT	SUB-TOT	1315	0	0	0	0	0	0	0	0	0	0	0

RACK 1	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	WT/LN	WT/PKG	T-MTON	T-STON	T-PLLT	T-CTNS
0.09	AMCCOM	0	74.50	4.45	0	0	0	0	0	0	0	0	0
0.12	AVSCOM	396	41.10	4.69	0	0	0	0	0	0	0	0	0
0.10	CECOM	0	100.00	3.59	0	0	0	0	0	0	0	0	0
0.13	MICOM	2879	57.50	4.49	0	0	0	0	0	0	0	0	0
0.27	TACOM	5441	106.38	5.05	0	0	0	0	0	0	0	0	0
0.11	TROSCOM	0	80.00	6.00	0	0	0	0	0	0	0	0	0
SUB-TOT	SUB-TOT	8716	0	0	0	0	0	0	0	0	0	0	0

COSTS	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
MAC	1480	5471	985	137	0	0	0	0	0	0	0	0	0
SEA	1480	5471	985	137	0	0	0	0	0	0	0	0	0
ALOC	0	0	0	0	0	0	0	0	0	0	0	0	0
SUB TOT	1480	5471	985	137	0	0	0	0	0	0	0	0	0

SEA COST IN \$ PER M-TON
MAC&ALOC COSTS IN \$ PER S-TON

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APPENDIX F

DISCREPANCY COST ANALYSIS

The enclosed listings represent printouts of a VISICALC program used to estimate discrepancy costs. A separate sheet is provided for each location within each alternative and for both high and low estimates.

DISCREPANCY COST
HIGH ESTIMATE
OPTION A NCAD

F-LNS (A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	LOSS	TOTAL	ADMIN	TOTAL
	3411	3297	19149	29144	31000	2336	108337				
BIN 1		LNS/PD	DISC-RT	DISC-RT	VALUE	DOLLAR	RATE				
.91	CMD	3104	AMC	1	308	2199	.31	682	357	431	
.86	AMCCOM	2835	.0023	1	1456	9495	.31	2944	326	3572	
.90	AVSCOM	35234	.0023	1	776	62886	.31	19495	4052	0	
.85	CECOM	24772	.0023	1	1404	79995	.31	24798	2849	0	
.68	MICOM	21080	.0023	1	168	8145	.31	2525	2424	51668	
.87	TACOM	2032	.0023	1	313	1463	.31	454	234	17953	
	TROSCOM	89058						50097	687	166	
	SUB-TOT								234	73789	
											61139
BULK 1		LNS/PD	DISC-RT	DISC-RT	VALUE	DOLLAR	RATE				
.01	CMD	34	.0023	1	17549	1377	.31	427	4	431	
.02	AMCCOM	66	.0023	1	75805	11497	.31	3564	8	3572	
.02	AVSCOM	0	.0023	1	15997	0	.31	0	0	0	
.02	CECOM	583	.0023	1	124161	166453	.31	51600	67	51668	
.04	MICOM	1240	.0023	1	20145	57454	.31	17811	143	17953	
.01	TACOM	23	.0023	1	9825	528	.31	164	3	166	
	TROSCOM	1946						73566		73789	
	SUB-TOT										
RACK 1		LNS/PD	DISC-RT	DISC-RT	VALUE	DOLLAR	RATE				
.09	CMD	307	.0023	1	3284	2319	.31	719	35	754	
.12	AMCCOM	396	.0023	1	5316	4837	.31	1500	45	1545	
.11	AVSCOM	3915	.0023	1	2884	25968	.31	8050	450	8500	
.13	CECOM	3789	.0023	1	22266	194027	.31	60148	436	60584	
.27	MICOM	8370	.0023	1	762	14669	.31	4547	963	5510	
.11	TACOM	257	.0023	1	1930	1141	.31	354	30	383	
	TROSCOM	17033						75318		77277	
	SUB-TOT										
GRAND TOTAL								199780		212205	

		DISCREPANCY COST											
		OPTION A NCAD											
		LOW ESTIMATE											
		AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	LOSS RATE	TOTAL LOSS	ADMIN COST	TOTAL COST		
F-LNS (A)	3411		3297	39149	29144	31000	2336	108337					
BIN \$			ANNUAL LINES	ERROR	CHANGE FACTOR	VALUE PER LINE	TOTAL DOLLAR						
	.91	AMCCOM	3104	.0023	1	34	243	.31	75	357	432		
	.86	AVSCOM	2835	.0023	1	124	809	.31	251	326	577		
	.90	CECOM	35234	.0023	1	168	13614	.31	4220	4052	8272		
	.85	MICOM	24772	.0023	1	356	20284	.31	6288	2849	9137		
	.68	TACOM	21080	.0023	1	38	1824	.31	566	2424	2990		
	.87	TROSCOM	2032	.0023	1	55	258	.31	80	234	314		
		SUB-TOT	89058						11480		21722		
BULK \$													
	.01	AMCCOM	34	.0023	1	7880	618	.31	192	4	196		
	.02	AVSCOM	66	.0023	1	28044	4253	.31	1318	8	1326		
	.00	CECOM	0	.0023	1	9695	0	.31	0	0	0		
	.02	MICOM	503	.0023	1	176745	236949	.31	73454	67	73521		
	.04	TACOM	1240	.0023	1	4464	12731	.31	3947	143	4089		
	.01	TROSCOM	23	.0023	1	4623	248	.31	77	3	80		
		SUB-TOT	1946						78988		79212		
RACK \$													
	.09	AMCCOM	307	.0023	1	700	494	.31	153	35	189		
	.12	AVSCOM	396	.0023	1	1785	1624	.31	504	45	549		
	.1	CECOM	3915	.0023	1	570	5132	.31	1591	450	2041		
	.13	MICOM	3789	.0023	1	8201	71464	.31	22154	436	22590		
	.27	TACOM	8370	.0023	1	293	5641	.31	1749	963	2711		
	.11	TROSCOM	257	.0023	1	464	274	.31	85	30	115		
		SUB-TOT	17033						26235		28194		
GRAND TOTAL									116703		129127		

