

STUDY REPORT

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CENTRALLY FUNDED SECOND DESTINATION TRANSPORTATION (CFSDT) STUDY

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PREPARED BY

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) ▶The CFSDT Study consists of a review and analysis of the current transportation accounting systems for second destination transportation, recommendation for modifications to the current financial management system including the development of new management tools to enhance SDT management. The current accounting system is based on the bills received from the TOAs. Since these bills arrive late, an accurate picture of the execution of the		

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CFSDT budget is not available until after the end of the fiscal year. In prior years this has resulted in a shortage or surplus of money obligated at year end. Ancillary to this central problem is the issue of ensuring that the Army is paying the correct amount for SDT and payments are exclusively for Army sponsored shipments.

An evaluation of four alternatives to the current system was made. A model forecasting obligations based on expenditures was developed for implementation in the near term, and a methodology for implementing a transaction-by-transaction accrual accounting system was presented for consideration as a long-term solution.

These two management tools allow ODCSLOG program managers to monitor the SDT budget during the execution year by estimating the obligations necessary to cover all fiscal year SDT costs. *Key index*

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**CENTRALLY FUNDED SECOND DESTINATION
TRANSPORTATION (CFSDT) STUDY**

JANUARY 1986

**PREPARED BY
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REPLY TO
ATTENTION OF:

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CSCA-FSL

07 APR 1986

SUBJECT: Centrally Funded Second Destination Transportation (CFSDT) Study

Deputy Chief of Staff for Logistics
Department of the Army
ATTN: DALO-RMB
Washington, D.C. 20310

1. Reference letter, DALO-RMB, 16 April 1985, SAB.
2. Subject letter directed the U.S. Army Concepts Analysis Agency (CAA) to conduct a study to evaluate the current transportation accounting systems with respect to second destination transportation (SDT) and make recommendations for system modifications.
3. This final report documents our analysis of the SDT accounting system and outlines additional management tools to assist in the SDT financial management process. Comments provided by DALO-RMB on the draft final report have been reviewed and incorporated in the final report.
4. This Agency expresses appreciation to all commands and agencies which have contributed to this study. Questions and/or enquiries should be directed to the Assistant Director, Force Systems Directorate, U.S. Army Concepts Analysis Agency, 8120 Woodmont Avenue, Bethesda, MD 20814-2797, AUTOVON 295-1607.

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Director

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**CENTRALLY FUNDED SECOND DESTINATION
TRANSPORTATION (CFSDT) STUDY**

**STUDY
SUMMARY
CAA-SR-86-2**

THE REASON FOR PERFORMING THE STUDY was to review and analyze the current transportation accounting systems for second destination transportation (SDT) and identify modifications to the current financial management process or develop new management tools that could enhance the ability to manage SDT.

THE PRINCIPAL FINDINGS of the work reported herein are as follows:

- (1) There is little correlation between total dollars budgeted for overocean cargo and total tons of overocean cargo shipped. Budget estimates are based on fixed rates, but the actual charge may vary significantly from the fixed rate.
- (2) The transportation operating agencies (TOA) may make changes to the initial routing or mode of transportation, causing variances in the cost of individual shipments. Also, the type of commodity affects charges.
- (3) Overocean SDT funds are not identified specifically in the Operation and Maintenance, Army (P7) appropriation, thus tracking of overocean SDT funds is difficult since other funds are included in P7.
- (4) Official billings lag shipments by about 4 months.
- (5) Nonshipment charges amounting to approximately 2 percent of the SDT budget are not budgeted.
- (6) A complete audit trail is not possible due to missing historical records and inconsistent financial accounting records.
- (7) The Navy and Air Force SDT financial management systems have reduced the error rate in obligating SDT funds to a reported rate of less than 1 percent.

THE MAIN ASSUMPTIONS of this work are:

- (1) Cargo rates derived for the current system will be applicable to the alternative system.
- (2) Current SDT accounting systems for overocean SDT will be maintained.
- (3) Department of Defense (DOD) Regulation 4500.32R, Military Standard Transportation and Movement Procedures (MILSTAMP), will remain in effect during the timeframe of the study.

THE PRINCIPAL LIMITATIONS of this work which may affect the findings are:

- (1) Only overocean SDT cargo transactions were reviewed.
- (2) Only data which reflect the current procedures in estimating obligations for overocean cargo shipments were used.

THE SCOPE OF THE STUDY included a review of Army and other service current transportation accounting systems and considered modifications and improvements to the Army system.

THE STUDY OBJECTIVES were:

- (1) Determine problems associated with the current procedure for estimating obligations based on historical data, forecasted shipments, and bills received.
- (2) Examine alternative solutions to the problem, evaluate these solutions, and provide recommended changes to the current Army SDT management information and reporting systems.

THE BASIC APPROACHES used in this study were to:

- (1) Review the current Army SDT accounting system including the forecasting function, budget function, order initiation, preparation of shipment, shipment from depot, receipt at port, ship loading, billing, and reimbursement accounting.
- (2) Review the other services' SDT accounting systems for possible application to the Army.
- (3) Identify system improvements or alternatives.
- (4) Develop a model which could be implemented in the near term to aid program managers at the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) to make more accurate forecasts of overocean SDT billings and disbursements throughout the fiscal year.
- (5) Provide a methodology for an automated system to account for the obligation and liquidation of overocean SDT costs on a transaction-by-transaction basis.

THE STUDY SPONSOR was the Deputy Chief of Staff for Logistics, who established the objectives and monitored study activities.

THE STUDY EFFORT was directed by Kenneth R. Simmons, Force Systems Directorate.

COMMENTS AND QUESTIONS may be sent to the Director, US Army Concepts Analysis Agency, ATTN: CSCA-FS, 8120 Woodmont Avenue, Bethesda, Maryland, 20814-2797.

Tear-out copies of this synopsis are at back cover.

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CENTRALLY FUNDED SECOND DESTINATION TRANSPORTATION (CFSDT)

CHAPTER 1

EXECUTIVE SUMMARY

1-1. **PROBLEM.** The current transportation accounting systems do not provide actual obligation (lift) data in a sufficiently timely manner to provide a basis for decisions to control and adjust resources.

1-2. **BACKGROUND.** The current transportation accounting system requires that the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) provide movement forecasts of Army-sponsored cargo to the Military Sealift Command (MSC), Military Traffic Management Command (MTMC), and the Military Airlift Command (MAC) in accordance with Joint Chiefs of Staff (JCS) Publication 15. Obligation estimates for cargo moves are provided by ODCSLOG for accounting purposes to the US Army Finance and Accounting Center (USAFAC). USAFAC then establishes obligations of funds based on these bulk forecasted moves. As cargo moves are made, MSC, MTMC, and MAC provide billing data on a monthly basis to USAFAC, which pays the bills and performs fund accounting and reporting. However, each transaction which is paid cannot be tracked to the specific cargo move to which the obligation pertains and this may lead to potential overobligations or to significant deobligations after the year of execution, in which case the funds would be lost to the Army.

1-3. **PURPOSE.** The Centrally Funded Second Destination Transportation (CFSDT) Study reviewed and evaluated the current transportation accounting systems for second destination transportation (SDT) and identified modifications to the current financial management process which could enhance the ability to monitor SDT.

1-4. **OBJECTIVES.** The objectives of this study, as defined in the directive, are as follows:

a. Determine problems associated with the current procedure of estimating obligations based on historical data, forecasted shipments, and bills received.

b. Examine alternative solutions to the problem, evaluate these solutions, and provide recommended changes to the current management information and reporting systems.

1-5. **SCOPE AND LIMITATIONS.** The study reviews current transportation accounting systems and considers system modifications that will permit obligation and liquidation of overocean SDT costs on a transaction-by-transaction basis. Only overocean SDT transactions will be received and only data which reflects the current procedures in estimating obligations for bulk shipment will be used.

1-6. **ASSUMPTIONS.** The assumptions of this study, as defined in the directive, are as follows:

- a. Cargo rates derived for the current system will be applicable to the alternative systems.
- b. Current SDT accounting systems for overocean SDT will be maintained.
- c. Department of Defense (DOD) Regulation 4500.32R, Military Standard Transportation and Movement Procedures (MILSTAMP), will remain in effect during the timeframe of the study.

1-7. **STUDY METHODOLOGY.** The study was organized into three phases--the approach, alternative system development, and documentation of the study results. Figure 1-1 illustrates the methodology developed for the study.

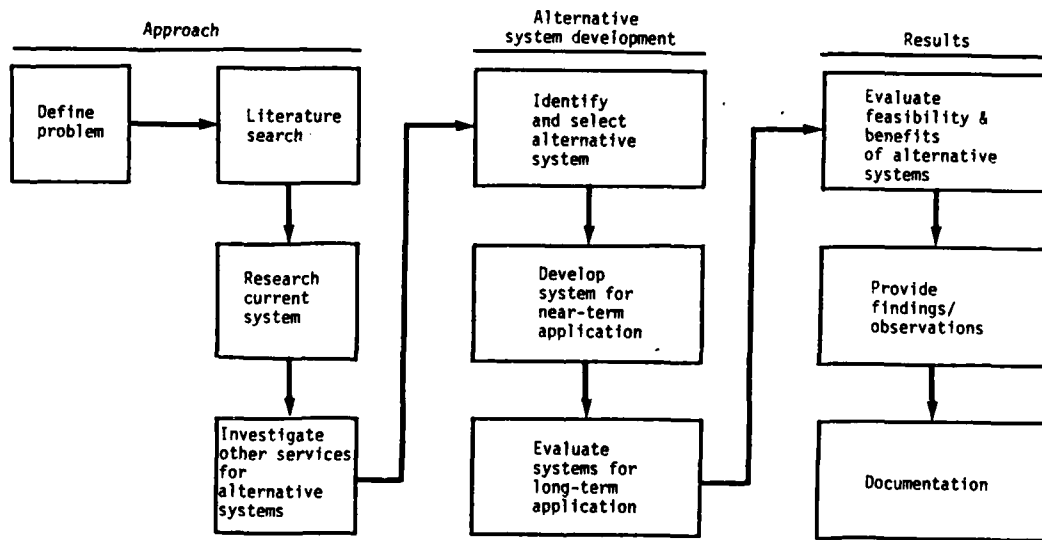


Figure 1-1. Study Methodology

1-8. SUMMARY OF FINDINGS AND OBSERVATIONS

a. **Essential Elements of Analysis (EEA).** The EEAs which were developed at the onset of the study and stated in the CFSDT study directive (Appendix B) are addressed below.

(1) **What was the impact in prior years of over or under obligation of funds for SDT?** It has been difficult for ODCSLOG to consistently track budget requests, annual funding, and disbursements. The percent difference between budget requests and disbursements ranged from -13.9 percent (under) to +40.8 percent (over) for the years FY 80 to FY 84. The percent difference between annual funding and disbursements ranged from -5.5 percent (under) to +8.6 percent (over) for this same time period. OCOA has either had to provide additional funding or to deobligate surplus funds for SDT because ODCSLOG program managers cannot provide OCOA with accurate funding requirements at the end of the fiscal year. The uncertainty in determining the SDT budget variance has required the shifting of OMA funds after the end of the fiscal year.

(2) **How timely and useful are current and historical data on over-ocean moves for management of resources and budget estimation?** Current data are not provided to the program monitor in a timely manner due to the late posting of bills and monthly accumulation of data. Incomplete data are used to forecast workloads, prepare budgets, and track disbursements. Data would be useful for management of resources and budget estimation if received in a timely fashion. Additional historical data would improve forecasting capabilities. Current historical data covers too short a span and is incomplete. More complete data on SDT billings and disbursements over several years would improve SDT financial management during execution of the budget and should provide more accurate shortfall or surplus estimates prior to the end of the fiscal year.

(3) **Can the Mechanization of Selected Transportation Movement Reports (MECHTRAM) system be modified to provide use of a more extensive data base and to provide timely and accurate cost and performance data for use by forecasters and budget analysts?** The current MECHTRAM system could be improved by adding an accrual accounting capability. This could be accomplished either by modifying the current MECHTRAM system or by incorporating the Air Force Logistics Command (AFLC) system into MECHTRAM. Thus, modifying MECHTRAM could improve SDT accounting and reporting, budget forecasting, and tracking as well as provide a means for automating the SDT portion of the budget execution process. However, these improvements of MECHTRAM by either of these methods could not be incorporated in the near timeframe and the improved system would still not permit tracking of SDT funds on a transaction-by-transaction basis, which is a major goal for the selected long-term solution. Also, either of these two methods for modifying MECHTRAM would require significant one-time costs. As an alternative for the short-term solution, the MECHTRAM system could incorporate the CAA extract program, which provide input for the Monthly Billing Estimates Model. However, since incorporating the extract program into the MECHTRAM system would not produce any measurable savings in computer time, it is proposed to be run separately.

(4) **What are the benefits associated with improved reporting and accounting systems?** The CAA extract program and the monthly billing estimates model application will permit the program monitor to more accurately forecast obligations and disbursements, thus improving budget execution. Specifically, improved reporting and accounting systems will result in the following benefits.

(a) Ability to manage and forecast SDT expenditures throughout the fiscal year.

(b) Ability to provide OCOA with a more accurate estimate of the shortfall or surplus of SDT funds prior to the end of the fiscal year, resulting in more lead time for any required transfers of OMA funds.

(c) Ability to forecast and budget for nonshipment charges.

(d) Result in a historical data base that can be used to fine tune forecasts over time.

(e) Improve the SDT fund audit trail.

(5) **What methodologies exist in the other services which might have application to the Army problem?** The current Air Force system has improved editing capabilities and permits improved tracking of expenditures during budget execution. A future Air Force system, to be developed under contract, will provide enhanced transportation financial management and documentation and will establish a direct interface with MAC, MSC, and MTMC. The Navy system incorporates a forecasting methodology which enables the program monitor to obligate funds with a reported error rate of less than 1 percent. This system is directly applicable to the Army problem. The Marine system is not applicable to the Army since it is very limited in scope due to the small number of SDT transactions handled by the Marines.

b. Summary of Findings and Observations

(1) Prior year data shows a shortage or surplus of money obligated at year end in comparison to the CFSDT budget.

(2) Due to the lack of historical data and the substantial programming effort required, a transaction-by-transaction system could not be developed in the limited time frame of this study.

(3) SDT obligations and disbursements can be accurately estimated from billing data tapes and historical disbursement data.

(4) Nonshipment charges can be estimated and included in the budget forecast by utilizing the CAA developed factor routine.

(5) LCA is the logical choice to implement a transaction-by-transaction system because most data required for this system is currently collected there and LCA has the required computer capabilities. Development of software would be required.

(6) Budget estimates are based on fixed rates, but changes in commodity, mode of shipment, or channel cause significant variations in actual costs.

(7) Since TOAs determine routing or mode of shipping of overocean cargo, the cost to ship cargo varies from the ODCSLOG budget estimate using fixed rates.

(8) The Navy and Air Force generally have been able to forecast SDT budget requirements more accurately than the Army.

(9) Official billings (SF 1080s) lag shipments by about 4 months.

(10) There is little correlation between total dollars spent and total tons moved.

(11) Nonshipment charges are not budgeted. Direct billings are used rather than the regular monthly bills to cover nonshipment charges.

(12) A poor audit trail exists due to missing and inconsistent historical financial accounting records.

(13) SDT Funds are not fenced. Monthly changes to funding level are experienced.

1-9. CONTENTS OF THE REPORT. The chapters that follow, supported by the appendices, present the results of the CFSDT Study. Chapter 2 discusses the study methodology. Chapter 3 describes the current Army SDT accounting process and highlights major problem areas associated with this process. Chapter 4 describes the methods used by the other services to monitor SDT funds. Chapter 5 evaluates alternatives to the current system and documents the prescribed alternative model for use by ODCSLOG to forecast SDT expenditures on a month-to-month basis throughout the fiscal year and outlines a transaction-by-transaction system to track the obligation and liquidation of SDT funds. Chapter 6, the final chapter, summarizes the study, addresses the EEA, and provides observations based on the results.

CHAPTER 2

STUDY METHODOLOGY

2-1. INTRODUCTION. This chapter presents the methodology employed and the general tasks performed during the conduct of the CFSDT Study. Included is the methodology to identify and review the current process, the identification of alternatives, the evaluation techniques employed, quality assurance procedures, and documentation of final results.

2-2. STUDY METHODOLOGY. The methodology developed for this study is shown in Figure 2-1. Generally, the study was organized into three phases. These include the approach, alternative system development, and documentation of the study results.

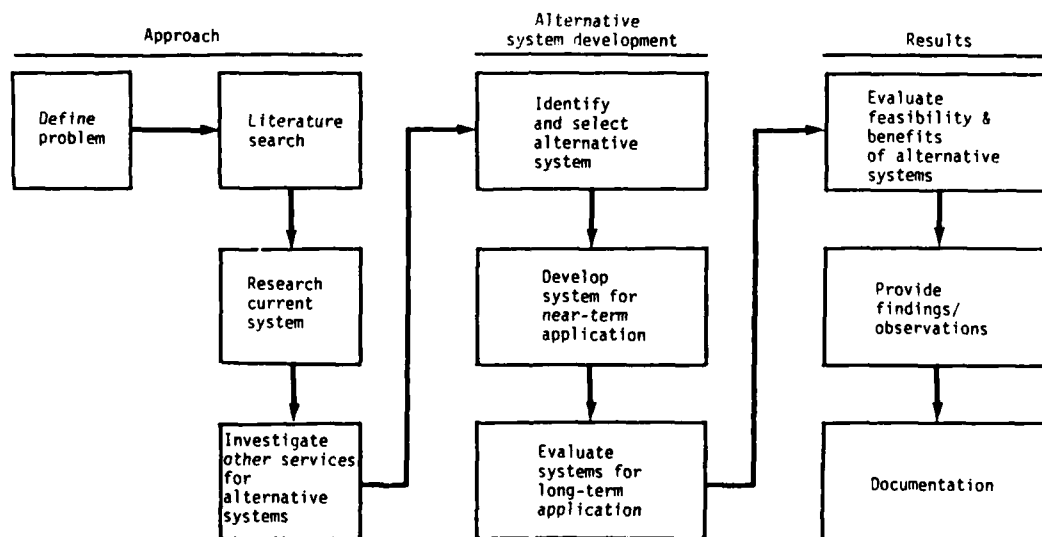


Figure 2-1. Study Methodology

a. Approach Phase. The approach phase (see Figure 2-1) contains problem definition, literature search, current system research, and review of other services, leading to definition of alternatives.

(1) **Define Problem.** The problem, as defined by ODCSLOG, is contained in the study directive shown in Appendix B. Problems exist such that the current Army transportation systems do not provide actual obligation (lift) data in sufficient time to provide a basis for decisions to control and adjust resources. The problem was further defined as a result of consultations with personnel involved with second destination transportation in the Army and other services.