		DISCREPANCY COST											
		HIGH ESTIMATE											
		OPTION B EUROPE											
		AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	LOSS RATE	TOTAL LOSS	ADMIN COST	TOTAL COST		
F-LNS (A)		3411	3297	39149	29144	31000	2336	108137					
BIN %													
	.91	CHD	LNS/PD	DISC-RT	DISC-RT	VALUL	TOTAL						
	.86	AMCCOM	3104	.003	1	308	2868	.31	889	466	1355		
	0.90	AVSCOM	2835	.003	1	1456	12385	.31	3839	425	4265		
	.85	CECOM	35234	.003	1	776	82025	.31	25428	5285	30713		
	.68	MICOM	24772	.003	1	1404	104341	.31	32346	3716	36062		
	.87	TACOM	21080	.003	1	168	10624	.31	3294	3162	6456		
		TROSCOM	2032	.003	1	313	1908	.31	592	305	896		
		SUB-TOT	89058						66387		79746		
BULK %													
	.01	CHD	LNS/PD										
	.02	AMCCOM	34	.003	1	17549	1796	.31	557	5	562		
	0	AVSCOM	66	.003	1	75805	14996	.31	4649	10	4659		
	.02	CECOM	0	.003	1	15997	0	.31	0	0	0		
	.04	MICOM	583	.003	1	124161	217113	.31	67305	87	67392		
	.01	TACOM	1240	.003	1	20145	74939	.31	23231	186	23417		
		TROSCOM	23	.003	1	9825	689	.31	213	4	217		
		SUB-TOT	1946						95955		96247		
RACK %													
	.09	CHD	LNS/PD										
	.12	AMCCOM	307	.003	1	3284	3024	.31	938	46	984		
	.1	AVSCOM	396	.003	1	5316	6310	.31	1956	59	2015		
	.13	CECOM	3915	.003	1	2884	33872	.31	10500	587	11087		
	.27	MICOM	3789	.003	1	22266	253079	.31	78454	568	79023		
	.11	TACOM	8370	.003	1	762	19134	.31	5931	1256	7187		
		TROSCOM	257	.003	1	1930	1488	.31	461	39	500		
		SUB-TOT	17033						98241		100796		
GRAND TOTAL									260583		276789		

DISCREPANCY COST
LOW ESTIMATE
OPTION B EUROPE

F-LNS (A)	AMCCOM	AVS-COM	CLCOM	DISC-RT	MICOM	TACOM	THROSCOM	TOTAL LOSS RATE	TOTAL LOSS	ADMIN COST	TOTAL COST
	3411	3297	39149	29144	31000	2336	108337				
RIN 1		LNS/PD	DISC-RT	AMC	DISC-RT	VALUE	DOLLAR				
.91	AMCCOM	3104	.003	1	34	317	317	.31	98	466	564
.86	AVS-COM	2835	.003	1	124	1855	1855	.31	327	425	752
0.90	CLCOM	35234	.003	1	168	17758	17758	.31	5505	5285	10790
.85	MICOM	24772	.003	1	356	26457	26457	.31	8262	3716	11918
.68	TACOM	21080	.003	1	38	2380	2380	.31	738	3162	3900
.87	THROSCOM	2632	.003	1	55	337	337	.31	104	305	409
	SUB-TOT	89058						.31	14974		28333
BULK 1		LNS/PD									
.01	AMCCOM	34	.003	1	7880	806	806	.31	250	5	255
.02	AVS-COM	60	.003	1	28044	5548	5548	.31	1720	10	1730
0	CLCOM	0	.003	1	9695	0	0	.31	0	0	0
.02	MICOM	583	.003	1	176745	309063	309063	.31	95810	87	95897
.04	TACOM	1240	.003	1	4464	16606	16606	.31	5148	180	5334
.01	THROSCOM	23	.003	1	4623	324	324	.31	100	4	104
	SUB-TOT	1946						.31	103028		103320
RACK 1		LNS/PD									
.09	AMCCOM	307	.003	1	700	645	645	.31	200	46	246
.12	AVS-COM	396	.003	1	1785	2119	2119	.31	657	59	716
.11	CLCOM	3915	.003	1	570	6694	6694	.31	2075	587	2663
.13	MICOM	3789	.003	1	8201	93214	93214	.31	28896	568	29465
.27	TACOM	8370	.003	1	293	7357	7357	.31	2281	1256	3536
.11	THROSCOM	257	.003	1	464	358	358	.31	111	39	149
	SUB-TOT	17033						.31	34220		36775
GRAND TOTAL									152221		168427