(2) **Perform Literature Search.** A computerized literature search was conducted for completed studies related to the CFSDT system. The search included information obtained from the Defense Technical Information Center (DTIC) and the Defense Logistics Studies Information Exchange (DLSIE). Department of Defense (DOD), Joint Chiefs of Staff (JCS), and Department of the Army (DA) regulations appropriate to the study were reviewed. A comprehensive study bibliography list is contained in Appendix C.

(3) **Research Current Accounting System.** The current SDT accounting system was identified through visits to the sites shown in Table 2-1. The current system evaluation included a review of the forecasting function, budget function, order initiation, preparation of shipment, shipment from depot, receipt at port, ship loading, billing, and reimbursement accounting. The time-phasing from initiation of a cargo shipment order from a depot through actual lift and time of billing through reimbursement was examined. Prior year overobligations and deobligations were examined for the current system for the purpose of developing improvements in forecasting obligations during budget execution. The computer-based model, MECHTRAM, was examined to determine how it was used in the current system and if any improvements could be made to the model that would enhance the current financial management of SDT.

Table 2-1. Data Collection Site Visits

Office of Secretary of Defense (Comptroller)
HQ Defense Logistics Agency
HQ Military Traffic Management Command
HQ Military Traffic Management Command (Eastern Area)
HQ Military Sealift Command
Office of the Deputy Chief of Staff for Logistics
HQ Army Materiel Command
Office of Comptroller of the Army
US Army Finance and Accounting Center
US Air Force Logistics Command
US Navy Supply System Command

(4) Investigate Alternative Systems in Other Services. Alternative systems were investigated by reviewing the SDT accounting systems of the other services. The methods used by the other services for forecasting, budgeting, billing, and disbursing SDT funds were examined and compared to the Army. Any system that provided for a more efficient execution of the SDT budget for that service was examined for potential incorporation into the Army SDT budget execution process.

b. Alternative System Development Phase. This phase included definition of data requirements and identification and selection of alternatives.

(1) Identification and Selection of Alternative Systems

(a) Determine Data Requirements. Input/verification data and system structure documentation were reviewed to determine alternative system data requirements. Data required and data sources are listed as follows:

Data source	Data required
ODCSLOG	Budget data, MECHTRAM system description, and MECHTRAM reports
OCCA	Obligation and funding data
USAFAC	Funding Authorization Document (FAD) and actual SF1080 bills
MAC, MTMC, and MSC	Automated system structure and billing data tapes
Logistic Control Activity (LCA)	Supply/transportation system structure description, e.g., Logistics Intelligence File (LIF)
Air Force Logistic Command (AFLC)	Transportation system's structure

(b) Select Alternatives. Alternative systems were selected that offered the benefits of systems already operated by the other services and corrected deficiencies that were identified in the current financial management process. Specifically, alternative systems were selected to improve the accuracy of SDT accounting and budgeting with respect to the management of billings, SDT obligations, and disbursements.

(2) **Develop System for Near-term Application.** A system that could be utilized for application in the near term was developed. This system was designed to provide immediate assistance in executing the Army SDT budget. The near-term alternative system objective was to provide ODCSLOG with a mechanism to estimate the amount of CFSOT funds obligated for the fiscal year prior to the end of the fiscal year. Prerequisites for near-term implementation included limited additional resources required, usage of existing data, and availability of suitable software packages.

(3) **Evaluate System for Long-term Application.** The long-term system was developed to provide a methodology for future implementation of a transaction-by-transaction system that has the capability to track each cargo shipment, and each bill placed against that shipment from the time it is received from the TOA until it reaches its final destination.

c. **Results and Documentation Phase.** This phase provided an evaluation of the alternative systems and identified their benefits. Documentation of the final results was included.

(1) **Evaluate Feasibility and Benefits of Alternative Systems.** Benefits and feasibility were qualitatively evaluated. Benefits of alternative systems were identified as corrections or improvements to problem areas in the current system. The feasibility of alternative systems were subjectively considered with respect to system complexity, level of effort involved in system design, data collection requirements, and additional resources required for system operation and maintenance.

(2) **Provide Findings/Observations and Documentation.** The study, to include findings and results was documented and provided to the study sponsor in January 1986.

2-3. **QUALITY ASSURANCE PROCEDURES.** Throughout this study, quality assurance techniques such as verifying financial data from multiple sources have been incorporated by both the study team and study contributors. The study results were examined to determine if they were reasonable, considering major study assumptions. The study report was reviewed by the study team, study editor, Division Chief, and Assistant Director. Additionally, a US Army Concepts Analysis Agency (CAA) Product Review Board (PRB), consisting of three CAA analysts not involved in the study and a CAA Analytical Review Board (ARB), comprising all Directorate Chiefs, the Chief of Staff, the Deputy Director, and the Director of CAA reviewed the study for completeness.

CHAPTER 3

THE CURRENT PROCESS

3-1. INTRODUCTION. The purpose of this chapter and the associated appendices is to describe and analyze the current process used to manage second destination transportation. Included is an overview, the organizations involved in management, operation of the system, the budget and budget execution process, and a detailed discussion on the billing process. The analysis includes a discussion of the problem areas identified during the review process.

3-2. OVERVIEW. Second destination transportation is defined by the Army in Army Regulation (AR) 310-25 as "the subsequent movement of property from the point of storage at which originally received from point of origin." SDT consists of both inland movement from point-to-point by line haul or rail, overocean movement, port handling of export and import cargo, Continental United States (CONUS) and overseas port handling, and intratheater movement. SDT funds cover the cost of shipping cargo from CONUS to field activities worldwide with the overocean segment performed by MSC, MAC, and commercial carriers. It is these overocean activities, which comprise 80 percent of the total SDT expenditures, that are the focus of this study. Included in SDT is the transportation of the necessary supplies, equipment, and personal use items to support the Army. Also included are Army initiatives such as buildup of supplies, retrograde of equipment, and supplies to CONUS for rebuild and return to the supply system.

3-3. DA TRANSPORTATION MANAGEMENT AND SERVICE ORGANIZATIONS. The Assistant Secretary of the Army (Installations, Logistics, and Financial Management) (ASA) (IL&FM) is responsible for the transportation and distribution functions. The following organizations are key to the management of SDT for the Department of the Army.

a. ODCSLOG. The Director of Transportation, Energy, and Troop Support (DALO-TSP), ODCSLOG, is responsible for the control and coordination of Army transportation services. He ensures integration of transportation concepts, doctrine, and related employment of equipment into the total doctrine for operations of the Army in the field. He also influences the initiation of new concepts and provides active support for the improvement of mobility worldwide. The Director for Resources and Management (DALO-RMB), ODCSLOG is responsible for formulating the SDT budget.

b. Army Materiel Command (AMC). The AMC Director of Supply, Maintenance, and Transportation is responsible for plans, programs, doctrine, and the coordination of certain traffic management and freight movement activities within AMC.

c. Logistic Control Activity (LCA). LCA reports directly to AMC. LCA's services in the movement/transportation area include those actions necessary to monitor and selectively coordinate, expedite, and report on the movement of Army-sponsored cargo from the wholesale system to

destination. LCA personnel analyze transportation performance which could impact the distribution of supplies through the logistic pipeline. In addition, the LCA is authorized to communicate directly with ODCSLOG, overseas commands, CONUS commands, and other commands concerning those matters which affect the movement of Army cargo. Appendix J provides detailed information on the work performed at LCA.

d. Office of the Comptroller of the Army (OCA). OCA manages the entire Operation and Maintenance, Army (OMA) appropriation approved by Congress which includes CFSDT. CFSDT funds are apportioned on a quarterly basis by the executive branch through the Office of Management and Budget (OMB). DOD releases the funds, and they are then allocated by the Director of Operation and Maintenance, Army (DOMA), OCA, to the major commands.

e. US Army Finance and Accounting Center (USAFAC). USAFAC receives allotments for CFSDT from the Director of OMA (COA), and obligates funds to pay for SDT services. USAFAC provides the financial accounting for CFSDT funds.

f. Transportation Operating Agencies (TOA). The three TOAs--the Military Traffic Management Command, the Military Sealift Command, and the Military Airlift Command--have the following responsibilities:

(1) Function as the single manager of a particular transportation mode or function, e.g., air.

(2) Act as the interface with the commercial transportation community.

(3) Manage the government-owned, chartered, and leased aircraft, ships, and equipment within their charter.

(4) Negotiate contracts and rate agreements.

(5) Obtain necessary transport services for DOD and other governmental agencies.

(6) Make payment to the carriers and obtain reimbursement from shipper services. All TOAs are industrially funded to operate effectively in the commercial arena.

g. MTMC, MSC, and MAC. The following paragraphs briefly describe the responsibilities of each TOA:

(1) **MTMC.** MTMC, a major Army command, provides movement management once the military shipper decides when, where, and what is to be moved. MTMC provides ocean terminal services to DOD, and manages freight and passenger transportation in CONUS, as well as the worldwide personal property moving and storage program. MTMC also evaluates defense transportation activities and recommends system improvements to the Secretary of Defense (SECDEF) and to the military services. The following field activities are commanded by HQ, MTMC:

- (a) Eastern Command
- (b) Western Command
- (c) Transportation Engineering Agency
- (d) MTMC Transportation Terminal Command Europe

(2) **MSC.** MSC, organized as a worldwide command, is the exclusive operating agency for ocean transportation. The MSC mission includes the following:

- (a) Provide an immediate sealift capability in emergencies.
- (b) Plan for expansion in emergencies.
- (c) Provide peacetime ocean transportation for DOD and other authorized agencies.
- (d) Provide ships for oceanographic exploration, range instrumentation, missile tracking, etc.

(3) **MAC.** MAC provides common user airlift service for all components of DOD. MAC is charged with maintaining, in a constant state of readiness, the military airlift system necessary to perform all airlift tasks, to include emergency conditions, as assigned by the JCS in approved war plans and appropriate JCS and Air Force guidance documents.

h. Installation Transportation Officers/Depot Transportation Officers (ITO/DTO). Installation transportation officers/depot transportation officers are members of the military activity to which they are assigned and are the commander's staff advisors on all transportation matters. They participate in the transportation aspect of installation/depot master planning, traffic control, supply management, procurement, and other activities in which transportation is a factor. They are the installation/depot traffic managers, and their mission is to provide transportation services in support of the installation/depot mission in consonance with the desires and policies of the commander. In performing this mission, the ITO/DTO must ensure compliance with the traffic laws, tariffs, and regulations of the regulatory bodies (applicable to military installations at all levels of command) governing the shipment of personnel and materiel via commercial carriers. Since most military shipments begin or end at a military installation, the ITOs/DTOs are probably the most essential link in the Army transportation system. Their functions, responsibilities, and authorities are addressed in AR 55-355.

3-4. SDT OPERATIONS. There are two basic types of services provided for cargo movement--shipment clearance (approval for shipment) and physical transportation. Clearance authorities provide shipment clearance services and are charged with approving all cargo coming under their jurisdiction. Commercial and government carriers provide transportation services and physically move cargo.

a. **Cargo Movement Process.** The cargo movement process is depicted in Figure 3-1. Shippers prepare the cargo for movement in accordance with applicable DOD regulations. They also prepare the advance shipment information (e.g., Advance Transportation Control and Movement Documents (ATCMD)) for export shipments in accordance with MILSTAMP, which is the governing DOD transportation regulation.

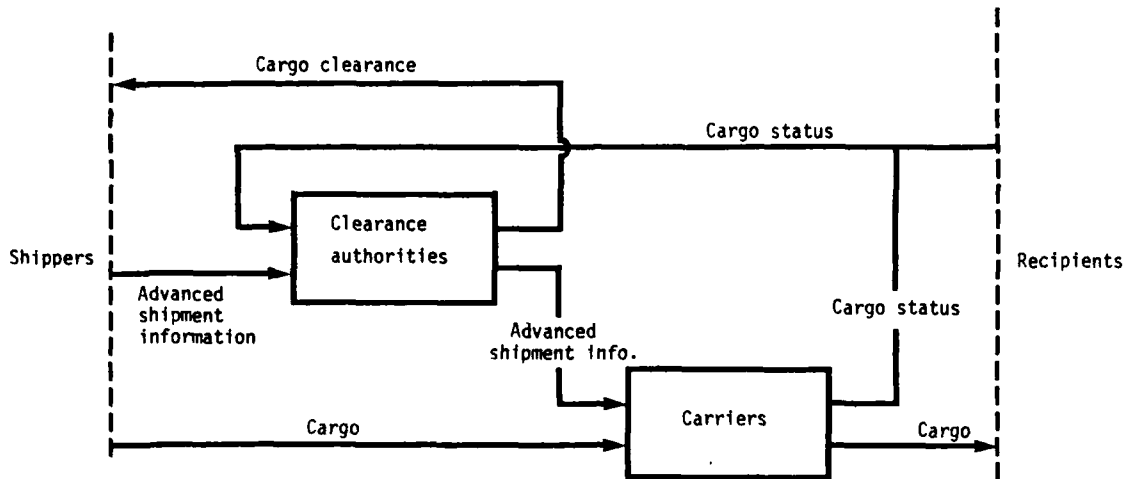


Figure 3-1. Defense Transportation System Cargo Movement

(1) **Clearance Authorities.** The clearance authorities clear cargo for movement after validating the accuracy of the associated advance shipment information, verifying that the cargo characteristics (as defined in the advance information) meet the clearance criteria defined in MILSTAMP, and verifying available carrier capacity. After the cargo is cleared for movement, the clearance authorities send the advance shipment information to the carrier ports and clearances to the shippers. In addition to the normal cargo movement functions discussed above, the clearance authorities are also responsible for diverting cargo in response to changing requirements, providing a central repository for cargo status information, and tracing cargo.

(2) **Cargo Shipment.** The carriers plan their operations based on the advance shipment information. Unless a shipment is challenged, the shippers send their cargo to the appropriate carrier facility. The carriers transport the cargo to the appropriate destinations and provide cargo status, receipt, and lift information to the responsible clearance authority. The receiving agency is responsible for checking cargo out of the Defense Transportation System (DTS) at the destination and providing cargo status information to the responsible clearance authority.

b. Cargo Movement Data. Two major types of data are required to manage and control cargo movements: Transportation Control and Movement Document (TCMD) data and cargo status data. TCMDs are the master controlling documents for most DTS shipments and provide data necessary to manage shipments throughout the transportation cycle.

(1) Transportation Control and Movement Data. The transportation operating agencies each have an automated cargo documentation system. These systems track shipments received from each shipper (i.e., depots). Shipments are identified by a TCMD, an example of which is shown in Figure 3-2. The following information is contained in the TCMD.

(a) Transportation Account Code (TAC). The TAC identifies the Army account responsible for funding the shipment by agency and project.

(b) Transportation Control Number (TCN). The TCN identifies each unique shipment by shipper, Julian date, and sequence number.

(c) Commodity Code. The commodity code identifies the type of cargo for purposes of movement and handling.

(d) Origin/Point of Embarkation. The origin is the point in the transportation chain where the cargo is handled by the TOA, and the resulting cost is billed to centrally funded, second destination transportation.

(e) Destination/Point of Debarkation. The destination, along with the point of embarkation, defines the route or channel.

(f) Weight (in pounds) and Cube (cubic feet). The weight of the cargo and the cubic feet of space required by the cargo are the basis for shipping charges.

(2) Cargo Status Data. Cargo status data provide information on the status of shipments. At each transfer point, receipt and lift data are provided to the appropriate authority for updating the status of the shipment.

TRANSPORTATION CONTROL AND MOVEMENT DOCUMENT

PAGE NO

1. Doc Ref: 2. Trk Cont	3. Comsigner	5. Air 6. POE	7. POD
TAJ		XE2 PEARL HARBOR	UM4 NSD YOKOSUKA
8. Mode	9. Pack	10. Trans Control No.	11. Consignor
12. Carrier	13. Flight-Truck-Voy Doc No.	14. Date Rec	15. Date Rec
6/2	P7680		
16. a. Tranship Point (1)	17. Remarks	18. a. Date Rec	19. Date Rec
SS NEVERSAIL	(6)		
20. a. Tranship Point (2)	21. Remarks	22. a. Date Rec	23. Date Rec
24. Tranship Point (3)	25. Remarks	26. a. Date Rec	27. Date Rec
28. Comsignee	29. Date Received/Offered (Ship)	30. Condition	31. Remarks

32. Doc No	33. Trailer-Com Abbr	34. Comsigner	35. Commodity	36. VOY NO.	37. POD	38. a. Date Rec	39. Date Rec	40. b. Date Rec	41. c. Date Rec	42. a. Date Rec	43. b. Date Rec	44. c. Date Rec	45. Remarks/Or	46. a. Pieces	46. b. Weight	46. c. Cube	47. Additional Remarks or
TXJ		PUMPS	159429	7680	UM4		CR	N6264922060149XXX	N62649	3	141	2LTF N125	2	810	36		
TXJ		GENATR	159029				BX	N6264922080201XXX	3143		2LTF N125	4	424	28			

NOTE: SEE FIGURE G-2 FOR DETAILS REQUIRED ON MANIFEST.

- ① MANIFEST HEADER DATA
- ② SHIPMENT UNIT MANIFEST DATA (ALSO SHOW DATA ON DUNNAGE AND LASHING GEAR AS LINE ENTRY)
- ③ DATE SAILED
- ④ VESSEL STATUS/TERMS OF CARRIAGE (SEE IX, APP B)
- ⑤ VOYAGE NUMBER (SEC VII, APP. B)
- ⑥ VESSEL NAME
- ⑦ STORAGE LOCATION OF EACH SHIPMENT UNIT (SEC XI, APP. B)

DD FORM 1384, 1 APR 66

REPLACES EDITION OF 1 APR 63, WHICH MAY BE USED.

DD FORM 1384 MANIFEST

Figure 3-2. Sample TCMD

3-5. THE SDT BUDGET PROCESS

a. Forecasting. The initiation of the budget process begins with workload forecasting. The Army's transportation workload forecasting system is governed by JCS Publication 15, AR 55-23, AR 55-30, and various MSC, MAC, and MTMC directives. Appendix D contains a detailed discussion on the requirements stated in JCS Publication 15, AR 55-23, and AR 55-30. Forecasts are made on a short- and long-range basis. Long-range forecasts are submitted by those agencies which have SDT requirements. Short-range forecasts are prepared by all activities which submit long-range forecasts and also by Headquarters, Forces Command. MSC uses the long-range forecasts to prepare their fleet plan and, when required, augmentation plans using commercial or National Defense Reserve Fleet resources. The long-range forecasts are also used by MSC to determine the shipping rates to be charged to the services for cargo shipped and by the services for budget preparation. Short-range forecasts are used by MSC and MTMC to schedule ship and port workloads. Each military service is also responsible for the collection and submission of movement requirements for government agencies outside DOD for which a service has sponsorship responsibility and for which these requirements must have been approved as eligible to be handled by the DOD transportation system.

b. Budget Formulation. The formulation of the SDT budget is the responsibility of the Directorate for Resources and Management (DALO-RMB), ODCSLOG. The budget process is initiated with the receipt of an annual cargo forecast from the Directorate for Transportation, Energy, and Troop Support (DALO-TSP), ODCSLOG, in March. An estimate for bulk coal and Defense Logistics Agency shipments for the Army, primarily subsistence, are added to this forecast. Previous year data on tonnage shipped and dollar expenditures are examined. The Prior Year Report from USAFAC is used to validate the budget estimates. This report rolls up the total tons shipped, by major command, for the prior fiscal year. The Prior Year Report accounts for these transactions by Army Management Structure (AMS) code. These AMS codes can then be translated to fit the appropriate budget categories (Table 3-1). The MECHTRAM system is used to display the forecast. The current use of prior year tonnage data as a base for developing the current budget has resulted in budget estimates that are higher or lower than actual expenditures. Appendix G highlights the significance of the SDT forecast and its impact on budget activities.

c. Forecasting Budget Requirements. Using the appropriate summary from the MECHTRAM system, the actual year-to-date tons shipped and the year-to-date dollars required to ship that tonnage are determined. Year-to-date dollars are divided by year-to-date tons to determine the average dollar cost per ton shipped during the current year. This average cost per ton is referred to as the composite rate for the current year. The composite rate is inflated based on the inflation indices received from Office of the Secretary of Defense (OSD) for the budget year. The inflated composite rate is multiplied by the forecasted tonnage to determine the total dollars required. This type of calculation is made for each of the budget lines shown in Table 3-1. The composite rate figure derived from the current program reflects the costs to ship certain commodities over designated

routes by a predetermined mode of shipment. The composite rate is sensitive to changes in commodity, routing, or mode of shipment within the total tonnage figure. Due to this sensitivity and the difficulty in predicting tonnages for the budget year, prior budget requests have frequently been over or under actual expenditures by -13.9 percent to 40.79 percent presented later in Table 3-4. After all calculations have been made and the budget lines compiled, the CFSDT budget is submitted as a part of the OMA portion of the DA budget.

Table 3-1. Budget Schedule

Second destination by mode of shipment	AMS code
Military Airlift Command	
Regular channel (ST) cargo	728010.12110
Mail (ST)	728010.12210
Special assignment airlift mission (SAAM) (MSN)	728010.12110
Logistics airlift service (LOGAIR) (ST)	728010.12130
Military Sealift Command	
Regular routes (MT)	728010.13100
Military Traffic Management Command	
Port handling (MT)	728010.21000
Special missions (MSN)	728010.23000
Commercial	
Air cargo (ST)	728010.12120
Surface (ST)	728010.11000
Mail (ST)	728010.12220
Second Destination Transportation by Selected Commodity	
Cargo (ST) (MT) (MSN)	
Commissaries (ST) (MT)	
Base exchanges (MT)	
Subsistence (ST) (MT)	
Overseas mail (ST)	
ST = short tons; MT = measurement tons; MSN = mission.	

d. Rate Formulation. The TOAs formulate their industrial fund budgets concurrent with ODCSLOG budget formulation for appropriated funds. The ODCSLOG workload forecast is submitted to each TOA so that workloads can be programmed for the budget year. The TOAs build their operating programs and calculate the rates they will charge to cover their costs based on the workloads submitted by ODCSLOG and the other services. These charges are published as the fixed rates which the services will ultimately pay for shipping. It is essential that the transportation workload forecast be as accurate as possible since the rates charged reimburse the industrial fund for costs incurred. The objective of the industrial fund is to operate at a break-even level for a given fiscal year. Factors such as fuel cost adjustment, contract renewals, or hardware price changes affect the financial balance of the industrial funds during the operating year. These factors, if they can be forecast in time, must be included in the industrial fund budget. The TOAs prepare their industrial fund budgets which are consolidated by ODCSLOG and then submitted to OSD for approval. After approval, the industrial fund budget may result in adjustments to the services' appropriated budgets, since reimbursement to the industrial funds originates from these appropriations.

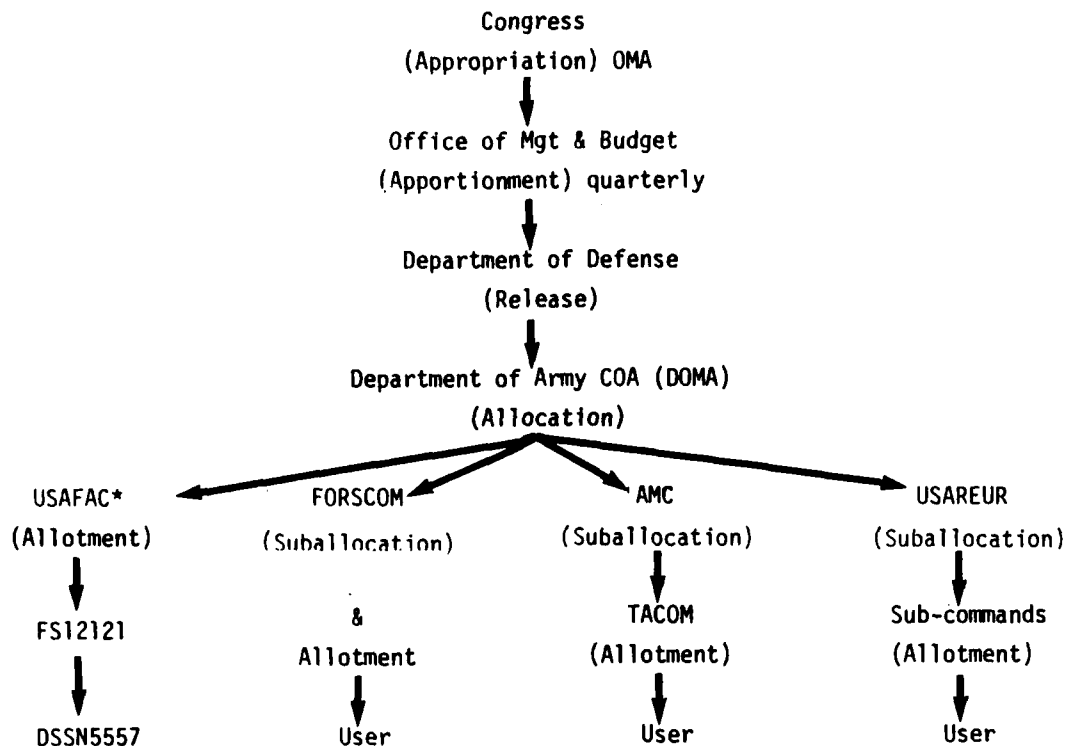
e. OSD Actions on the Budget. The Office of the Director for Operations, Assistant Secretary of Defense, Comptroller, reviews and approves each of the industrial fund budgets. This review consists of an evaluation of costs to operate the industrial fund under the workloads forecast by the services. Costs are adjusted by any prior year differential, i.e., profit or loss in the industrial fund capital and any wage, fuel, or other cost variance anticipated during the operating year. The TOAs are notified of adjustments to their industrial fund budgets by Program Budget Decision (PBD). A concurrent review and analysis of the services' appropriated budgets is conducted to ensure that the services' appropriated funds match the projected costs of the industrial funds. The Army is notified by PBD of the variations so that the appropriated budget can be adjusted. At this point, communication and coordination between the TOAs, OSD, and DA are critical. Shipping program changes instituted by the Army which would effect the TOA's movement program are immediately passed on to OSD and the TOAs. Cost changes are passed from the TOAs back to OSD and the Army so that the appropriated budget can be refined. If the required communications are not maintained, the budgets may not reflect necessary funds for execution of the budgets. Historically this has been apparent, with large variations in the fixed rates from year to year as the industrial funds absorbed losses or gains to their working capital due to over- or under-shipping. The fixed rates, when combined with the tonnages forecast for the budget year, provide a basis for the Army's SDT financial requirements.

f. Execution of the Financial Program. The budget process ends with the passage of the OMA appropriation by Congress. The new program execution begins on 1 October. Execution is primarily the responsibility of the Office of the Comptroller of the Army; however, OCOA manages the entire OMA fund, of which CFSDT is just one part. USAFAC is responsible for financial accounting, and ODCSLOG is responsible for program management.

3-6. SDT FINANCIAL MANAGEMENT. CFSDT is a centrally funded allotment. A general description of the management of centrally funded allotments is provided in Appendix E. SDT is funded through the OMA appropriation. It is identified in the AMS codes as P728010 and is part of the P7S Army Central Supply Program. The DOMA, Comptroller of the Army, manages the SDT funds as a part of the OMA appropriation at DA level. The funds are allotted, from the DA level, to the major commands such as the Army Materiel Command, Forces Command, and US Army Europe to pay for their SDT line-haul requirements. The charges for overocean transportation provided by MAC and MSC and the charges for port handling and movement control provided by MTMC are billed to the Army and paid from the CFSDT funds. Each agency provides financial management for a particular function such as forecasting, cargo documentation, billing, disbursing, budgeting, and accounting.

a. SDT Finance and Accounting. Financial accounting for CFSDT is performed at USAFAC, which provides financial reports to ODCSLOG and OCOA. Operating Agency (OA) 32 at USAFAC functions as the major command finance and accounting center for DA and receives from the DOMA the centrally funded portion of the SDT funds. These funds are used to reimburse the TOAs for Army and Army-sponsored cargo shipments. OA 32 passes fund allocations to USAFAC Fiscal Station (FS) 12121, the installation finance and accounting office managing the CFSDT funds. Funds are disbursed by the disbursing station system number (DSSN) 5557, a section in FS 12121. A command requesting funds to meet its programmed requirements, receives funds through its major Army command (MACOM), and manages the funds during the fiscal year. However, in CFSDT, the funds user and the funds manager (DSSN 5557) are not synonymous.

(1) Distribution of Funds. Figure 3-3 shows the process for distribution of funds. The user of the funds finalizes the process. CFSDT funds are distributed to the supporting fiscal station for management. The user of CFSDT funds is, by policy, Headquarters, Department of the Army (HQDA). The shippers who, by the act of shipping cargo and preparing TCMDs, obligate these funds, are not accountable or responsible for CFSDT funds management. Obligations are based on estimates of tons to be shipped during a given period rather than the shipper's actual order for transportation services. An obligation plan is developed at the beginning of the fiscal year based on the amount requested in the budget. The plan is submitted to DA and relates the obligations needed to pay for SDT within specific time periods. During the course of the execution year, variations from this plan have historically occurred because of changes to the Annual Funding Program (AFP) or in short-range forecasts from ODCSLOG. Transfers of funds into and out of the AFP are caused by forces external to the SDT management process, such as budget cuts, Congressional continuing resolutions, Industrial Fund passthrough, or priority changes.



* OP agency 32

Figure 3-3. Fund Distribution

(2) Short-range Forecast. The short-range forecast has an impact on the obligation plan and is internal to the SDT process. Each month LCA prepares the short-range forecast for the succeeding 3-month period. This forecast is submitted to ODCSLOG for analysis. ODCSLOG makes any necessary adjustments to the forecasts and estimates the cost of shipments before the forecast is sent to USAFAC. OA 32 prepares a Military Interdepartmental Purchase Request (MIPR) based on the cost estimated by ODCSLOG.

(3) Obligation of Funds. Contained in the MIPR is the estimated cost of shipments which is the total dollar amount available to reimburse the MAC/MSI industrial funds during the stated period, usually 1 month. The budget officer of the industrial fund prepares an acceptance of the MIPR document and returns it to OA 32. This action constitutes the obligation of the funds provided by allotment from the Director of OMA, OCOA. The Intra-Army Order for Reimbursable Services is used in the same manner for obligating funds and ordering services from MTMC. Other obligations are made on the receipt of a direct billing from the TOAs. These direct billings are for those miscellaneous services performed that cannot be directly related to a given shipment. Historically, 5 to 7 percent of the total bills have been miscellaneous direct payments.

b. The Billing Process. Figure 3-4 summarizes the billing process. The three TOAs use similar systems to generate their bills. Each TOA cargo documentation system is the primary data base to which the fixed rates are applied and charges determined. The TOAs receive a TCMD from the shipper which documents one shipment. The TCMD contains a TAC, which identifies the financial account responsible for paying for that shipment. A TAC is unique to the shipping service and to a particular account within that service. The TOAs receive thousands of shipments during the billing month with each shipment identified by TAC. The TCMD and associated TAC data are accumulated during the shipping month in shipping data files. Shipment charges are submitted to the services at the end of the month. As shown in Figure 3-4, the bill (SF 1080) from the TOA industrial fund finance and accounting office is sent to the Military Service Finance and Accounting (F&A) Office for cross-disbursement and ultimately to the service finance office (i.e., USAFAC) for recording. Also, the F&A office of the TOAs prepares a detailed billing tape to substantiate the charges stated on the SF 1080. A 120-character record for each shipment is recorded on the tape, as specified in MILSTAMP, Volume II, Chapter 10. The SF 1080 and the detailed billing tapes contain the shipment charges for a billing month plus charges for any shipments not previously billed. Nonshipment charges, or premium charges, do not appear on the monthly SF 1080 or detailed billing tape. They are billed by SF 1080 directly to USAFAC for payment by check.

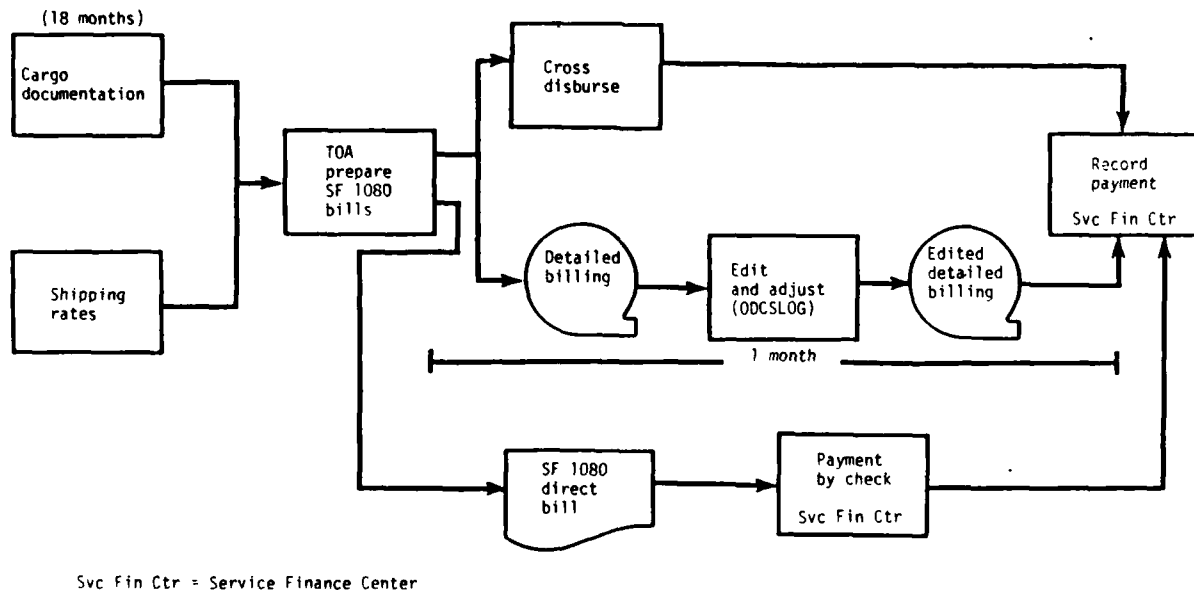


Figure 3-4. The Billing Process

(1) **MTMC Billing System.** The MTMC bills are developed from the Terminals on Line System (TOLS), a cargo documentation system. This system documents the transshipment of cargo through MTMC ocean terminals. Charges do not accrue against the CFSDT account until a shipment is received at the port of embarkation. Upon receipt of the cargo at the port, shipment movement decisions are made. The shipment may be consolidated with other like cargo, containerized, split into smaller shipment units, and/or transferred to another terminal. These actions incur costs and are picked up in the system as charges against the MTMC industrial fund. Storage costs may also be incurred. Additional charges are the "lift" or loading of the cargo on a ship and transportation across the ocean. As a result of the foregoing actions, multiple billings spanning more than one billing period may be sent to the Army. Shipment charges and actions are input on a daily basis to Eastern Area MTMC where they are consolidated and transmitted to MTMC headquarters weekly. MTMC consolidates the weekly billings, edits them, and prepares the monthly bill for DA.

(2) **MSC Billing System**

(a) Input to the MSC documentation system begins with the preparation of an ocean cargo manifest. When MTMC lifts cargo for export from CONUS, it prepares the manifest listing all cargo in that lift. Shipments that originate outside of CONUS are manifested by the originating shipper and sent to a MACOM. The MACOMs prepare the manifests, in MILSTAMP record format, and transmit them over the automatic defense information network (AUTODIN) to the MTMC headquarters computer facility used by MSC. Not all military manifesting activities have the ability to prepare automated manifests, and in those cases, hard copy manifests are mailed to the MACOMs where they are then converted for transmission. This process is time-consuming and prone to errors.

(b) The first document received by MSC regarding cargo shipment is the booking control record. This record is a summary of the manifest, containing only ship information. The manifest is received at a later date and matched against the booking control records. Both manifests and booking control records are received daily. The matching process occurs weekly and constitutes a 1-week aggregation of charges. Five days prior to the end of the month the final matching is completed, and the monthly bill is finalized. The SF 1080 and the detailed billing tape are prepared for submission to ODCSLOG. MSC gathers billing/manifest data from both the military ports and commercial carriers and submit billings to ODCSLOG based on MSC shipping rates and the rates specified in the commercial container agreement or shipping agreement.

(3) **MAC Billing System**

(a) Cargo cannot be lifted by air until authorization is received to provide such a lift. The shipper provides the authorization in accordance with regulations specified in MILSTAMP, Vol I. A TCMD is prepared, and the appropriate TAC is placed on the TCMD. The MAC terminal at which the shipment first enters the MAC channel traffic system (aerial port of embarkation (APOE)) will manifest the shipment. Specific separate

manifests are prepared for traffic destined to each aerial port of debarkation (APOD) along the route of the aircraft. The manifests are prepared, distributed, and used as required for traffic operations and reporting purposes. Copies of the manifest are furnished to revenue traffic data processing centers (RTDPC) or central data collection points (CDCP) in manual or mechanized form, depending on the APOE capability.

(b) Traffic terminals that are supported by the Aerial Port Cargo Documentation and Management Systems (ADAM II/III/PACS) have their "final" manifests extracted from the centralized computer data base at HQ MAC. The "final" manifests are processed daily at eight RTDPCs. Processing at this level is directed toward manifest receipt, control, and purification of traffic data coding. Once this processing is completed, the daily inputs of manifest files from the RTDPCs are submitted to MAC via AUTODIN where a daily input tape file is created. The individual line item records are edited and audited by computer program, as well as manually, to produce a transaction file tape containing the valid line item records required to create the customer billings. Shipping rates are applied to the line item's records, and billing amounts are calculated. The final products are the SF 1080 monthly billing and the accompanying detail shipment data tape containing the line item records.