DISCREPANCY COST
HIGH ESTIMATE
OPTION C NCAD

F-LNS (A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL LOSS RATE	TOTAL LOSS	ADMIN COST	TOTAL COST
BIN 8										
.91	CMD	LNS/PD	DISC-RT	DISC-RT	VALUE	TOTAL DOLLAR				
.86	AMCCOM	0	0	22149	20150	0	.31	0	0	0
0.90	AVSCOM	2835	.0023	1	308	9495	.31	2944	326	3270
.85	CECOM	0	.0023	1	1456	0	.31	0	0	0
.68	MICOM	18827	.0023	1	776	60795	.31	18846	2165	21012
.87	TACOM	13702	.0023	1	1404	5294	.31	1641	1576	3217
	TROSCOM	0	.0023	1	168	0	.31	0	0	0
	SUB-TOT	35364			313			23431		27498
BULK 8										
.01	CMD	LNS/PD								
.02	AMCCOM	0	.0023	1	17549	0	.31	0	0	0
0	AVSCOM	66	.0023	1	75805	11497	.31	3564	8	3572
.02	MICOM	443	.0023	1	15997	0	.31	0	0	0
.04	TACOM	886	.0023	1	124161	126502	.31	39216	51	39267
.01	TROSCOM	0	.0023	1	20145	37345	.31	11577	93	11670
	SUB-TOT	1315			9825	0		54356	0	54508
RACK 8										
.09	CMD	LNS/PD								
.12	AMCCOM	0	.0023	1	3284	0	.31	0	0	0
.13	AVSCOM	396	.0023	1	5316	4837	.31	1500	45	1545
.27	CECOM	0	.0023	1	2884	0	.31	0	0	0
.11	MICOM	2879	.0023	1	22266	147458	.31	45712	331	46043
	TACOM	5441	.0023	1	762	9535	.31	2956	626	3582
	TROSCOM	0	.0023	1	1930	0	.31	0	0	0
	SUB-TOT	8716						50167	0	51170
GRAND TOTAL								127955		133175

DISCREPANCY COST
OPTION C NCAD
LOW ESTIMATE

F-LNS(A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL LOSS RATE	TOTAL LOSS	ADMIN COST	TOTAL COST
	0	3297	0	22149	20150	0	45596			
BIN %	CMD	ANNUAL LINES	ERROR RATE	CHANGE FACTOR	VALUE PER LINE	TOTAL DOLLAR				
.91	AMCCOM	0	.0023	1	34	0	.31	0	0	0
.86	AVSCOM	2835	.0023	1	124	809	.31	251	326	577
0.90	CECOM	0	.0023	1	168	0	.31	0	0	0
.85	MICOM	18827	.0023	1	356	15415	.31	4779	2165	6944
.68	TACOM	13702	.0023	1	38	1186	.31	368	1576	1943
.87	TROSCOM	0	.0023	1	55	0	.31	0	0	0
	SUB-TOT	35364						5397		9464
BULK %	AMCCOM	0	.0023	1	7880	0	.31	0	0	0
.01	AVSCOM	66	.0023	1	28044	4253	.31	1318	8	1326
.02	CECOM	0	.0023	1	9695	0	.31	0	0	0
.02	MICOM	443	.0023	1	176745	180077	.31	55824	51	55875
.04	TACOM	806	.0023	1	4464	8275	.31	2565	93	2658
.01	TROSCOM	0	.0023	1	4623	0	.31	0	0	0
	SUB-TOT	1315						59708		59859
RACK %	AMCCOM	0	.0023	1	700	0	.31	0	0	0
.09	AVSCOM	396	.0023	1	1785	1624	.31	504	45	549
.12	CECOM	0	.0023	1	570	0	.31	0	0	0
.13	MICOM	2879	.0023	1	8201	54312	.31	16837	331	17168
.27	TACOM	5441	.0023	1	293	3666	.31	1137	626	1762
.11	TROSCOM	0	.0023	1	464	0	.31	0	0	0
	SUB-TOT	8716						18477		19479
GRAND TOTAL								83582		88802