(4) Bill Processing

(a) Each month, three billing tapes are submitted to ODCSLOG from MSC, MTMC, and MAC with duplicate copies furnished to USAFAC and LCA. The MECHTRAM system is used to edit the data to verify charges and sort the data by TAC. Output in the form of monthly cost and performance data reports are submitted to the ODCSLOG Director for Resources and Management (DRM). The MECHTRAM system is discussed in detail in Appendix F.

(b) The SF 1080s and the edited billing tapes which contain the shipment charges for a billing month plus charges for any shipments not previously billed are sent to USAFAC. Charges which do not appear on the monthly SF 1080 or detailed billing tape are nonshipment charges, or premium charges. These charges are directly billed to USAFAC by SF 1080 for payment by check.

(c) Monthly SF 1080 bills are also sent through the cross-disbursement system as shown in Figure 3-4. These cross-disbursed bills take an average of 4 months after the month of movement to be processed through the cross-disbursement system and sent to USAFAC. Advance information copies of the monthly SF 1080 bills are prepared by the TOAs and sent to USAFAC for tracking purposes. These copies are posted to a variance account that displays the amount shown on the advance information copies submitted by the TOAs to USAFAC. As the actual bills are received, the variance account is balanced out. Any funds remaining in the CFSDT annual funding account may be obligated on a miscellaneous obligation document to retain funds over the end of the fiscal year for payment of late billings.

3-7. ANALYSIS OF THE CURRENT PROCESS

a. The current process of managing CFSDT was analyzed with respect to problems which were identified during the review process. These are discussed in the following paragraphs. During development of the alternatives discussed in Chapter 5, these problem areas were taken into consideration.

b. **Delayed TOA Billings.** Delayed TOA billings were identified as a major problem since expenditures cannot be tracked with the SDT budget within a given fiscal year. Delayed billings occur in two different ways.

(1) **Cross-disbursing System Delay.** Accounting for SDT expenditures based on billings from the TOAs is difficult since, historically, the fiscal station may not receive the actual cross-disbursed bill until approximately 4 months after the month of service.

(2) **Billing for Partial Month's Service.** The second delay is encountered when the bill is received and only a portion of a month's services are included on that bill. This delay occurs because the TOAs did not receive all of the cargo documentation from their outlying centers or incorrect data was received and could not be included on that month's bill. These delays make it difficult to adjust the funding program by monitoring performance data. It takes up to 18 months after a given fiscal year before most of the bills are received for that fiscal year. Because SF 1080s arrive late, variance accounts must be maintained by USAFAC, creating additional work. The fact that all the shipments for a given month are not included in that month's bill creates additional problems. The bills must be paid from obligated funds. If the Finance Officer does not know the total value of shipments against a given obligation, there is no precise way in which funds can be deobligated or additional funds can be requested to cover shipment charges which are in excess of those ordered on a MIPR or DA 2544. In addition, if the line item records on the billing tape are in error when they are used to substantiate the Army's bill to sponsored agencies, these agencies refuse to pay the erroneous lines. These bills are eventually resolved, but this can take up to 3 years. This leaves the Army with a shortfall on its current reimbursables.

c. **Forecasting the Budget with Composite Rates.** Currently, the SDT budget is forecast as discussed in paragraph 3-5c, by applying a composite rate for each TOA to the forecast tonnage to be shipped in the budget year. The composite rate is an average unit cost, in dollars, of shipping one short ton by air or one measurement ton by sea. The composite rates are very sensitive to changes in commodity, routing, or mode within the total forecast tonnage figure. Table 3-2 shows the variation in composite rates by TOA. This has consequently resulted in budget requests that have been over or under actual expenditures. Table 3-3 shows a comparison between budget requests and expenditures. Composite rates are based on historical cost per ton shipped. This can be inaccurate, since costs per cargo shipments are always incomplete when the composite rates are computed due to

delayed billings. More significantly, variations in forecasted cargo shipped are not directly proportional to changes in cargo costs. For example, in FY 82, a 25 percent shortfall from forecasted cargo carried resulted in only a 4 percent reduction in estimated cargo cost. This is due to the fact that shipping and handling contracts require the shipper to pay fixed costs irrespective of the number of tons shipped, plus pay penalties for not providing the quantity of cargo forecasted and bid upon. These costs are then amortized over forecasted cargo for the following year, resulting in a composite rate that is overstated or understated to account for the previous year's inaccuracy. Table 3-2 illustrates the variations in the composite rate compared to the changes that have occurred historically in tonnage shipped and dollars expended that has occurred historically. When actual cargo shipment tonnage is less than forecast tonnage, billing begins to lag expected expenditures. As a result, the TOAs may not have enough cash reserves to pay all of their bills since the payment lag continues for services until future shipment levels approach planned shipment levels, or the end of the fiscal year is reached. A more detailed discussion on the problems in developing the current SDT budget forecast is provided in Appendix G.

Table 3-2. Variations in FY 84 Composite Rates

Calendar year preparation date	Budget year submission	Tons (000)	Change in tons (in percent)	Dollars (000)	Change in dollars (in percent)	Composite rate in dollars	Change in composite rate (in percent)
MTMC Port Handling							
Fall 82	1984	3,204	NA	\$ 64,144	NA	\$ 20.00	NA
Fall 83	1985	2,890	-10.0	65,720	+2.4	22.74	+13.7
Fall 84	1986	2,966	+2.6	58,977	-10.0	19.88	-12.6
MAC Cargo							
Fall 82	1984	75.2	NA	\$156,257	NA	\$2,077.88	NA
Fall 83	1985	56.5	-24.8	145,891	-6.6	2,582.14	+24.3
Fall 84	1986	69.8	+23.5	156,048	+6.9	2,235.64	-13.4
MSC Cargo							
Fall 82	1984	3,725	NA	\$471,657	NA	\$ 126.61	NA
Fall 83	1985	3,105	-16.6	460,069	-2.4	148.17	+17.0
Fall 84	1986	3,494	+12.5	426,460	-7.3	122.05	-17.6

NA - not applicable.

d. **Nonshipment Charges.** Nonshipment charges are charges such as detention, demurrage, storage at port, and loss of shipments that cannot be charged to a specific shipment. These charges are normally directly billed to USAFAC or included in the regular billing process through transfers by other finance and accounting offices for payment by USAFAC. The nonshipment charges are eventually charged to the element of expense and point accounts listed in Table 3-3. These nonshipment charges are not forecasted or contained in the budget even though they are paid out of CFSDT funds. Since nonshipment charges have historically amounted to approximately 2 percent of the CFSDT budget, the absence of budgeting for nonshipment charges contributes to the inaccuracy of budget requests. Table 3-4 shows the variation between actual disbursements and both the annual funding program (AFP) and the SDT overocean budget request. Some of this variation can be attributed to the exclusion of nonshipment charges in the budget.

Table 3-3. Other Charges

Description	Element of expense	Point account
MSC Cargo	2200	.13100
MAC Passenger	2199	.12300
Custom GBL	2200	.11000
MAC Cargo	2200	.12110
MAC SAAMS	2200	.12111
MAC Commercial Air	2200	.12112
MAC Commercial Air	2200	.12120
LOGAIR	2200	.12130
QUICKTRANS	2200	.12140
Customs	2572	.11000
MTMC Cargo	2572	.21000
MTMC Special Mission	2572	.23000

Table 3-4. Disbursements vs Budget Request and Annual Funding Program (AFP)

FY	Disbursements	SDT Overocean budget request	Percent difference
84	\$739,275	\$703,560	+5.0
83	620,407	664,049	-6.5
82	567,790	659,626	-13.9
81	^a	496,877	NA ^b
80	429,763	305,346	+40.79

FY	Disbursements	AFP	Percent difference
84	\$739,275	\$680,481	+8.6
83	620,407	630,172	-1.5
82	567,790	601,054	-5.5
81	^a	513,872	NA
80	429,763	412,598	+4.1

^aData not available.

^bNA - not applicable.

e. Management Control Fragmented. Management of SDT is fragmented, and there is only partial central management of SDT funds. A variety of agencies and commands are involved in management, and each requires different accounting information. Each agency has separate offices responsible for transportation movement, budgeting, finance, and accounting with different goals and objectives. The following examples illustrate the impact of fragmented management control.

(1) ODCSLOG prepares the budget estimate, but the TOAs determine routing or mode of shipping of overocean cargo. Since the main concern of the TOAs is the efficient movement of cargo, TOAs frequently consolidate or containerize cargo or change the mode of transport. These actions contribute to the variance between the actual cost of shipping cargo and the ODCSLOG budget estimate.

(2) TCMDs, which, in effect, obligate funds, are prepared at the shipping activity. While ODCSLOG is ultimately responsible for the obligation of SDT funds, ODCSLOG does not have day-to-day control of TCMDs.

f. Transportation Account Codes (TAC). The TACs exist as a device to allow costs to be tracked to a particular command or program. They are published in MILSTAMP, Volume II, and originate from the particular branch of service that is responsible for the command or program being tracked. The TAC can be associated with a given fund citation and is used by USAFAC to ensure that a shipment moving through the Defense Transportation System is charged to the correct appropriation. There are currently over 1,200 TACs. Many TACs are obsolete since they were created for special projects or operations that are no longer in process. There is no evidence of a scheduled review of the TACs to determine if they are still relevant. An overlap among some TACs exists such that the transportation officer may use different TACs for the same type of shipment. This redundancy, combined with the proliferation of TACs, impedes consistency of usage. Currently, approximately 400 TACs are active.

g. Poor Audit Trail. A poor audit trail exists due to missing and incomplete financial accounting records. For example, billing data tapes were missing for MAC covering October 1983 and for MSC covering May 1984. SDT disbursement data are missing for FY 81.

h. SDT Funds Difficult to Track. Overocean SDT funds are not identified specifically in the OMA (P7) appropriation. This makes the tracking of overocean SDT funds difficult, since the specific AMS codes for the TOAs and various nonshipment charges are not identified. For example, unemployment compensation is paid from P7 funds where applicable.

i. MIPR Does Not Effectively Control Obligations. The MIPR is a purchase order for services to the industrial fund which establishes obligation limits but does not provide control on flow of shipments. TOAs can defer bills to the next billing period when approaching the obligation limit set by the MIPR. Obligations can then be increased for the time period covered by the next MIPR to accommodate the additional bills.

3-8. CURRENT PROCESS SUMMARY. ODCSLOG initiates the SDT budget process by providing annual cargo forecasts consolidated and displayed by the MECHTRAM system. This system was examined in detail and a summary of the role of the MECHTRAM system with respect to the current financial management of SDT is discussed in Appendix F. MECHTRAM is useful in providing data in several formats as listed in the appendix for analysis and budget formulation. Composite rates are computed and applied to the cargo forecasts to develop the CFSDT budget which is submitted as part of the OMA budget by DA to OSD. Financial accounting is performed at USAFAC, which provides financial reports to ODCSLOG and OCOA. USAFAC receives allotments from the Director of OMA (COA) and obligates funds to pay for SDT services. The current system of managing SDT activities suffers from a number of problems, as discussed in the previous paragraph. Major problem areas

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identified in the current system include delayed TOA billings, inaccurate budget forecasts due to variations in composite rates, absence of forecasting and budgeting of nonshipment charges, fragmented SDT management control, obsolete TACs, poor audit trail, absence of overocean SDT identification in the OMA appropriation, and lack of SDT obligation control. However, the current system contains sufficient flexibility such that budgetary violations are not generated and the cargo is moved expeditiously, which is the main concern of the commander in the field.

CHAPTER 4

OTHER SERVICE SYSTEMS

4-1. INTRODUCTION. This chapter presents the study team review and analysis on other services' financial management systems for SDT funds. These systems were reviewed as a possible alternative to the Army SDT system. The Air Force Logistics Command (AFLC), the Navy Supply Systems Command (NAVSUPSYSCOM), and the Marines' SDT systems are discussed in the following paragraphs.

4-2. AIR FORCE LOGISTICS COMMAND SDT FINANCIAL MANAGEMENT SYSTEM

a. General. AFLC is responsible for the budgeting and the financial management of Air Force second destination transportation funds. AFLC performs the managerial accounting functions for 90 percent of the SDT funds and 80 percent of the first destination transportation funds. AFLC budgets for the overocean transportation provided by the TOAs and for the CONUS line haul from the depots to the ports as well as retrograde from the ports to the depots. Funds for airbase to airbase movements and for local transportation are not managed or budgeted by AFLC. In addition to the financial functions, AFLC has responsibility for preparing the forecasts which are reported to the TOAs. The Air Force, unlike the Army, established a central management account to control transportation funds, as described in DOD Directive 7200-1. Appendix E provides a description of central management accounts. Personnel at the Air Force Logistics Command believe that by forecasting, budgeting, executing, and receiving feedback in one central location, a more efficient management structure has been achieved, and more visibility of transportation requirements, using fewer resources, has been provided.

b. Current System. The Air Force Logistics Command currently is using a system which is functionally similar to that used by the Army. It is an automated system using the TOA monthly billing tapes as input. Tapes are in MILSTAMP, Volume II, format. There are two AFLC systems. The first system is the Surface Transportation Tonnage and Cost System as described in AFLC Manual 171-125. The second is the Military Airlift Command Tonnage and Cost System. Figure 4-1 shows the flow diagram for these two systems and their generated output. Detailed output is shown in Appendix H.

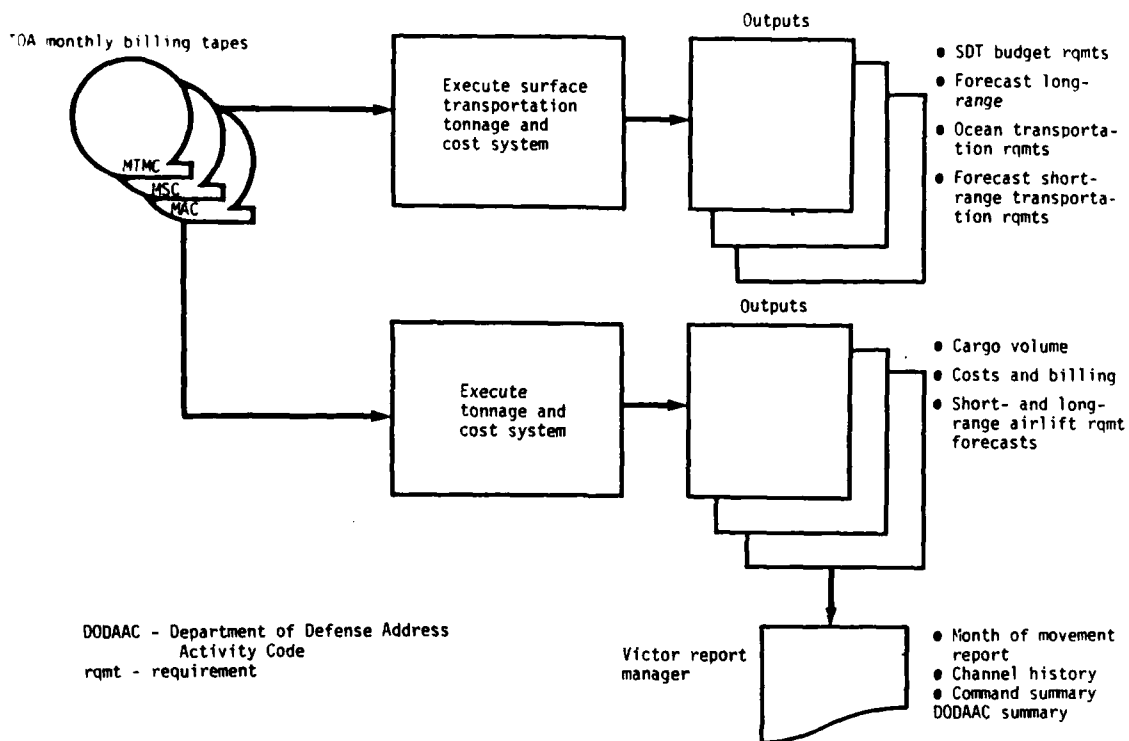


Figure 4-1. Current AFLC System

(1) The Surface Transportation Tonnage and Cost System collects and compiles historical data on all Air Force and Air Force-sponsored shipments. It processes data for shipments which use MSC and MTMC CONUS port handling services and commercial carriers. The system outputs shown in Appendix H are used to develop Air Force second destination transportation budget requirements for the Operation and Maintenance, Army (OMA), Air National Guard, Security Assistance Program, and Military Personnel appropriations. They are also used to forecast the Air Force long and short-range ocean transportation cargo requirements, which are used by MSC and MTMC in developing their industrial fund budgets. The Air Force also uses the output to approve bills for payment to other services' industrial funds and Government bills of lading (GBL) for services received by the Air Force.

(2) The Military Airlift Command Tonnage and Cost System collects and compiles historical data on all airlift shipments. This system is designed to establish and maintain master files containing a 2-year history of all airlift data. The master files, updated monthly, contain statistical data for cargo volume and costs. These cumulative statistics are used to forecast the budget and to project airlift requirements. The system output provides reports on standard billing and the short and long-range forecasts of airlift requirements. A complete listing of outputs from these two systems is also shown in Appendix H. Upon receipt of the output from the Management Information System, the analysts use the Victor Report Manager, a spreadsheet program for their desk-top computers, to further summarize, aggregate, and analyze the data. Some other features of these systems are the Month of Movement Report, the Channel History, Command Summary, and Department of Defense activity address code (DODAAC) Summary described in the following paragraphs.

(a) The Month of Movement Report aggregates tonnages and costs and applies them to the given month of shipment. This report is in a matrix format and illustrates, for a given billing month, the quantity of cargo and the dollar costs which are billed in that month and each subsequent month. A billing lag is created, since the charges incurred in a given month may be billed at any time during the next 18 months. This report provides the analyst with a method for accruing and estimating tonnages and costs for a given month. The analyst can now examine the bill for the current month and estimate from the historical data the estimated total charges that will eventually be billed against that month's shipments. This report organizes the data by geographical area, TAC, and month. Movement data is reported in measurement tons, costs in thousands of dollars, and the average cost per ton in dollars.

(b) The MAC Channel History depicts historical traffic on any given MAC routing. The advantage of route data to the financial manager is the ability to associate tonnages with a specific rate. If a route is used to support a certain mix of units and reorganizations or inactivations change that mix, a change in tonnage or commodities could occur for which the dollar cost can be determined. Since the per-ton rates on the various routes are significantly different, a unit move from one supporting route to a different route could significantly change the cost of transportation, even though the tonnage remains the same. The data base for the MAC channel history is built on an accrual basis (obligation). The data, extracted from the billing tapes and based on the service date, is accrued back to the actual month of movement. The historical data then reflects charges and tonnages when movement occurred, not when billed.

(c) The Command Summary, DODAAC Summary, and Project Code Summary Reports provide the analyst with data from the billing tapes which have been sorted and aggregated by the criteria cited in the title of the report (i.e., Command Summary). The Command Summary provides input for the three forecast areas and provides feedback to validate the forecasts. The DODAAC Summary sorts on a consignor/consignee basis to provide visibility of the specific overseas command. This report summarizes the tonnages and costs

for shipments from CONUS to a specific DODAAC (consignee) in the overseas theater and, conversely, the tonnages and costs from a DODAAC (consignor) in an overseas theater to CONUS. This combination of export or import traffic provides the analyst with a picture of the total traffic generated by each overseas DODAAC. This summary aids in the generation of cost forecasts reflecting changes in programs, units, and requirements at an overseas location. The Project Code Summary allows the analyst to view the transportation costs of projects. The projects are identified by the three-digit project code in the MILSTAMP documentation. Project codes are used by the Air Force to identify weapons systems or exercises which require special reporting for budgetary purposes.

4-3. AIR FORCE ENHANCED TRANSPORTATION AUTOMATED DATA SYSTEM (ETADS)

a. Introduction. The Air Force is currently procuring the Enhanced Transportation Automated Data System (ETADS) to support AFLC activities associated with the Defense Transportation System. A detailed description of ETADS is provided in Appendix H. ETADS is expected to be an improved system and will become an on-line, integrated turnkey replacement for the current set of on-line, manual, and batch application programs at AFLC Headquarters, Wright-Patterson Air Force Base (AFB). It should provide improved support for users in managing and controlling AFLC CONUS transportation systems, in monitoring the movement of Air Force cargo overseas, and in managing Air Force transportation funds. The purpose of this paragraph is to summarize the capabilities of ETADS in the area of transportation financial management.

b. Summary of Improvements. Some of the improvements that ETADS is expected to provide in the area of transportation financial management are discussed in the following paragraphs.

(1) ETADS is expected to enable AFLC to comply with DOD Directive 7200.1, which requires timely accounting and recording of transportation costs to preclude overobligation or overexpenditure (relative to obligations) of Air Force SDT funds. It is expected that ETADS capabilities will allow AFLC to significantly reduce the margin of error in the first destination transportation (FDT) and SDT budget forecast, which currently averages \$7 million/fiscal year. ETADS will create obligations by transaction for MAC, MSC, MTMC, Navy Cargo Airlift System (QUICKTRANS), and GBL services within 30 days after the associated lift from the embarkation point. Currently, funds are obligated by the Air Force Finance Center from historical data before the bills are paid. In certain cases, the implementation of the obligation functions will require the implementation of new interfaces.

(2) ETADS is expected to provide improved capabilities for financial analysis. The general ETADS data base capabilities (including on-line data dictionary, support for interactive, user-defined queries, relational-query processing, and report generator) should provide a user-friendly and flexible tool for analyzing financial data that would be stored in the data base.

(3) ETADS is expected to improve the Logistics Airlift Service (LOGAIR) billing process by reducing errors and eliminating much of the manual data entry that is currently performed. ETADS should aid in validating cargo-following and flight-following data prior to processing. This should reduce the number of errors that currently result in historical data being returned for reprocessing after financial processing has begun. ETADS should also aid in maintaining an integrated data base that may eliminate the need for additional manual data entry steps at the start of new processes.

(4) ETADS is also expected to provide for reconciliation of MAC, MSC, MTMC, and GBL bills against actual movement data, as reflected in the obligations.

4-4. NAVY SUPPLY SYSTEMS COMMAND (NAVSUPSYSCOM) FINANCIAL MANAGEMENT SYSTEM.

The Navy SDT fund has been centrally managed by the Transportation Budget Division of NAVSUPSYSCOM since FY 1973. NAVSUPSYSCOM also manages FDT funds. Prior to FY 1973, the approximately 150 Navy commands managed their SDT funds separately. This decentralization caused difficulties in coordinating the Navy SDT budget, and as a result, the Navy adopted a centrally funded, service-wide SDT account. The Navy SDT budget amounts to approximately \$500 million per year. The Navy considers as SDT the first point of use or storage of cargo, whether CONUS or overseas, while DA considers all movements from first storage and outside CONUS to be SDT. Navy SDT is on a smaller scale than the Army, since overocean shipments by the Navy typically are to support the fleet.

a. **SDT Fund Management.** The Navy Management Fund, maintained at the Navy Finance Center in Norfolk, Virginia, pays all Navy SDT bills and then submits the bills received from the user for reimbursement. MIPRs are not used since the TOAs use direct fund cites.

b. Forecasting SDT Funds

(1) To track SDT expenditures, the Navy utilizes a forecasting model generated by a commercially available spreadsheet package programed for use on an IBM personal computer. The purpose of the model is to forecast SDT expenditures on a monthly basis throughout the fiscal year. Like the Army, the Navy has found that historical tonnage data are not good indicators for dollar projections. Consequently, SDT expenditures are now forecast on the basis of the historical percentages of total accumulated bills received for the month of shipment for each mode of shipment. Thus, the forecast accuracy increases for each month into the fiscal year.

(2) An example of the spreadsheet application is shown in Table 4-1.

Table 4-1. Navy Calculated Percentages for Estimated SDT Bills
(cells reflect percentages/100)

Mode	1	2	3	4	5	6	7	8	9	10	11	12	13
MAC cargo	0.791	0.938	0.967	0.984	0.993	0.996	0.999	1.000	1.000	1.000	1.000	1.000	1.000
MAC WIMS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MAC mail	0.957	0.991	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
SAAMS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MSC cargo	0.323	0.882	0.923	0.936	0.951	0.963	0.967	0.969	0.973	0.976	0.981	0.985	0.986
MSC WIMS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MSC commissary	0.323	0.882	0.923	0.936	0.951	0.963	0.967	0.969	0.973	0.976	0.981	0.985	0.986
MSC WIMS comm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MSC exchange	0.349	0.910	0.959	0.963	0.965	0.967	0.973	0.975	0.977	0.981	0.985	0.987	0.991
MSC mail	0.357	0.959	0.971	0.989	0.998	0.999	0.999	0.999	0.999	0.999	0.999	1.000	1.000
MSC per diem	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Commercial mail	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Inland GRI	0.382	0.718	0.849	0.918	0.938	0.951	0.963	0.972	0.978	0.982	0.987	0.991	0.994
Inland PVS	0.078	0.295	0.378	0.448	0.497	0.548	0.621	0.724	0.811	0.866	0.914	0.949	0.961
QUICKTRANS	0.954	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MTMC cargo	0.711	0.842	0.934	0.949	0.963	0.969	0.974	0.975	0.976	0.977	0.985	0.989	0.994
MTMC WIMS	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
MTMC commissary	0.711	0.842	0.934	0.949	0.963	0.969	0.974	0.975	0.976	0.977	0.985	0.989	0.994
MTMC WIMS comm	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

The heading for each row reflects the mode of shipment. This example illustrates the calculation for the percent of bills received for each channel for a prior year. In the first billing month (October), historically 79.1 percent of bills received for October MAC cargo shipments have been received. The current actual dollar amount of bills received in October is divided by .791 to provide an annual estimate for MAC cargo SDT expenditures for the current fiscal year. In November, the cumulative dollar amount of bills received in November is divided by the cumulative prior year fraction of bills received (historically .938) for MAC cargo, and a new estimate is generated. This process is repeated each month throughout the fiscal year which improves the accuracy of the estimate. By September, the expected accuracy of the forecast is within 1 percent. This has been the reported accuracy confirmed by personnel in NAVSUPSYSCOM for past years. Thus, the Navy SDT resource manager can request a precise amount of additional funds from the Comptroller of the Navy or deobligate any surplus SDT funds based on this valuable decision tool. The key to the successful application of this model lies with the continuous adjustments made by the analyst for unforeseen shipments or lack of shipments. Percentages input into the computer are adjusted as new information becomes available. Relying on historical billing percentages alone is not sufficient to produce the high degree of forecasting experienced by NAVSUPSYSCOM.

4-5. SDT FINANCIAL MANAGEMENT IN THE MARINE CORPS. The Marine Corps has not had to confront the problems experienced by the other services in monitoring SDT funds because of their limited scale of SDT activities. The Marines, because of their limited SDT workload, are able to manually monitor each transaction and do not have a need for a mechanized forecasting or monitoring system.

4-6. SUMMARY ANALYSIS OF OTHER SERVICES' SDT ACCOUNTING SYSTEMS

a. Air Force (AF) System

(1) The current Air Force accounting system is functionally similar to that of the Army and is extensively documented. The Air Force system required several years to develop and five people to operate and maintain (in addition to those personnel in SDT management). Enhancements and functional variations have been developed over several years to provide a more efficient system and to provide for more comprehensive analysis of transportation accounts. The current Air Force SDT accounting system is in the process of being modified to permit tracking of SDT funds on a transaction-by-transaction basis. The technique of using central management provides for the receipt, storage, and analysis of transportation financial and shipment data at one central location. This data can then be configured to support the long-range forecasting and budgeting functions as well as the short-range forecasting and obligation functions. Special reporting requirements for project managers, commands, or agencies can be generated from the same data base. AFLC personnel have found that this system helped achieve an accuracy of within 1 percent for budgeting and execution of funding programs. This compares to variations ranging between -5.5 percent to +8.6 percent for the Army from FY 80 to FY 84. Refer to Table 3-3.

(2) The AF system is complex and would not be feasible for short-term application. Based on the experience of the Air Force, it is estimated that 5 additional people would be required for implementation. There is, however, some potential for use as a long-term solution.

b. Navy System

(1) Unlike the AFLC system, the Navy system concept of forecasting current year SDT obligations based on prior year billings is suitable for near-term application. Refinements made from experience with the forecasting process have resulted in an accuracy within 1 percent for SDT budgeting and execution over the last several years. The Navy system requires only one analyst on a part-time basis to operate and maintain.

(2) This system shows promise for the near-term solution because it requires fewer resources and less time than the AF system. This system is not applicable as a long-term solution.

c. Marine Corps System. Due to the low volume of orders transacted, the Marines have a simplified, manual system which is not appropriate for Army application because of the Army's large volume of SDT shipments. No further consideration was given to this system.

4-7. SUMMARY OF OTHER SERVICES' SDT ACCOUNTING SYSTEMS

a. The Air Force system is centrally managed, incorporating management of both first and second destination transportation. The Army manages first destination and second transportation separately. The Air Force system performs functions similar to that of the Army system but is more detailed and data intensive. Therefore, data used to support budget development and forecasts is readily available and produces results with a reported accuracy of 1 percent compared to the Army's 5 to 9 percent variations. However, this system is currently undergoing modification and is not applicable to the Army's short-term solution but is a candidate for the long-term solution.

b. The Navy system, like the Air Force system, is centrally managed and incorporates techniques which result in a reported accuracy of 1 percent in the forecasting of current year SDT obligations. The Navy system is relatively simple, requiring only one analyst to operate and maintain. This system is applicable to the Army's short-term solution but is not suitable for the long term since it does not track expenditures on a transaction-by-transaction basis.

c. The Navy system, or a variation of this system, is a candidate to support the Army's need for a short-term solution. The Air Force system, or a variation of this system, is a candidate to support a long-term solution for the Army.

CHAPTER 5

ALTERNATIVE SYSTEMS

5-1. INTRODUCTION. This chapter provides a discussion of the four alternatives that were identified to improve the current SDT financial management process. An evaluation of these alternatives, with a detailed discussion of the alternatives selected for the respective near- and long-term solutions, is presented.

5-2. METHODOLOGY

a. Four possible alternatives were developed to provide solutions to the problems encountered in the review of the current system (see Chapter 3). No one alternative could be identified that would solve all of the problems. Therefore the approach taken, as identified in the Chapter 2 methodology, was to strive for a near-term solution which could be implemented with a minimum of additional resources and be operational within 1 year and a more comprehensive long-term solution that may require additional resources and considerably more implementation time, possibly more than 2 years.

b. The current system has two distinct advantages. These are;

(1) There has been no recorded financial violations. This could be attributed in part to the financial flexibility in SDT funding and possibly pure luck.

(2) Cargo has always moved expeditiously. This can be attributed to use of the Industrial Fund to pay for services and to regulations governing the TOAs, which require that no delays be imposed on cargo movement.

c. Minimum requirements for the alternatives compared to the current system may be summarized as follows;

(1) Short Term

(a) Limited requirement for additional resources.

(b) A system that can be implemented quickly.

(c) Does not contribute to financial violations.

(d) Cargo continues to move expeditiously.

(2) Long Term

(a) May require limited additional resources.

(b) Does not contribute to financial violations and reduce the risk for incurring such violations.

(c) Provides a system that continues to permit cargo to be moved expeditiously.

(d) Provides a transaction-by-transaction basis which would provide stricter accounting control and easier identification of billing errors.

(e) Provides for accrual accounting rather than the current cash accounting system.

5-3. ALTERNATIVES

a. Alternative 1

(1) The first alternative that was developed would maintain the current system with minor modifications to provide a tool which could be used to develop more accurate obligation estimates at the end of the fiscal year. This alternative could be implemented in the near term and would eliminate the risk of financial violations. Cargo would continue to move in an expeditious manner. Minimal, if any, increases in manpower requirements would be required.

(2) Actions that would be required to implement Alternative 1 are listed below. Some actions, such as weekly billings, are optional.

(a) Obtain weekly direct billing reports (transfers by others and nonshipment charges) from USAFAC.

(b) Have TOAs submit weekly rather than monthly billings in the last quarter of the fiscal year. This would reduce the time delay currently being experienced for billings. (MAC would not be able to provide weekly billings until their new system is operational in 2 years.)

(3) Identify and record nonshipment charges in the MECHTRAM system. These charges are not currently included in the budget estimates.

(4) Improve TCMD accuracy and completeness. This has been a continual problem over the years. An emphasis on TCMD training for the various commands in this area is needed.

(5) Implementation of improved long-range overocean surface cargo forecasts. This recommendation refers to the implementation of the Transportation Workload Forecasting Study - Implementation (TWFS-I) completed by CAA in August 1985 and provides guidance for forecasting overocean cargo utilizing the Winters Method and Box-Jenkins Model.

(6) Develop long-range overocean air forecasts. These forecasts are not currently made.

(7) Develop computer routines to extract billing data and assist in forecasting obligations based on Navy and/or Air Force systems.

(8) Retain billing tape files for at least 5 years.

b. Alternative 2

(1) The second alternative would involve modifying the accounting process in the current system through the implementation of an accrual cost accounting system. This could be accomplished by modifying the current MECHTRAM system or incorporating the current Air Force Logistics Command (AFLC) system into MECHTRAM. Implementation of a separate SDT central management system would also be required. This approach would improve SDT accounting and reporting, budget forecasting, and tracking and automate the budget execution process. While Alternative 2 would not resolve the delay in the posting of bills, it would account for the delay. Incorporating the AFLC system routines would provide more accurate accounting and improved report structures by command, area, route, and special program. The AFLC system routines would help decrease the budgeting, obligation, and disbursement errors. In addition, manual reports and calculations currently generated would be automated.

(2) This alternative would require additional resources and could not be implemented in the near timeframe.

c. Alternative 3

(1) The third alternative provides for a long-term improvement of the management of SDT funds by tracking shipments on a transaction-by-transaction basis. A transaction, in this case, is defined as a shipment serviced by the TOAs for a fee. The adoption of Alternative 3 would require three significant actions listed below. This alternative would eliminate the delay in posting bills to the accounting system and improve the budget execution process.

(a) The establishment of data links from the cargo documentation system (receipt and lift files) to the Army accounting system.

(b) The development of a computer system to handle cargo and financial accounting on a transaction-by-transaction basis.

(c) The designation of an agency for the central management of the new system.

(2) This alternative meets the requirements for the long-term solution listed in paragraph 5-2c.

d. Alternative 4

(1) The fourth alternative is to completely decentralize the funding of SDT. Under this option, funds would be suballotted to MACOMs and TOAs would bill the MACOM Supporting Finance and Accounting Office by TAC. Alternative 4 would encourage fiscal responsibility since the shipper would become responsible for obligating funds for each shipment and be required to pay both the line haul and overocean costs. The implementation of this alternative may reduce the workload at USAFAC. However, shippers would have to

become knowledgeable about the various shipping rates under this proposal. There would be less flexibility for unplanned movements of cargo, and there may be a requirement for numerous fund transfers at fiscal year end to meet transportation requirements. Finally, materiel needs may not be met due to lack of shipping funds.

(2) This alternative, while interesting, does not meet all of the requirements set forth in paragraph 5-2c.

5-4. ALTERNATIVE EVALUATIONS. The four alternatives were further analyzed with respect to data availability, resources required, feasibility, and availability of suitable software packages.

a. Alternative 2 could not be implemented in the near term because of the time required to modify MECHTRAM or implement the AFLC system, and was not considered the best long-term solution because of the following deficiencies:

- (1) ODCSLOG would still not receive timely management information.
- (2) The posting of bills would continue to be delayed.
- (3) Management control would still be deficient.
- (4) Increased input, data/management, and output requirements would significantly increase manpower and computer time requirements.
- (5) Modifying MECHTRAM would require significant one-time costs.
- (6) Incorporating the AFLC system may prove difficult since AFLC is currently expending a major effort and additional resources to improve the accuracy of the system.
- (7) Funds would not be tracked on a transaction-by-transaction basis.
- (8) Based on the experience of the AFLC in implementing their automated accounting system, three additional permanent employees would be required to operate and maintain the system.

b. Alternative 4 could not be implemented in the near-term timeframe because of the impact it would have on the Finance and Accounting Office at MACOMs and TOAs. This alternative was rejected as a long-term solution because of the following deficiencies.

(1) Prior to FY 1973, the Navy operated with a decentralized mode in which 150 commands maintained their own SDT funds. Coordinating the budget proved difficult. Congressional pressure finally forced the Navy to establish a centralized Navy SDT fund in FY 1973. Personnel at NAVSUPSYSCOM indicated that it was impossible to accurately forecast SDT budget requirements at the command level in a decentralized mode.

(2) Any workload savings at USAFAC realized from the implementation of Alternative 4 would be more than offset by the increase in workload for the MACOMs.

(3) TOA workload would increase with respect to identifying shipping rates, handling billing transactions, and handling the accounts receivable cycle for a number of commands.

(4) A loss of flexibility in handling the fluctuating SDT requirements due to unplanned shipments would occur in the worldwide movements program.

(5) It would be difficult to maintain the current system flexibility since funds would have to be constantly shifted between MACOMs to meet financial requests.

(6) Does not provide a transaction-by-transaction system.