		DISCREPANCY COST											
		HIGH ESTIMATE											
		OPTION C MAINZ											
F-LNS (A)	AMCCOM	AVSCOM	CHCOM	MICOM	TACOM	TROSCOM	TOTAL	LOSS	ADMIN	TOTAL	LOSS	TOTAL	
	3411	0	0	0	10850	0	14261	0	0	0	0	0	
BIN %													
.91	CHD	LNS/PD	DISC-RT	DISC-RT	VALUE	TOTAL	LOSS						
.86	AMCCOM	3104	.003	1	300	2868	.31						
0.90	AVSCOM	0	.003	1	1456	0	.31						
.85	CECOM	0	.003	1	776	0	.31						
.68	MICOM	0	.003	1	1404	0	.31						
.87	TACOM	7378	.003	1	168	3719	.31						
	TROSCOM	0	.003	1	313	0	.31						
	SUB-TOT	10482											
BULK %													
.01	CHD	LNS/PD	DISC-RT	DISC-RT	VALUE	TOTAL	LOSS						
.02	AMCCOM	34	.003	1	17549	1796	.31						
0	AVSCOM	0	.003	1	75805	0	.31						
.02	CECOM	0	.003	1	15997	0	.31						
.04	MICOM	0	.003	1	124161	0	.31						
.01	TACOM	434	.003	1	20145	26229	.31						
	TROSCOM	0	.003	1	9825	0	.31						
	SUB-TOT	469											
RACK %													
.09	CHD	LNS/PD	DISC-RT	DISC-RT	VALUE	TOTAL	LOSS						
.12	AMCCOM	307	.003	1	3284	3024	.31						
.1	AVSCOM	0	.003	1	5316	0	.31						
.13	CECOM	0	.003	1	2884	0	.31						
.27	MICOM	0	.003	1	22266	0	.31						
.11	TACOM	2930	.003	1	762	6697	.31						
	TROSCOM	0	.003	1	1930	0	.31						
	SUB-TOT	3236											
GRAND TOTAL													

DISCREPANCY COST
OPTION C MAINZ
LOW ESTIATE

F-LNS (A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	LOSS	ADMIN	TOTAL
BIN 3	3411	0	0	0	10850	0	14261	0	0	0
	CMD	ANNUAL	ERROR	CHANGE	VALUE	TOTAL	LOSS	ADMIN	TOTAL <td></td>	
	AMCCOM	LINES	RATE	FACTOR	PER LINE	DOLLAR	RATE	COST	LOSS	
.91	3104	34	.003	1	124	317	.31	466	98	564
.86	0	0	.003	1	168	0	.31	0	0	0
0.90	0	0	.003	1	356	0	.31	0	0	0
.85	0	0	.003	1	38	833	.31	1107	258	1365
.68	7378	0	.003	1	55	0	.31	0	0	0
.87	TACOM	10482	.003	1	0	0	.31	0	356	1929
	TROSCOM									
	SUB-TOT									
BULK 3	AMCCOM	34	.003	1	7880	806	.31	5	250	255
.01	AVSCOM	0	.003	1	28044	0	.31	0	0	0
.02	CECOM	0	.003	1	9695	0	.31	0	0	0
0	MICOM	0	.003	1	176745	0	.31	0	0	0
.02	TACOM	434	.003	1	4464	5812	.31	65	1802	1867
.04	TROSCOM	0	.003	1	4623	0	.31	0	0	0
.01	SUB-TOT	468						0	2052	2122
RACK 3	AMCCOM	307	.003	1	700	645	.31	46	200	246
.09	AVSCOM	0	.003	1	1785	0	.31	0	0	0
.12	CECOM	0	.003	1	570	0	.31	0	0	0
.1	MICOM	0	.003	1	8201	0	.31	0	0	0
.13	TACOM	2930	.003	1	293	2575	.31	439	798	1238
.27	TROSCOM	0	.003	1	464	0	.31	0	998	1484
.11	SUB-TOT	3236						0	0	0
GRAND										
TOTAL										3406
										5534

DISCREPANCY COST									
HIGH ESTIMATE									
OPTION C FRIEDRICHSFELD									
F-LNS(A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	LOSS	TOTAL
	0	0	39149	6995	0	2336	48480		
BIN		LNS/PD	DISC-RT	DISC-RT	VALUE	TOTAL			
.91	AMCCOM	0	AMC	COMMAND	PER LINE	DOLLAR	LOSS		
.86	AVSCOM	0	.003	1	308	0	.31	0	0
0.90	CECOM	0	.003	1	1456	0	.31	0	0
.85	MICOM	35234	.003	1	776	82025	.31	25428	30713
.68	TACOM	5946	.003	1	1404	25043	.31	7763	8655
.87	TROSCOM	2032	.003	1	168	0	.31	0	0
	SUB-TOT	43212	.003	1	313	1908	.31	592	896
								33783	40205
BULK		LNS/PD							
.01	AMCCOM	0	.003	1	17549	0	.31	0	0
.02	AVSCOM	0	.003	1	75805	0	.31	0	0
0	CECOM	0	.003	1	15997	0	.31	0	0
.02	MICOM	140	.003	1	124161	52110	.31	16154	16175
.04	TACOM	0	.003	1	20145	0	.31	0	0
.01	TROSCOM	23	.003	1	9825	689	.31	213	217
	SUB-TOT	163						16368	16392
RACK		LNS/PD							
.09	AMCCOM	0	.003	1	3284	0	.31	0	0
.12	AVSCOM	0	.003	1	5316	0	.31	0	0
.1	CECOM	3915	.003	1	2884	33872	.31	10500	11087
.13	MICOM	949	.003	1	22266	60743	.31	18830	18967
.27	TACOM	0	.003	1	762	0	.31	0	0
.11	TROSCOM	257	.003	1	1930	1488	.31	461	500
	SUB-TOT	5081						29792	30554
GRAND TOTAL								79942	87211