(7) Materiel needs in the field may not be met due to the possibility of a lack of SDT funds.

c. Alternatives 1 and 3 based on input from the other services (Chapter 4) showed promise for potential improvement to the current system and were selected as near- and long-term solutions, respectively, to the problems outlined in Chapter 3. These alternatives are discussed in more detail in paragraphs 5-5 and 5-6.

5-5. SHORT-TERM SOLUTION (ALTERNATIVE 1). A cash management forecasting model was developed as a short-term solution to the current difficulties in monitoring SDT funds experienced by program managers at DALO-RMB. The model was designed on an IBM IPC-AT microcomputer and utilizes the LOTUS 1-2-3 software package to create output in the form of spreadsheets. Appendix I provides user instruction for operating the model. The model can be adapted to work on most other spreadsheet software packages. The spreadsheets produce monthly estimates of billing costs by fiscal year for each TOA, adjusts the fiscal year estimate to account for nonshipment charges, and estimates monthly disbursements to each TOA, the Defense Logistics Agency (DLA), and any other direct billings. Two spreadsheet applications are discussed below. These are the monthly billing estimates spreadsheets and the disbursement estimates spreadsheets. Disbursements were selected as a basis for developing estimates because they are actual recorded expenditures.

a. Monthly Billing Estimates Spreadsheet

(1) **Inputs.** The Monthly Billing Estimates Model provides the transportation analyst with a method of examining data provided by the three TOAs on the monthly billing tapes obtained from MECHTRAM. A computer program aggregates monthly billing costs by month of service rendered. The program audits this cost matrix by accumulating the total number of records that correspond to the cost sums by billing and service month. Records containing TACs, billing dates, or service dates that are out of the appropriate range are rejected. Billing tapes from October 1983 to March 1985 were used as inputs to the model. Bills received in May 1984 were not available and

were assumed to be the average monthly dollar amount of bills received in 1984. Annex 1 to Appendix I documents the main program and runstreams used to capture the TOA billing data from MECHTRAM used as input to the Monthly Billing Estimates Model.

(2) Outputs. The spreadsheet outputs produced by the model give the program manager estimates of billing costs for each month of the fiscal year, by TOA, based on the historical percentage of total bills received for that month. The following paragraphs describe how the outputs are derived.

(a) The top half of Table 5-1 shows the input extracted from the MECHTRAM billing tapes for MSC. The columns display the month of service and the rows indicate the month bills were received. For example, bills for \$11,260,113 for shipments in October 1983 were received in October 1983 (billing month 1). An additional \$14,443,868 (nonaccumulating) in bills were received in billing month 2 (November 1983) for cargo shipped in October. A total of 18 subsequent billings for each month of service are needed to accumulate 99.99 percent of the total charges for that month.

(b) The lower half of Table 5-1 provides the cumulative (percentage/100) of total bills received. The prior year percentages at the far right column of Table 5-1 are used to compute the billing estimates. The prior year percentages can be compared to the year to date estimates to analyze the billing trend. For example, 32.3 percent of the bills were received in the 1st billing period during the prior year compared to 43.1 percent of the bills received during the current or forecast year. In this example the prior year percentages shown in Table 5-1 are actual Navy prior year percentages since Army data was unavailable.

(c) The billing estimates shown in Table 5-2 were computed by dividing the actual dollar amount of bills received by the prior year percentage of total bills received for that billing month. For example, in October 1983 \$11,260,113 (see Table 5-1) in bills were received for shipments made during that month. In the prior year (October 1982) bills for 32.3 percent of the total cargo shipped in October were received in October. Dividing \$11,260,113 by .323 the estimated total dollar amount of cargo shipped in October 1983 is \$34,861,030 (first entry in Table 5-2). As the fiscal year progresses, additional bills are received and the cumulative prior year percentage increases, improving the accuracy. Thus, the margin for error in the forecast declines as the fiscal year progresses since the amount being forecasted declines. Prior year percentages can be easily adjusted by the transportation analyst throughout the fiscal year if new, unexpected information on SDT transactions becomes available that might affect the accuracy of the forecast.

Table 5-1. MSC FY 84 Monthly Billing Estimates Spreadsheet

22 OCT 85

Dollars

LINE	UNIT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTALS
1	11200113	11507587	3381770	11296204	10172010	16416716	13853555	13068874	11164349	15335003	13674567	5005872	148368310
2	11443082	10242514	12926173	8451723	9780467	10172402	1362287	19618280	11528225	11415237	14262136	16103817	163336171
3	1322636	463925	328117	2734081	394012	379180	353053	2303013	700615	1711838	961743	54322	6386438
4	1043474	30592	34470	37386	118084	17741	388572	196061	200455	-335335	15325	615257	2440106
5	061377	133640	181646	294036	368259	395895	-59632	106393	280374	3086	188331	-662330	1871375
6	1010004	179553	75005	14229	312105	50002	123958	681745	35032	144796	589667	11599	2463705
7	170040	17960	2332	11276	185206	67029	163828	3840	-15133	244979	-26251	0	82022
8	61087	0	62115	-1108	102210	37563	0	84	24201	249716	0	0	533868
9	279	82645	3567	28553	-61632	1698	47405	-346277	-22789	0	0	0	-266577
10	81059	-25515	18101	6590	2379	2143	44288	86964	0	0	0	0	218805
11	56122	14382	331483	8638	-4419	24791	-3015	0	0	0	0	0	427952
12	138679	1552	0	4084	10106	194219	0	0	0	0	0	0	343440
13	0	0	1537	198	23431	0	0	0	0	0	0	0	25186
14	42218	0	10539	17859	0	0	0	0	0	0	0	0	71016
15	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0
18	1205	0	0	0	0	0	0	0	0	0	0	0	1305
100	30266732	24862112	25660996	21438202	24387337	36310960	30794823	35938795	26507032	29139764	31749260	28839917	343211074

Percent/100

LINE	UNIT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTALS
1	0	468225	0	362800	0	527042	0	417390	0	452115	0	514813	0
2	0	849248	0	595143	0	866021	0	818441	0	952381	0	963030	0
3	0	893556	0	577811	0	952912	0	510049	0	568940	0	570782	0
4	0	534032	0	579047	0	534253	0	538763	0	373827	0	581431	0
5	0	544630	0	585224	0	561324	0	581302	0	584730	0	579315	0
6	0	547851	0	591150	0	500512	0	595383	0	591395	0	587446	0
7	0	581884	0	596339	0	583442	0	595532	0	590582	0	591748	0
8	0	597529	0	597062	0	581350	0	597126	0	592488	0	597120	0
9	0	587547	0	597062	0	585768	0	596923	0	591235	0	593862	0
10	0	58556	0	590387	0	585907	0	590255	0	590707	0	593909	0
11	0	58327	0	595310	0	586563	0	598805	0	593968	0	598659	0
12	0	594181	0	599937	0	593514	0	598634	0	593631	0	594631	0
13	0	590565	0	599514	0	599517	0	599508	0	599517	0	599517	0
14	0	590365	0	599514	0	599517	0	599517	0	599517	0	599517	0
15	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
16	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
17	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0

PHASE

LINE	UNIT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTALS
1	0	37029	0	362800	0	527042	0	417390	0	452115	0	514813	0
2	0	849248	0	595143	0	866021	0	818441	0	952381	0	963030	0
3	0	893556	0	577811	0	952912	0	510049	0	568940	0	570782	0
4	0	534032	0	579047	0	534253	0	538763	0	373827	0	581431	0
5	0	544630	0	585224	0	561324	0	581302	0	584730	0	579315	0
6	0	547851	0	591150	0	500512	0	595383	0	591395	0	587446	0
7	0	581884	0	596339	0	583442	0	595532	0	590582	0	591748	0
8	0	597529	0	597062	0	581350	0	597126	0	592488	0	597120	0
9	0	587547	0	597062	0	585768	0	596923	0	591235	0	593862	0
10	0	58556	0	590387	0	585907	0	590255	0	590707	0	593909	0
11	0	58327	0	595310	0	586563	0	598805	0	593968	0	598659	0
12	0	594181	0	599937	0	593514	0	598634	0	593631	0	594631	0
13	0	590565	0	599514	0	599517	0	599508	0	599517	0	599517	0
14	0	590365	0	599560	0	599560	0	599560	0	599560	0	599560	0
15	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
16	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
17	0	599560	0	599560	0	599560	0	599560	0	599560	0	599560	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5-2. MSC FY 84 Monthly Billing Estimates Spreadsheet
(forecasted dollars)

ESTIMATE	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
001 34861030												41032371
NOV 29142835	35874727											390105378
DEC 29497901	27025794	28863065										341547965
JAN 30203110	26327937	25225558	34972767									350100121
FEB 30064656	26016322	26523575	22385953	31514891								355146483
MAR 27790617	25746496	26192019	22100229	28630132	50825746							371672326
APR 30733655	25578597	25969901	22180356	24045352	39215687	43082337						363663205
MAY 30845499	25606144	26153381	22142847	24380645	38110234	33664718	40453052					368133107
JUN 30701475	25571828	26127024	22162889	25182064	37778287	32389016	37056795	34564547				371270159
JUL 30687140	25466702	26071469	22085927	25383352	37598807	32290207	35979574	25756433	48095584			349971430
AUG 30616216	25473101	26020128	22051979	24953797	37313265	31718193	35689324	27710820	69437863	429316120		400106661
SEP 30548862	25317255	25951770	21960184	25093420	37211455	31702854	35238276	27718634	30749074	88658533	27894340	405707640
002 30657443	25228794	25897958	21921939	25053243	37203824	31384336	34800356	31237835	34037579	3237835	77751359	355503164
NOV 30621307	25204981	26069563	21816924	24954338	37009485	31688488	35361414	27503344	30445712	39567592	31181331	352601048
DEC 30602150	25179444	26040123	21737117	24830172	36977220	31558216	35292882	274253804	29595299	38595386	30842018	331996704
JAN 30340590	25128525	26018294	21719213	24724852	36790937	31505784	35147083	27353381	29622215	38384780	31010145	330597374
FEB 30509609	25077812	25976740	21697409	24710026	36682670	31394930	34684237	27266009	29814291	38260611	29955548	350411364
MAR 30480092	25052532	25924314	21671589	24708750	36626479	31263779	34596125	27158844	30071995	38282740	29824112	349438067
APR 30480092	25027303	25898181	21627832	24658703	36789175	31232072	34453639	27020419	29656315	38630277	29762556	348713481
MAY 30480092	25027303	25872100	21606050	24609010	36714782	31200428	34420688	26910692	29704142	38299779	29640202	341003024
JUN 30480092	25027303	25872100	21584292	24584210	36640686	31137333	34389814	26883999	29583516	382364179	29549095	347538678
JUL 30480092	25027303	25872100	21584292	24559453	36603750	31074493	34316278	26856162	29559513	382232751	293904088	347104907
AUG 30480092	25027303	25872100	21584292	24559453	36566888	31043168	34247022	26801852	29523570	38220060	29279103	346943009
SEP 30480092	25027303	25872100	21584292	24559453	36566888	31011906	34212498	26747761	29468866	38167436	29249408	347273754
003 30480092	25027303	25872100	21584292	24559453	36566888	31358216	34178045	26720798	29404403	38102386	29219774	347093326
NOV 30480092	25027303	25872100	21584292	24559453	36566888	31358216	34170045	26699889	29374762	38097590	29160684	347003179
DEC 30480092	25027303	25872100	21584292	24559453	36566888	31358216	34170045	26699889	29374762	38097590	29160684	346972842
JAN 30480092	25027303	25872100	21584292	24559453	36566888	31358216	34170045	26699889	29374762	38097590	29160684	346972842
FEB 30480092	25027303	25872100	21584292	24559453	36566888	31011906	34170045	26699889	29374762	38097590	29160684	346972842

(d) The forecast for the entire fiscal year is shown in the far right column of Table 5-2. This is calculated by taking the average of the billing estimates for each billing month and multiplying by 12. For example, in December (see Figure 5-2, third row) it was estimated that the total bills for cargo shipped; in October was \$29,497,981; in November \$27,025,794; and in December \$28,863,065. The average monthly bills (\$28,462,280) multiplied by 12 provides the estimate of \$341,547,365* (right-hand column) for the fiscal year. By entering the charges for each service month and accumulating this information over the course of 29 months, the analyst can determine the lag percentage in a fiscal year's bills and can compare this lag with the prior year lag.

b. Disbursement Estimates Spreadsheet. The monthly disbursement estimates provide the analyst with an estimate of nonshipment charges and estimates of the rate of disbursements for SDT funds based on the historical monthly percentage of SDT disbursements for the three TOAs, DLA, and other direct billings.

(1) Spreadsheet Description. The spreadsheet is divided into four sections which are shown in Table 5-3 through 5-6.

(a) The first section, CFSDT disbursements (Table 5-3), provides the format for the transportation analyst to record data. The columns depict the monthly and the cumulative disbursements for each of the TOAs, DLA, and other miscellaneous disbursements. The total disbursements column is extracted each month from the STANFINS 218 Report.

(b) The second section of the spreadsheet (Table 5-4, CFSDT disbursement rates), shows the calculations and displays the disbursements as a percentage of the cumulative payout and also as a percentage of the final total. This section of the spreadsheet builds upon the data entered in section 1 and will not be completed until 36 months worth of data exists in section 1.

(c) The third section of the spreadsheet, Table 5-5, disbursement rates for FY XX, displays the disbursement rates for the most recent fiscal year that complete data is available, which is FY 83 in the example shown in Table 5-5.

(d) The table of rates computed in section 3 is used to compute the fourth section, Table 5-6, current (FY 85) disbursements.

*Rounding error

Table 5-3. CFSOT Disbursements, FY 85
(dollars in thousands)

	CFSOT DISBURSEMENTS FY85 DOLLARS IN THOUSANDS 10001												05-DEC-85	
	MSC#	MSC#	MAC#	MAC#	M1MC#	M1MC#	DLA#	DLA#	OTHER#	OTHER#	TOTAL#	TOTAL#	OTHER#	TOTAL#
	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY	CUMULATIVE	MONTHLY
1 OCT	0	0	0	0	0	0	0	0	0	13	13	12	12	
2 NOV	0	0	0	0	0	0	0	0	0	13	13	0	0	
3 DEC	0	0	0	0	0	0	0	0	0	13	13	0	0	
4 JAN	0	0	21861	21861	6641	6641	0	20000	19987	20000	34619	7308		
5 FEB	8600	8600	25354	733	6641	6641	6345	22000	2000	65979	27299	31360		
6 MAR	27011	18411	45028	22434	3159	-9442	13200	6855	-9400	102244	36265	171874		
7 APR	68816	39803	56837	11809	16614	13415	17300	4300	14644	174118	71874	43144		
8 MAY	77942	11126	72839	16001	24866	8252	20782	3282	14644	219262	43144	260841		
9 JUN	59742	21800	87311	14473	32909	8043	26187	5405	14990	306149	45308	29346		
10 JUL	117071	17329	98824	11513	39939	7090	29902	3715	15034	2001	393495	29346		
11 AUG	131417	14346	108607	3783	43156	5217	34517	4615	17035	0	NA	0		
12 SEP	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
13 OCT	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
14 NOV	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
15 DEC	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
16 JAN	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
17 FEB	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
18 MAR	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
19 APR	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
20 MAY	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
21 JUN	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
22 JUL	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
23 AUG	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
24 SEP	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
25 OCT	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
26 NOV	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
27 DEC	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
28 JAN	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
29 FEB	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
30 MAR	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
31 APR	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
32 MAY	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
33 JUN	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
34 JUL	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
35 AUG	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
36 SEP	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0		
TOTALS	157929	131417	148362	102607	66380	45156	64936	34517	3306	17055	48612	393495		
ESTIMATE	412671													
TDA SUM														

Table 5-4. CFSOT Disbursement Rates (percent), FY 85

05-Dec-85

	CFSOT DISBURSEMENT RATES (%) FY85										05-Dec-85		
	MSC %	MSC %	MAC %	MAC %	MTMC %	MTMC %	DLA %	DLA %	DLA %	DLA %	OTHER %	OTHER %	% OF TOTAL
	CUMULATIVE OF TOTAL CUMULATIVE OF TOTAL CUMULATIVE OF TOTAL CUMULATIVE OF TOTAL CUMULATIVE OF TOTAL										CUMULATIVE OF TOTAL		% OF TOTAL
1 OCT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0833	1.0833	0.0000
2 NOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0833	1.0833	0.0000
3 DEC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0018	0.0018	0.0218
4 JAN	0.0000	0.0000	0.6315	0.0652	0.1918	0.0198	0.0000	0.0000	0.0000	0.0000	0.5777	0.5777	0.1032
5 FEB	0.1303	0.0256	0.3424	0.0673	0.1007	0.0198	0.0962	0.0189	0.0393	0.1232	0.3334	0.3334	0.1967
6 MAR	0.2642	0.0805	0.4404	0.1342	0.0313	0.0095	0.1291	0.0393	0.0322	0.0652	0.0376	0.0376	0.3048
7 APR	0.3837	0.1992	0.3264	0.1694	0.0954	0.0495	0.1005	0.0522	0.0619	0.0668	0.0339	0.0339	0.5190
8 MAY	0.3555	0.2323	0.3322	0.2171	0.1134	0.0741	0.0948	0.0619	0.0781	0.0575	0.0447	0.0447	0.6535
9 JUN	0.3824	0.2973	0.3347	0.2602	0.1262	0.0981	0.1004	0.0781	0.0781	0.0492	0.0447	0.0447	0.7775
10 JUL	0.3824	0.3490	0.3228	0.2946	0.1305	0.1190	0.0977	0.0891	0.0891	0.0492	0.0447	0.0447	0.9125
11 AUG	0.3917	0.3917	0.3058	0.3058	0.1346	0.1346	0.1029	0.1029	0.1029	0.0508	0.0508	0.0508	1.0000
12 SEP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13 OCT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14 NOV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15 DEC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16 JAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17 FEB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18 MAR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19 APR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 MAY	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
21 JUN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
22 JUL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23 AUG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24 SEP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25 OCT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26 NOV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27 DEC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28 JAN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29 FEB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
30 MAR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
31 APR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
32 MAY	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
33 JUN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
34 JUL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
35 AUG	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
36 SEP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 5-5. Distribution Rates Through Payout Period
(Sept 83 to Oct 85)