DISCREPANCY COST

OPTION C FRIEDRICHSFELD
LOW ESTATE

F-LNS (A)	AMCCOM	AVSCOM	CECOM	MICOM	TACOM	TROSCOM	TOTAL	LOSS	TOTAL	ADMIN	TOTAL
			39149	6995	0	2236	48380		LOSS	COST	COST
BIN %		ANNUAL	ERROR	CHANGE	VALUE	TOTAL					
	CMD	LINES	RATE	FACTOR	PER LINE	DOLLAR	RATE				
.91	AMCCOM	0	.003	1	34	0	.31	0	0	0	0
.86	AVSCOM	0	.003	1	124	0	.31	0	0	0	0
0.90	CECOM	35234	.003	1	168	17758	.31	5505	5285	10790	0
.85	MICOM	5946	.003	1	356	6350	.31	1969	892	2860	0
.68	TACOM	0	.003	1	38	0	.31	0	0	0	0
.87	TROSCOM	1945	.003	1	55	322	.31	100	292	392	0
	SUB-TOT	43125						7573		14042	
BULK %											
.01	AMCCOM	0	.003	1	7880	0	.31	0	0	0	0
.02	AVSCOM	0	.003	1	28044	0	.31	0	0	0	0
0	CECOM	0	.003	1	9695	0	.31	0	0	0	0
.02	MICOM	140	.003	1	176745	74180	.31	22996	21	23017	0
.04	TACOM	0	.003	1	4464	0	.31	0	0	0	0
.01	TROSCOM	22	.003	1	4623	310	.31	96	3	99	0
	SUB-TOT	162						23092		23116	
RACK %											
.09	AMCCOM	0	.003	1	700	0	.31	0	0	0	0
.12	AVSCOM	0	.003	1	1785	0	.31	0	0	0	0
.1	CECOM	3915	.003	1	570	6694	.31	2075	587	2663	0
.13	MICOM	909	.003	1	8201	22373	.31	6936	136	7072	0
.27	TACOM	0	.003	1	293	0	.31	0	0	0	0
.11	TROSCOM	246	.003	1	464	342	.31	106	37	143	0
	SUB-TOT	5070						9117		9878	
GRAND TOTAL								39782		47036	

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APPENDIX G

TASKER AND STUDY PLAN



DEPARTMENT OF THE ARMY

U. S. ARMY MATERIEL SYSTEMS ANALYSIS ACTIVITY
Aberdeen Proving Ground, Maryland 21005

DATE: 8 MAR 1985

AMXSY-LF

8 MAR 1985

SUBJECT: Study of PPP in Europe

Commander
US Army Materiel Command
ATTN: AMCSM-PSP (Mr. Rex Hoobler)
5001 Eisenhower Avenue
Alexandria, VA 22333-0001

1. Reference, letter, AMCSM-PSP, SAB dated 13 February 1985.
2. Reference 1 requested that AMSAA conduct a cost benefit analysis of establishing a Package Processing Point in Europe. A study plan which outlines our approach to this effort, as well as the study milestones, is at Enclosure 1.
3. Request that you review the proposed study plan and provide your comments to us at your earliest convenience. It should be noted that the enclosed study plan assumes that a full scale evaluation is needed to answer the questions raised by the Commanding General. If, however, during the course of the evaluation, the preponderance of evidence provides a clear answer to these questions, such data and analysis will immediately be made available to you and a decision can be made as to whether it is desirable to terminate the study effort.
4. The AMSAA points of contact for this effort are Mr. Richard Abeyta (AV 687-3568) or Mr. Dave Shaffer (AV 283-6471).

FOR THE DIRECTOR:

1 Encl
as

David H. Gilbert
DAVID H. GILBERT
Chief
Logistics and Readiness
Analysis Division

RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY				1. AGENCY ACCESSION ^a	2. DATE OF SUMMARY ^a 85 03 05	REPORT CONTROL SYMBOL DD-DR&E(AR)636	
3. DATE PREV. SUMMARY	4. KIND OF SUMMARY A-NEW	5. SUMMARY SCTY ^a U	6. WORK SECURITY ^a S	7. REGRADING ^a	8. DISSEM INSTR ^a NL	9. SPECIFIC DATA - CONTRACTOR ACCESS ☒ YES ☐ NO	10. LEVEL OF SUM A. WORK UNIT
10. NO./CODES ^a	PROGRAM ELEMENT	PROJECT NUMBER	TASK AREA NUMBER		WORK UNIT NUMBER		
a. PRIMARY							
b. CONTRIBUTING							
c. CONTINUING							
11. TITLE (Precede with Security Classification Code) ^a (U) Evaluation of Establishing a Package Processing Point (PPP) in Europe							
12. SCIENTIFIC AND TECHNOLOGICAL AREAS ^a CG9100 Logistics; 011700 Operations Research							
13. START DATE 85 03		14. ESTIMATED COMPLETION DATE 85 09		15. FUNDING AGENCY DA		16. PERFORMANCE METHOD C-In-House	
17. CONTRACT GRANT				18. RESOURCES ESTIMATE		19. PROFESSIONAL MAN YRS	
a. DATES/EFFECTIVE:		EXPIRATION:		PRECEDING			
b. NUMBER:				FISCAL FY85		.9	
c. TYPE:		d. AMOUNT:		CURRENT FY86		-	
e. KIND OF AWARD		f. CUM. AMT.					
20. RESPONSIBLE DOD ORGANIZATION				21. PERFORMING ORGANIZATION			
NAME: Commander US Army Materiel Command ADDRESS: ATTN: AMCSM-PSP Alexandria, VA 22333				NAME: US Army Materiel Systems Analysis Activity ADDRESS: ATTN: AMXSU-LLSO Ft. Lee, VA PRINCIPAL INVESTIGATOR (Furnish SSAN if U.S. Academic Institution) NAME: Mr. Richard Abeyta TELEPHONE: AV 687-3568 SOCIAL SECURITY ACCOUNT NUMBER: ASSOCIATE INVESTIGATORS NAME: NAME:			
RESPONSIBLE INDIVIDUAL NAME: Mr. Rex Hoobler TELEPHONE: AV 284-9617							
22. GENERAL USE 4-S							
23. KEYWORDS (Precede EACH with Security Classification Code) (U) Initial Provisioning; (U) Supply; (U) Repair Parts; (U) Packaging							
23. TECHNICAL OBJECTIVE, 24. APPROACH, 25. PROGRESS (Furnish individual paragraphs identified by number. Precede first of each with Security Classification Code.)							
23. (U) Technical Objective: The purpose of this study is to evaluate the costs and benefits which would result from establishing a Package Processing Point (PPP) in Europe. Study results will be used by the CG, AMC to determine whether such an approach would be beneficial to the Army.							
24. (U) Approach:							
(1) Requirement for study established by letter, AMCSM-PSP, Subject: Study of PPP in Europe, dated 13 Feb 85.							
(2) Background: The Total Package/Unit Materiel Fielding Concept (TP/UMF) is a concept which was developed in the early 1980s and approved for limited implementation in FY84. The objective of TP/UMF is to provide a mechanism by which AMC can field equipment/materiel with 100 percent of its logistics support. Under TP/UMF procedures, support requirements are identified and negotiated between AMC and the gaining command. Once these items are identified, they are then centrally requisitioned and funded by AMC. Assets for each support package are directed to the appropriate Area-Oriented Depot (AOD) where a Package Processing Point (PPP) has been established to receive and stage all support items. When the package is complete the PPP then packages the materiel and prepares to hand it off to the user. In the case of Europe, a PPP facility has been designed and implemented at New Cumberland Army Depot (NCAD) to support all new equipment fieldings to that theater.							

During a recent visit to USAREUR, the CG AMC found that new equipment items were being staged twice. For example, the M915A1 truck was staged at Mainz Army Depot while the parts were staged first at NCAD and then also at Mainz to marry with the trucks. The question was asked as to whether it would be beneficial to the Army to collect the parts at Mainz and thus eliminate the need to stage the parts twice.

During the initial concept study for the TP/UMF system, an economic analysis was conducted to evaluate the costs of establishing a PPP facility in USAREUR vs CONUS. At that time, it was estimated that facility costs would be approximately \$2.4 million and personnel costs would vary between 1.7 and 2.8 million dollars per year. These estimates were based on the acquisition of additional warehouse space and hiring additional local nationals to support the workload. Under this approach, USAREUR would be required to fund both the set-up and operation of the PPP facility.

The proposal being evaluated in the study would retain the responsibilities for the PPP in AMC. However, in this case, facilities and personnel at Mainz Army Depot would be used to accomplish the mission.

Some of the advantages and disadvantages which would have to be considered are as follows:

- Package could be consolidated at one location. Alleviates incremental shipments and eliminates the free flow of materiel after the package is closed.
- Eliminates costs currently associated with PPP facility in NCAD (in support of Europe).
- European facility could be expanded to serve other functions, i.e., repository for Statement of Quality and Support/Special Support Services Warranty Parts, reparable return collection point, etc.
- European packages can be shifted or redirected at last minute.
- Could facilitate information flow between USAREUR and AMC concerning fielding acceptance criteria.
- AMC facilities would have to be developed in Europe.
- Such a move may create a negative reaction to a "depot" in Europe.
- Limits DA ability to redirect scarce resources between theaters.
- Does not eliminate the need for a PPP facility at NCAD. Even if European workload is moved, NCAD facility will still be required to consolidate CONUS fieldings.
- Access to and vulnerability of the packages during hostile activities.

(3) Approach:

a. Review TP/UMF policies and procedures. Determine administrative changes which would have to be made to implement European alternative.

b. Determine workload projections for FY 86-90 for new equipment fieldings to Europe and CONUS.

c. Determine if additional investment costs are needed to accomplish both European and CONUS workload at NCAD. What are investments needed to accomplish CONUS workload only?

d. Determine investment costs (facilities and equipment) to establish a PPP facility at Mainz.

e. Determine whether more than one facility would be needed in Europe to support new equipment fieldings. Currently there are five staging areas in Europe for new equipment. Should a PPP facility be established at each location?