DISTRIBUTION RATES FOR FY83A						05-Dec-85
	PRIOR YEAR MSC % OF TOTAL	PRIOR YEAR MAC % OF TOTAL	PRIOR YEAR MTMC % OF TOTAL	PRIOR YEAR DLA % OF TOTAL	PRIOR YEAR OTHER % OF TOTAL	PRIOR YEAR % OF TOTAL
1 OCT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2 NOV	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001
3 DEC	0.0000	0.0000	0.0109	0.0000	0.0010	0.0118
4 JAN	0.0238	0.0000	0.0110	0.0000	0.0026	0.0375
5 FEB	0.0302	0.0290	0.0111	0.0087	0.0038	0.0829
6 MAR	0.0304	0.0290	0.0256	0.0256	0.0069	0.1227
7 APR	0.0941	0.0606	0.0277	0.0383	0.0286	0.2493
8 MAY	0.1047	0.0833	0.0401	0.0538	0.0125	0.2943
9 JUN	0.1340	0.1156	0.0291	0.0473	0.0016	0.3277
10 JUL	0.1492	0.1287	0.0324	0.0527	0.0018	0.3648
11 AUG	0.2017	0.1741	0.0438	0.0713	0.0024	0.4933
12 SEP	0.2768	0.2388	0.0602	0.0978	0.0034	0.6769
13 OCT	0.2773	0.2393	0.0603	0.0980	0.0034	0.6781
14 NOV	0.3039	0.2683	0.0691	0.0977	0.0121	0.7513
15 DEC	0.3558	0.3084	0.0713	0.1210	0.0184	0.8777
16 JAN	0.4211	0.3038	0.0763	0.1206	0.0190	0.9465
17 FEB	0.4239	0.3156	0.0770	0.1269	0.0191	0.9626
18 MAR	0.4246	0.3146	0.0772	0.1274	0.0192	0.9631
19 APR	0.4428	0.3178	0.0763	0.1315	0.0190	0.9874
20 MAY	0.4447	0.3196	0.0768	0.1318	0.0185	0.9913
21 JUN	0.4440	0.3193	0.0767	0.1316	0.0199	0.9915
22 JUL	0.4472	0.3211	0.0770	0.1320	0.0186	0.9957
23 AUG	0.4454	0.3288	0.0761	0.1305	0.0184	0.9993
24 SEP	0.4454	0.3291	0.0761	0.1305	0.0184	0.9995
25 OCT	0.4460	0.3293	0.0761	0.1305	0.0184	1.0004
26 NOV	0.4263	0.3404	0.0786	0.1349	0.0203	1.0007
27 DEC	0.4117	0.3446	0.0817	0.1416	0.0212	1.0008
28 JAN	0.4254	0.3389	0.0829	0.1336	0.0202	1.0010
29 FEB	0.4254	0.3389	0.0829	0.1336	0.0207	1.0014
30 MAR	0.4245	0.3385	0.0828	0.1335	0.0197	0.9993
31 APR	0.4251	0.3387	0.0829	0.1336	0.0194	0.9996
32 MAY	0.4249	0.3386	0.0829	0.1336	0.0194	0.9996
33 JUN	0.4250	0.3378	0.0839	0.1332	0.0195	0.9995
34 JUL	0.4253	0.3380	0.0839	0.1333	0.0195	1.0000
35 AUG	0.4253	0.3380	0.0839	0.1333	0.0195	1.0000
36 SEP	0.4253	0.3380	0.0839	0.1333	0.0191	1.0000

Table 5-6. FY Calculated CFSOT Disbursements

	FY85					05-Dec-85
	CALCULATED CFSOT DISBURSEMENTS					TOTAL*
	HSC*	MAC*	HTMC*	DLA*	OTHER*	CUMULATIVE CALCULATED
1 OCT	0	0	0	0	0	0
2 NOV	0	0	0	0	52	52
3 DEC	0	0	4479	0	394	4873
4 JAN	9831	0	4539	0	1092	15462
5 FEB	12478	11961	4563	3570	1556	34212
6 MAR	12561	11966	10579	10579	2837	50624
7 APR	38827	25015	11439	15823	11792	102897
8 MAY	43211	34379	16534	22187	5156	121466
9 JUN	55292	47715	12017	19535	671	135231
10 JUL	61550	53115	13378	21746	747	150537
11 AUG	83239	71832	18091	29409	1011	203582
12 SEP	114210	98558	24823	40351	1389	279329
13 OCT	114416	98736	24868	40424	1389	279834
14 NOV	125431	110798	28517	40305	4981	310032
15 DEC	146831	127278	29430	49942	7596	362217
16 JAN	173782	125389	31574	49776	7822	390590
17 FEB	174935	130253	31787	52365	7893	397234
18 MAR	175216	129808	31878	52591	7935	397428
19 APR	182729	131132	31495	54282	7835	407474
20 MAY	183459	131891	31684	54372	7650	409097
21 JUN	183213	131778	31668	54310	8208	409178
22 JUL	184536	132522	31769	54480	7686	410878
23 AUG	183822	135690	31411	53860	7601	412384
24 SEP	183800	135816	31409	53852	7600	412477
25 OCT	184052	135910	31411	53854	7602	412830
26 NOV	176015	140458	32450	55653	8376	412953
27 DEC	169899	142210	33711	58431	8745	412996
28 JAN	175535	139836	34218	55149	8355	413094
29 FEB	175532	139834	34217	55147	8524	413254
30 MAR	175199	139670	34177	55082	8115	412971
31 APR	175429	139752	34197	55115	8022	412515
32 MAY	175355	139749	34196	55113	8022	412506
33 JUN	175391	139418	34607	54982	8047	412445
34 JUL	175490	139496	34626	55014	8051	412672
35 AUG	175490	139496	34626	55013	8051	412671
36 SEP	175490	139496	34626	55013	7884	412671

(2) **Nonshipment Charges.** This paragraph provides an example of how nonshipment charges can be estimated. Table 5-3 displays the sum of the estimates produced by the Monthly Billing Estimate Model for the three TOAs which is \$412,671,000 (bottom left of Table 5-3). Monthly rates of disbursements for FY 85 in thousands of dollars are displayed in Table 5-4. Table 5-5 shows the percent (divided by 100) of the total amount disbursed in prior years to each TOA, DLA, and for other SDT charges. The three TOAs account for 84.7 percent (sum of bottom row (.4253 + .338 + .0839) x 100) of the total amount disbursed. The program divides the summation of the billing estimates for the TOAs (\$412,671,000) by the estimated percent of total charges (84.7). This yields a subtotal of \$487,214,876. The subtotal is multiplied by the percent estimated paid to DLA and other nonshipment charges which are .1333 and .0191 (bottom of columns 4 and 5), respectively, shown in Table 5-5. This results in the \$64,936,000 (bottom of Column 7) for DLA charges and \$9,306,000 (bottom of Column 8) for other nonshipment charges shown in Table 5-3. A cumulative estimate for the three TOAs, DLA, and nonshipment charges can now be made and is shown as \$486,912,000 (bottom right) in Table 5-3.

(3) **Rates of Disbursements.** It is useful for the analyst to know the rate at which CFSDT funds are actually being disbursed. This information is not currently available to the SDT program manager on a timely basis. After the total amount of SDT expenditures are estimated, historical rates of disbursement can be applied to the total estimate to forecast the distribution of disbursements. Table 5-5 displays disbursement rates for FY 83 through the payout period from September 1983 to October 1985. Applying these rates to the \$486,912,000 (Table 5-3 bottom right) estimated for total FY 85 CFSDT the disbursement estimates from October 1985 to September 1987 can be calculated as shown in Table 5-6.

c. **Summary of Short-term Solution.** The billing estimates spreadsheet provides the DALO-RMB program managers a method to estimate SDT fund requirements before the end of the fiscal year. The estimate indicates the amount of additional dollars that should be obligated or surplus dollars that may be made available for other uses or declared excess. The model is flexible and can be adjusted by the analyst to account for shipments not budgeted by modifying the predicting percentages. The usefulness and accuracy of this type of model has already been verified by NAVSUPSYSCOM. The disbursement spreadsheet provides the program manager with a forecast of the distribution for SDT disbursements on a monthly basis to pay the estimated billings. The spreadsheet applications provide a valuable tool for the financial manager to compensate for delayed posting of disbursement data.

5-6. **LONG-TERM SOLUTION (ALTERNATIVE 3).** This alternative is appropriate for implementation in the long term. It provides a methodology to account for transportation costs on a transaction-by-transaction basis. It is an empirical system, accounting for each shipment and each charge placed against that shipment from the time it is received by the TOA until it is released for line haul to its destination. The system is large and complex, with about 100,000 transactions or billing records per month.

a. System Background. The transaction-by-transaction system of accounting will derive its basic data from the TOA cargo documentation system. Each of the TOAs--MAC, MTMC, and MSC--rely on automated systems to account for, control the movement of, and to calculate billings for Army cargo shipments. The data source for these automated systems is in the Transportation Control and Movement Document (TCMD) (see Figure 3-2 in Chapter 3). The Logistic Control Activity (LCA) is the air clearance authority for Army-sponsored cargo. If the cargo is not eligible for shipment by air, MTMC clears the cargo for shipment and directs the shipper to line haul the cargo to a selected ocean terminal. MTMC receives the cargo, manifests it, and loads the cargo on MSC-controlled or contracted ships for movement to the destination point of debarkation (POD). The cargo documentation system provides input for the TOA accounting and billing system. Both MAC and MTMC use systems based on the collection of data at the point of embarkation (POE); transmission of the data to central collection points; and a final transmission to the finance and accounting office of the respective Industrial Fund. MSC relies on manifest data produced by MTMC for CONUS export shipments and extracts the data from manifests transmitted by AUTODIN from OCONUS ports. The OCONUS manifests are handled directly through the Navy's major or area commands.

b. System Concept. The transaction-based system is an accounting system that could be used by DA to establish obligations, track the liquidation of the obligations, provide information to deobligate or request additional funds, and manage the dollars in the CFSDT annual funding program. Given sufficient time, the system has the potential to build up sufficient historical data to provide for budget estimation and feedback to the cargo forecast system. The system would be able to receive inputs from the cargo documentation systems, build an accounts payable file, and match the bills received from the TOAs against this file. As a match is made, the bill for that shipment is paid, or the obligation is liquidated, and that record of payment is stored as historical data.

(1) System Inputs. Each shipment is identified by a Transportation Control Number (TCN) and a transportation account code (TAC). The TCN and TAC appear on the TCMD and follow the shipment from origin to destination. The TAC is the financial account code identifying the organization responsible for payment for the shipment. The following are additional required input.

- (a) Commodity code
- (b) Weight
- (c) Cube
- (d) Point of Embarkation (POE)
- (e) Point of Debarkation (POD)
- (f) Consignor or shipper

(g) Consignee or receiver

(2) **Shipment File.** The data listed above is contained in the file and cargo documentation would be used to build a shipment file. Figure 5-1 shows how the shipment data base would be constructed. TCMD data from the cargo documents files, submitted by the TOAs, are extracted and edited to create shipment records. This file would be built on a continuous basis. Other sources of input data to the shipment file are the TOA billing tapes which are received after the end of each billing month, direct billings not included in the monthly billing tapes, and transfers by other finance and accounting offices for payment by USAFAC. Also included in the shipment file are estimated costs for each shipment as calculated from the TOA rates file. This process is discussed in the following paragraphs.

(3) **On-line Files.** The following files would be required within the system for the purpose of editing/auditing the input data. These three files would require maintenance to ensure currency of the information and accuracy of the edit/audit. The source of the data is shown in parenthesis.

(a) TAC code file (AMC)

(b) DODAAC file (DLA)

(c) Transportation rates files (three, one for each TOA)

(4) **System Process**

(a) Shipment data is received and recorded in the shipment file for each TOA. Data would be stored by TAC and then TCN within the TAC for each shipment. The commodity code, weight, cube, POE, and POD for each shipment would be used to reference the appropriate TOA rate table and a cost would be calculated for the shipment. This cost would be recorded on that particular shipment record and used as a basis for establishing an obligation. The shipment file now is similar to an accounts payable file.

(b) A master movement file is maintained by LCA. This file contains approximately 6 months of shipping data, but not the estimated cost. This file could be expanded to include cost data and additional historical data. A discussion of this file and LCA activities is found in Appendix J.

(c) The detail billing tapes, which are presorted by TAC, would then be matched by TCN against the shipment or revised master movement file. An overview of the process is provided in Figure 5-2. The process of matching a shipment TCN from the accounts payable file with a record from the billing tape may require multiple editing to account for partial shipments, split shipments, or consolidated shipments and may extend over several billing periods. Other contingencies, such as delayed billings or duplicate billings, would require the following automated logic.

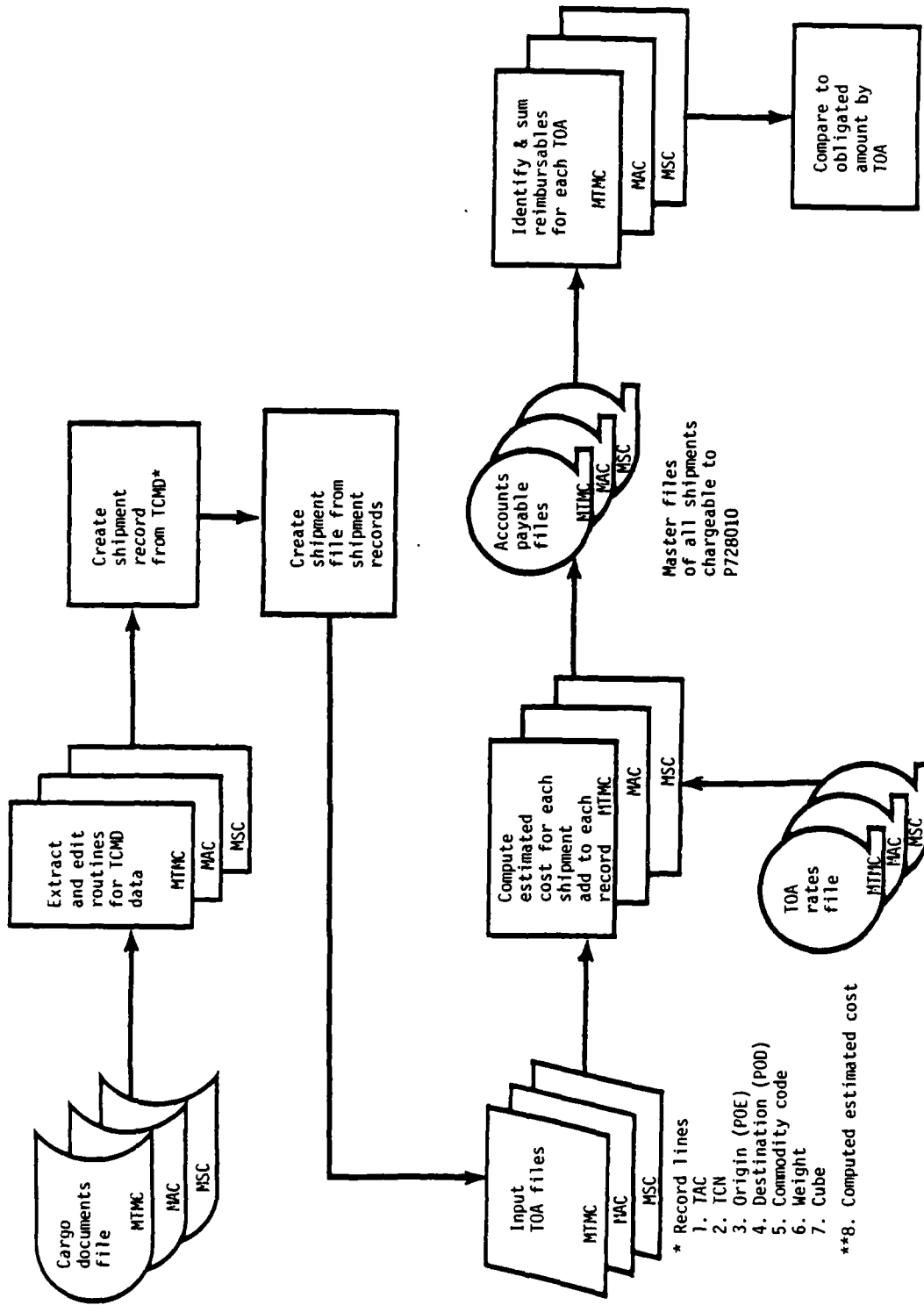
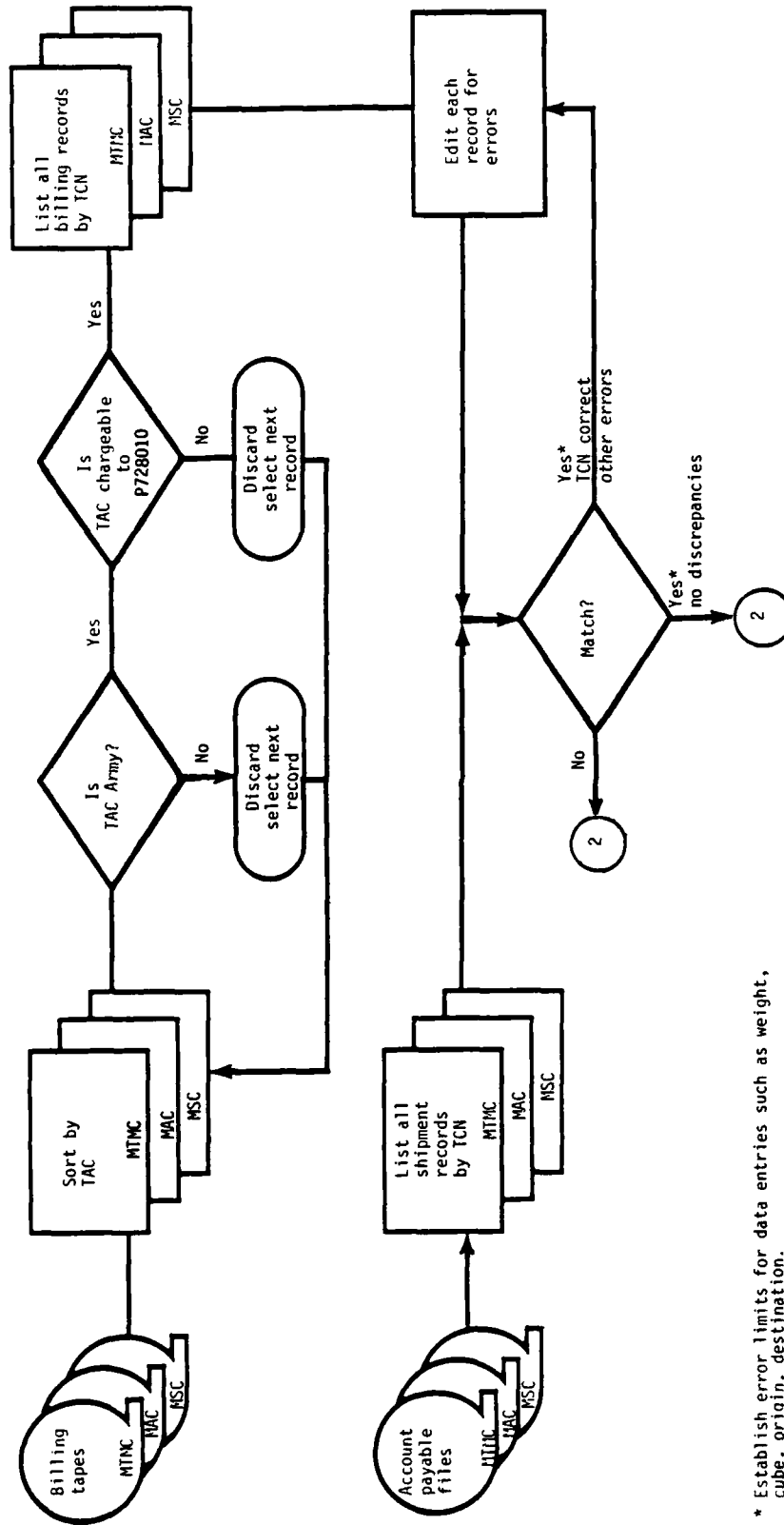


Figure 5-1. Shipment Data Base



* Establish error limits for data entries such as weight, cube, origin, destination.