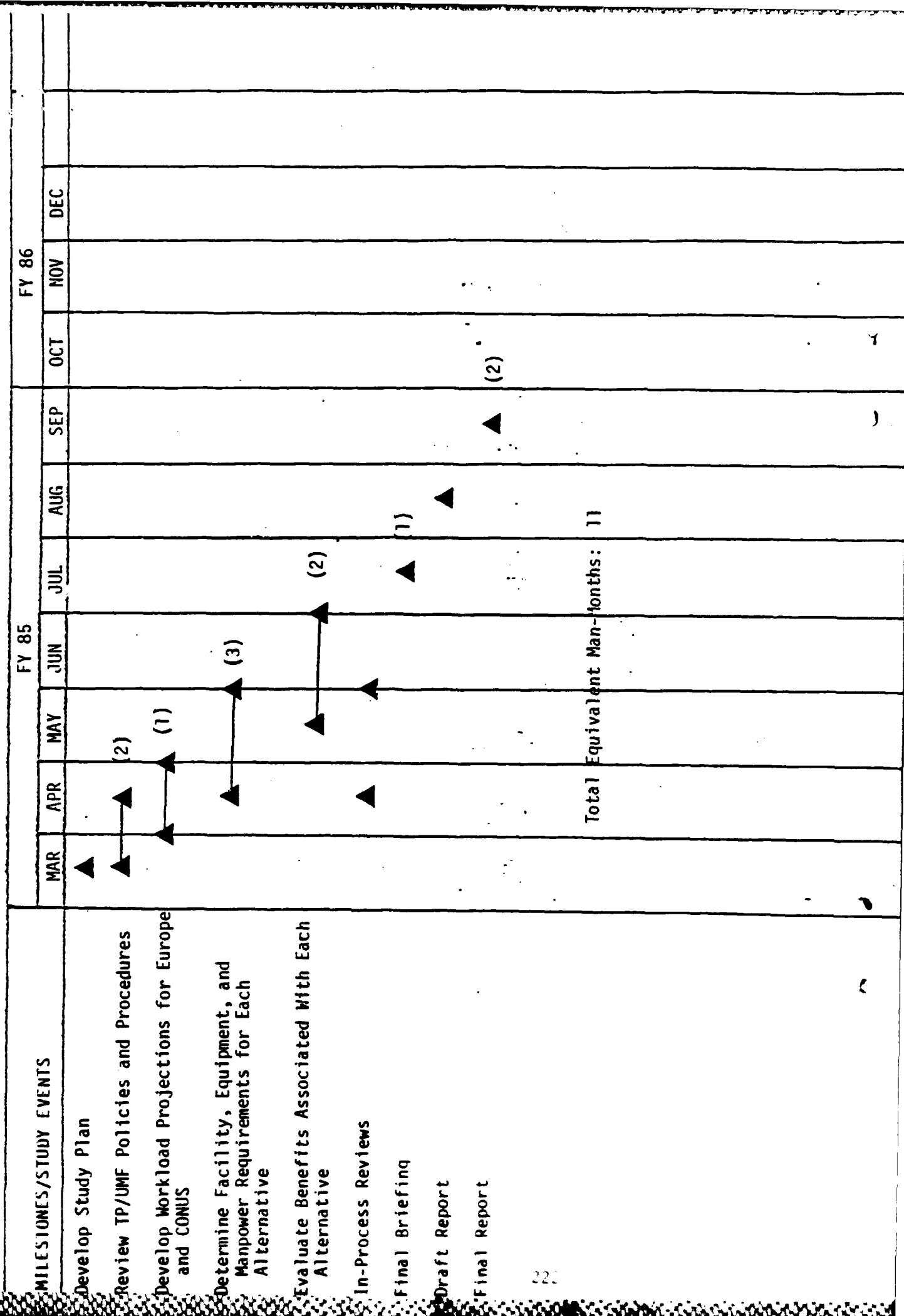
f. Calculate operating and support costs for operations at both NCAD and Mainz. If multiple European facilities are required, calculate total operating and support costs of all facilities.

g. Where possible, quantify benefits/disadvantages associated with each alternative.

(4), (5), (6) Not applicable to this study

(7) Major milestones/study events are provided on the attached chart.

EVALUATION OF ESTABLISHING A PACKAGE PROCESSING POINT (PPP) IN EUROPE





DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA. 22333

AMCSM-PSP

13 FEB 1985

SUBJECT: Study of PPP in Europe

Director
US Army Materiel Systems Analysis Activity
ATTN: AMXSY-L
Aberdeen Proving Ground, MD 21005-5071

1. The Commanding General, AMC desires that a Cost Benefit Analysis Study be conducted to determine if a Package Processing Point (PPP) should be established in Europe.
2. A copy of an Information Paper written by AMC-Europe in response to General Thompson's query is attached for information. Additional factors which should be considered as disadvantages are listed below:
 - a. Pro advantage a(4) at Encl 1 becomes disadvantage in the event DA or OSD must redirect scarce resources to another crisis environment.
 - b. PPP at NCAD would still be needed to support the CONUS East Coast region.
 - c. Economics from shipping containerized loads for specific consignee in USAREUR will be lost.
3. Request you initiate a study of this proposal and provide both estimated costs and completion date and milestones to this headquarters by 5 Mar 85. The results of the study should provide quantitative answer to the issue raised by the Commanding General.
4. Point of Contact at this headquarters is Rex Hoobler, AMCSM-PSP, AUTOVON 284-617.

FOR THE COMMANDER:

SIGNED

*Granted extension to 12 MAR
in person w/ Wane Shaffer*

1 Encl
15

HERMAN L. BROOKS
Colonel, GS
Chief, Supply Division
DCS for Supply, Maintenance
and Transportation

INFORMATION PAPER

SUBJECT: CDR AMC/USAREUR Trip Report, dated 29 Oct 84, paragraph 5.o.

ISSUE: When systems are fielded under the Total Package/Unit Materiel Fielding concept, why do we pre-stage equipment twice? For the M915A1, we pre-staged parts at NCAD and then pre-staged at Mainz to marry parts to the trucks. Wouldn't it be wiser to have done everything one time at Mainz? Pros and Cons.

CURRENT STATUS:

1. Background. During the concept development for TP/UMF, the idea of an OCONUS package processing point was considered. A decision was made to develop the current procedure; the result is Circular No. 700xxx, Total Package/Unit Materiel Fielding Policies and Procedures.

2. Pros and cons of OCONUS package processing point:

a. Advantages.

(1) Allow the total package to be consolidated at one point. Alleviates incremental shipments and eliminates free flow after the package is closed.

(2) Eliminates warehousing, storage and packaging costs to package processing point at NCAD by direct shipment to Europe.

(3) Could serve as a repository for Statement of Quality and Support/ Special Support Services warranty parts in Europe.

(4) Allows shifts of stocked quantities to support short notice schedule changes or to tailor packages at the last minute.

(5) Could facilitate the information flow between USAREUR and AMC as to system versus fielding acceptance criteria.

b. Disadvantages.

(1) An AMC facility would have to be developed as one is currently not available for this requirement.

(2) May create a negative reaction to a "depot" in Europe.

RECOMMENDED ACTION: The Army Materiel Systems Analysis Activity (AMSAA) is to conduct a cost benefit analysis of establishing a package processing point in Europe, taking into consideration of multiple pre-staging of materiel.

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	TITLE Unit Materiel Fielding Point, Europe BRIEFING _____ REPORT <u>Y</u>	
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THE PRINCIPAL FINDINGS and recommendations of the work reported herein are as follows:

1. Since Europe fieldings account for only 50 percent of the Unit Materiel Fielding Point (UMFP) workload at NCAD, a separate facility will be needed at NCAD irrespective of the site chosen to process lines for Europe.
2. Current Total Package/Unit Materiel Fielding (TP/UMF) operating procedures foster multiple handling processes such that surveillance costs exceed discrepancy cost avoidance.
3. The establishment of facilities in Europe will result in cost savings (6-year payback period) only when collocated at the staging site. These same savings can be achieved by eliminating redundant handling under the current system.
4. Limiting factors exist which would restrict operations of facilities in Europe.

THE MAIN ASSUMPTIONS on which the analysis is based are:

1. That future distributions by fielding command will remain at levels experienced in FY 83-85.
2. That tasks performed by personnel of the UMFP, the staging sites, and the hand-off points will remain those described in DA Circular 700-85-2, TP/UMF Policies and Procedures, dated June 1985.
3. That the AMC staging sites in Europe will continue to be TP/UMF Policies and Procedures located at Mainz and Friedrichsfeld.

THE PRINCIPAL LIMITATIONS of this which may affect the findings are as follows:

1. The projected UMFP workload covers the time period 1 July 1985 through 30 June 1987. The projections were based on data maintained and updated by DESCOM. The accuracy of these forecasts could not be verified.
2. The percentages of lines by storage category, (i.e.; bin, rack, bulk) average weight, and average cubes were based on 1984 data in the Army Materiel Data File (AMDF). This data could not be verified.

THE SCOPE OF THE STUDY was limited to equipment and supplies distributed under the TP/UMF concept.

THE STUDY OBJECTIVE was to identify the costs and benefits of establishing a UMFP in Europe.

THE BASIC APPROACH. Three alternatives were reviewed: retention of UMFP at NCAD, establishment of central UMFP in Europe, establishment of UMFPs at each AMC controlled staging site in Europe. Transportation, discrepancy, operating and facility costs were estimated and compared for each alternative. Qualitative factors were also identified and compared.

THE REASONS FOR PERFORMING THE STUDY. Concern was expressed within AMC-Europe that materiel for unit materiel fieldings were being staged twice, resulting in duplicate effort in CONUS and Europe. The hypothesis was that it was more cost effective to perform the UMFP function in Europe. If this hypothesis were proved to be true, then the UMFP should be moved from NCAD to Europe.

STUDY IMPACT STATEMENT. The study concluded that the most cost effective alternative is to retain the UMFP at NCAD.

THE STUDY SPONSOR was the US Army Materiel Command, DCS for Supply, Maintenance, and Transportation.

THE STUDY EFFORT was initially directed by Ms. Maxine Richter, DCS for Supply, Maintenance, and Transportation, and later by Mrs. Molly Quackenbush, AMC-EUR Liaison Office.

ADDRESS FOR COMMENTS AND QUESTIONS. Director, AMSAA, ATTN: AMXSU-LLSO, Mr. Dave Dryden or Mr. Richard Abeyta.

DTIC ACCESSION NUMBER OF FINAL REPORT. DA308939

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