Figure 5-2. Billing File Match

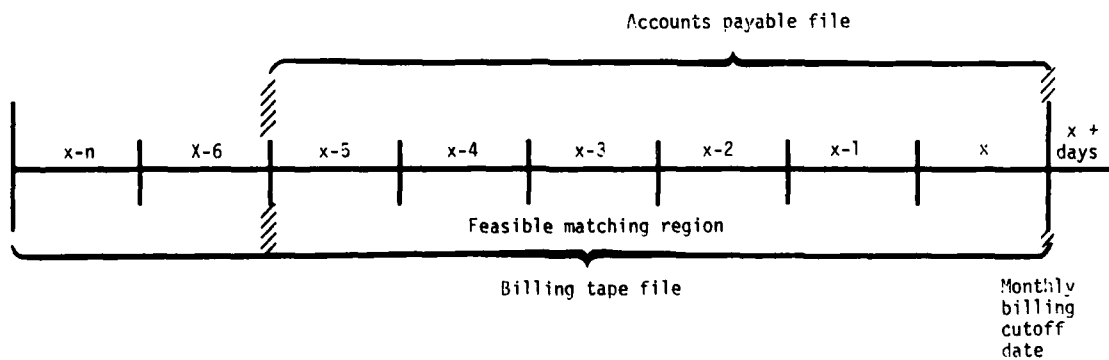
(a) Compare billing record with shipment record for commodity, cube, etc.

(b) Determine if the service is final (storage would not be a final service at a POD).

(c) Determine if the following conditions exist:

1. Shipment record exists, no billing record received.
2. Billing record received, no shipment record exists.
3. No billing record received, no shipment record exists.

(d) Determine if the service date on the billing record contained in the billing tape file occurs before the earliest record date for the shipment records in the accounts payable file. Until the accounts payable file contains several years of data, some delayed billing records could precede the shipment records, as illustrated in Figure 5-3 and would not be matched. This condition would essentially be eliminated with the retention of up to 3 years of data.



Probability of match occurs in region denoted by x thru x-5

Figure 5-3. File Duration

c. Obligations and Liquidations. The purpose of the transaction system is to track obligations through to liquidation. Figure 5-4 shows the concept of estimating the obligation and presents the matching process on a transaction-by-transaction basis. The process begins with a shipment which is recorded with an estimated cost and proceeds to the receipt of a bill for that shipment. The accounts payable file contains shipment records for which obligations have been made. Shipment records are placed into the file as they are received, increasing the obligation. The obligations are liquidated as bills are paid. A bills paid file is built as the bills are paid. The purpose of this file is to cross-check bills received for possible duplication and to function as the historical cost data base. Aggregation of this file by time period, commodity, channel, TAC, or other criteria will provide useful budget data. For example, if a unit were to change locations, a sort by consignee (DODAAC) may provide useful cost data, particularly if the new location was supported by different transportation channels. In addition, variance accounts could be maintained from this file indicating whether performance or rates caused shifts from estimated costs.

d. Data Base Considerations. The transaction system would result in a large data base. Entering worldwide cargo documentation for SDT into this data base and using it as a means to edit/audit the bills presented by the TOAs would require personnel knowledgeable in both managerial accounting and transportation management. If a data base similar to the current LCA master movements file is to be established, it would require several years to build sufficient shipping information to have a high probability of a match. This system is an empirical system handling each transaction (shipment) as a unique entity. If the Army is billed for 100,000 transactions per month, even a 1 percent error rate may mean that 1,000 billing records per month would require manual edit/audit. The obligations made using the transaction system would be based on the knowledge of actual shipments rather than an estimate of shipments for some future period.

e. Summary of Long-term Solution. The long-term solution is a transaction-by-transaction system of accounting which derives its basic data from the TOA cargo documentation system. Implementation of this alternative would require one-time contracting support for programing and approximately two additional people for operations and maintenance. Although the system appears complex, LCA personnel, with access to an extensive data base and software programs, consider this alternative very feasible.

5-7. SUMMARY OF ALTERNATIVE SYSTEMS. Four alternatives to the current system were developed to improve the financial management of SDT. A cash management forecasting model was developed as a short-term solution to the SDT financial management problems encountered by DALO-RMB program managers. A transaction-by-transaction accounting system, to be operated by LCA, was selected as the long-term solution.

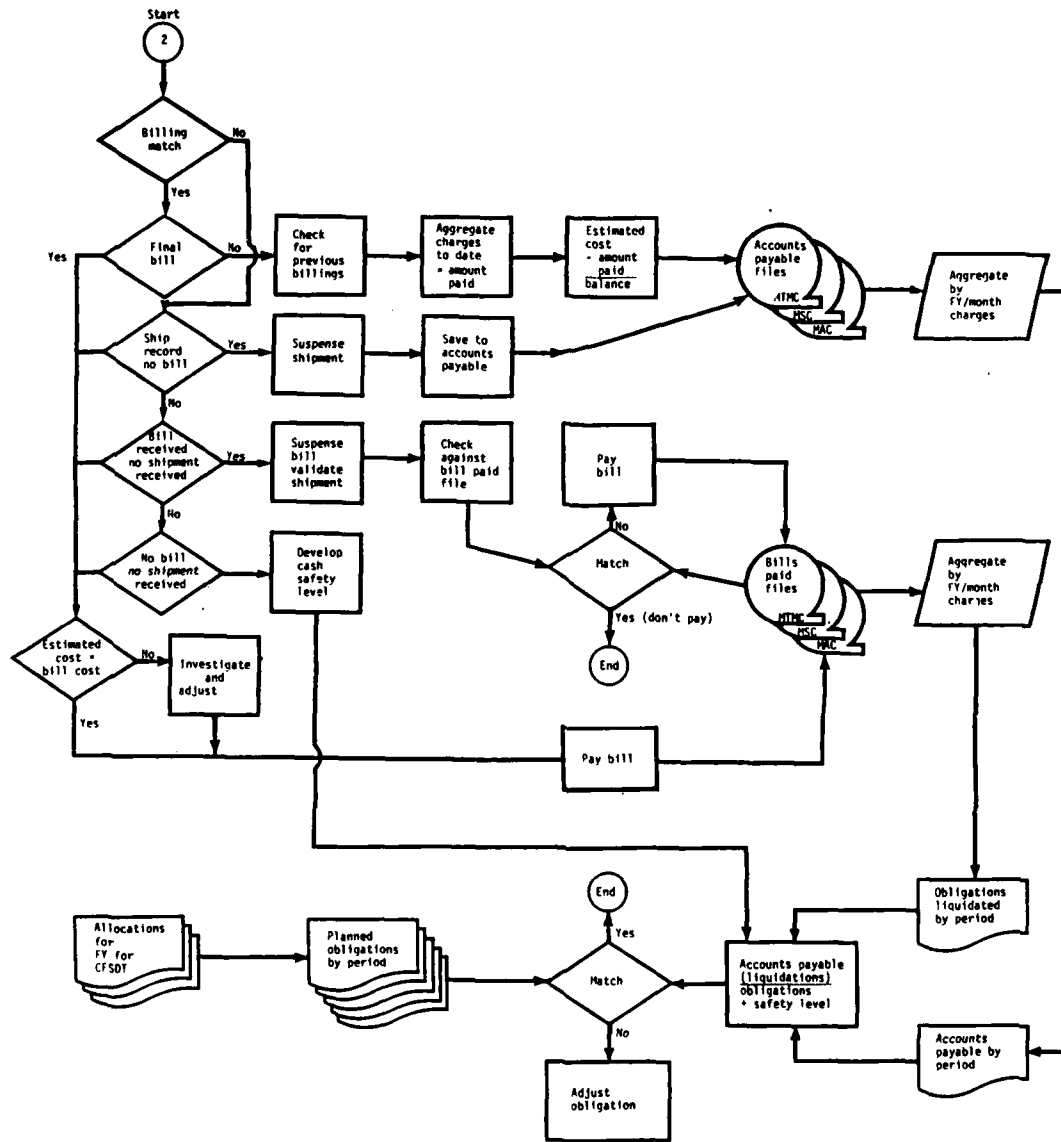


Figure 5-4. Building the Obligation

CHAPTER 6

FINDINGS AND OBSERVATIONS

6-1. INTRODUCTION. The purpose of this chapter is to summarize the study results, address the essential elements of analysis, and state key findings and observations determined during the course of the study.

6-2. ESSENTIAL ELEMENTS OF ANALYSIS (EEA). The EEAs which were developed at the onset of the study and stated in the CFSDT study directive (Appendix B) are addressed below.

a. What was the impact in prior years of over or under obligation of funds for SDT? It has been difficult for ODCSLOG to consistently track budget requests, annual funding, and disbursements. The percent difference between budget requests and disbursements ranged from -13.9 percent (under) to +40.8 percent (over) for the years FY 80 to FY 84. The percent difference between annual funding and disbursements ranged from -5.5 percent (under) to +8.6 percent (over) for this same time period. OCOA has either had to provide additional funding or to deobligate surplus funds for SDT because ODCSLOG program managers cannot provide OCOA with accurate funding requirements at the end of the fiscal year. The uncertainty in determining the SDT budget variance has required the shifting of OMA funds after the end of the fiscal year.

b. How timely and useful are current and historical data on overocean moves for management of resources and budget estimation? Current data are not provided to the program monitor in a timely manner due to the late posting of bills and monthly accumulation of data. Incomplete data are used to forecast workloads, prepare budgets, and track disbursements. Data would be useful for management of resources and budget estimation if received in a timely fashion. Additional historical data would improve forecasting capabilities. Current historical data covers too short a span and is incomplete. More complete data on SDT billings and disbursements over several years would improve SDT financial management during execution of the budget and should provide more accurate shortfall or surplus estimates prior to the end of the fiscal year.

c. Can the MECHTRAM system be modified to provide use of a more extensive data base and to provide timely and accurate cost and performance data for use by forecasters and budget analysts? The current MECHTRAM system could be improved by adding an accrual accounting capability. This could be accomplished either by modifying the current MECHTRAM system or by incorporating the AFLC system into MECHTRAM. Thus, modifying MECHTRAM could improve SDT accounting and reporting, budget forecasting, and tracking as well as provide a means for automating the SDT portion of the budget execution process. However, improvement of MECHTRAM by either of these methods could not be incorporated in the near timeframe and the improved system would still not permit tracking of SDT funds on a transaction-by-transaction basis which is a major goal for the selected long-term solution. Also,

either of these two methods for modifying MECHTRAM would require significant one-time costs. As an alternative for the short-term solution, the MECHTRAM system could incorporate the CAA extract program, which provides input for the Monthly Billing Estimates Model. However, since incorporating the extract program into the MECHTRAM system would not produce any measurable savings in computer time, it is proposed to be run separately.

d. What are the benefits associated with improved reporting and accounting systems? The CAA extract program and the monthly billing estimates model application will permit the program monitor to more accurately forecast obligations and disbursements, thus improving budget execution. Specifically, improved reporting and accounting systems will result in the following benefits:

- (1) Ability to manage and forecast SDT expenditures throughout the fiscal year.
- (2) Ability to provide OCOA with a more accurate estimate of the short-fall or surplus of SDT funds prior to the end of the fiscal year, resulting in more lead time for any required transfers of OMA funds.
- (3) Ability to forecast and budget for nonshipment charges.
- (4) Result in a historical data base that can be used to fine tune forecasts over time.
- (5) Improve the SDT fund audit trail.

e. What methodologies exist in the other services which might have application to the Army problem?

(1) **Air Force.** The current Air Force system has improved editing capabilities and permits improved tracking of expenditures during budget execution. A future Air Force system, to be developed under contract, will provide enhanced transportation financial management and documentation and will establish a direct interface with MAC, MSC, and MTMC. The Air Force system shows potential, but a system similar to the Navy system is considered less complex and is more readily available.

(2) **Navy.** The Navy system incorporates a forecasting methodology which enables the program monitor to obligate funds with a reported error rate of less than 1 percent. This system is directly applicable to the Army problem. CAA has developed a Billing Extract Model with a microcomputer spreadsheet application, which incorporates the principles of the Navy system.

(3) **Marines.** The Marine system is not applicable to the Army since it is very limited in scope due to the small number of SDT transactions handled by the Marines.

6-3. QUALITATIVE ASSESSMENT. The problem of the current SDT financial management process, namely the inability to provide actual obligations (lift) data in sufficient time to provide a basis for decisions to control and adjust resources, resulted in 4 alternative courses of action to improve SDT financial management. Table 6-1 provides a subjective rating of key factors that were considered by the study team in the selection of the near-term and long-term alternative solutions. Based on discussions with personnel responsible for CFSDT financial management, these factors were considered to be key areas of concern in the selection of the alternative solutions. Alternative 1 was found to offer the best solution for the short term and Alternative 3 was found most suitable for the long term. Alternatives 2 and 4 were rejected because their disadvantages outweighed their potential for improving the current process. The current system evaluation and review of other services provided a basis for judging the feasibility and utility of these alternative systems. Alternative 1 provides a near-term solution to the existing problem by forecasting obligations based on expenditures which compensates for delayed billings. Alternative 3 is a proposed long-term solution that capitalizes on the use of lift data to perform transaction-by-transaction accrual accounting at the Logistic Control Activity. A summary of the advantages and disadvantages of the near-term and long-term solutions follows.

Table 6-1. Rating the Alternatives

Factors	Rating of alternatives ^a			
	1	2	3	4
Initial cost	1	5	3	4
Recurring cost	1	5	3	4
Feasibility	1	2	2	5
Data availability	1	3	2	3
Reduction in obligation error	2	2	2	1
Ability to move cargo	1	1	1	5
Avoidance of financial violation	1	1	1	5
Near-term application	1	5	5	5
Long-term application	5	1	1	1

^aFavorable 1--5 Unfavorable

a. **Alternative 1 (near-term solution).** Maintain the current system with some improvements.

(1) Advantages

(a) The current financial management system has not incurred financial violations (31 USC 1517). This is due to the flexibility in the system which allows adjustments to funding levels. Also, accommodation for low funding levels can be made, to a limited extent, by postponing billings.

(b) The cargo would continue to be moved as expeditiously as in the current system. Adjustments to funding would still be made after the fact.

(c) There would be no increased requirements for development of systems or hardware nor would there be increased recurring costs for resources.

(d) The system would continue to function without major changes. Improvements in financial management would reduce, but not eliminate, the budgeting and obligation errors due to late billing.

(2) Disadvantages

(a) DA would still lack timely management information, but the improved system would help in compensating for this lack of information.

(b) The improvements will not permit the auditing of bills on a transaction-by-transaction basis.

(c) DA would continue to rely on the TOA bills, even though some bills are inaccurate, for financial accounting data.

b. **Alternative 3 - Transaction-by-Transaction System (long-term solution).** Implement a transaction-by-transaction system which estimates obligations based on shipment information transmitted over AUTODIN. This alternative would use the cargo movement documentation currently in the financial management system, with some modifications.

(1) Advantages

(a) Advance obligations can be determined by costing each shipment as the shipment enters the transportation pipeline and by maintaining that shipment in an accounts payable data file as an obligation that must be paid. This procedure would greatly improve obligation estimates.

(b) Each transaction (shipment) data record could be used to audit/edit the bill received from the TOA for that shipment. This system would provide a built-in audit routine that could validate bills for payment.

(c) This system would reduce the level of error in obligation estimates, as compared to the current system, by estimating costs by shipment before the bills are posted.

(d) The major data source is already in place at LCA. In this respect, the Army has an advantage over the Air Force in the development of a transaction-based system.

(2) Disadvantages

(a) Requires data links to all theaters, OCONUS and within CONUS.

(b) Requires some program development which would result in one-time costs.

(c) Requires some increase in recurring costs resulting from increased manpower, telecommunications, computer time, and systems maintenance.

(d) Requires an estimated 2 additional people to operate and maintain.

(e) System may result in additional workload without the relative payoff of Alternative 1.

6-4. KEY FINDINGS

a. Prior year data shows a shortage or surplus of money obligated at year end in comparison to the CFSDT budget.

b. Due to the lack of historical data and the substantial programing effort required, a transaction-by-transaction system could not be developed in the limited timeframe of this study.

c. SDT obligations and disbursements can be closely estimated from billing data extracted from MECHTRAM.

d. Nonshipment charges can be estimated and included in the budget forecast by utilizing the CAA-developed factor routine.

e. LCA is the logical choice to implement a transaction-by-transaction system because most data required for this system is currently collected there, and LCA has the required computer capabilities. Development of software would be required.

6-5. KEY OBSERVATIONS. The key observations resulting from this study are:

a. Budget estimates are based on fixed rates, but changes in commodity, mode of shipment, or channel cause significant variations in actual costs.

b. Since TOAs determine routing or mode of shipping of overocean cargo, the cost to ship cargo varies from the ODCSLOG budget estimate using fixed rates.

c. The Navy and Air Force generally have been able to forecast SDT budget requirements more accurately than the Army.

d. Official billings (SF 1080s) lag shipments by about 4 months.

e. There is little correlation between total dollars spent and total tons moved.

f. Nonshipment charges are not budgeted. Direct billings are used rather than the regular monthly bills to cover nonshipment charges.

g. A poor audit trail exists due to missing and inconsistent historical financial accounting records.

h. SDT funds are not fenced. Monthly changes to funding level are experienced.

6-6. SUMMARY

a. The current accounting system is based on the bills received from the TOAs. Since these bills arrive late, an accurate picture of the execution of the CFSDT budget is not available until after the end of the fiscal year. In prior years this has resulted in a shortage or surplus of money obligated at year end. Discussions with the comptroller and financial personnel throughout the agencies visited revealed a preference to under-obligate funds at year end. In the case of estimated surplus funds, the preferred procedure is to deobligate, transfer, and reobligate the excess funds. A deobligation after year end is considered lost funds. Historical data indicated that, after year end, adjustments varied both positively (increases in funds were required) and negatively (deobligations of funds were made).

b. The alternatives developed in this study are methods that will allow ODCSLOG program managers to closely monitor the SDT budget during the execution year by estimating the obligations necessary to cover all fiscal year SDT costs. An evaluation of 4 alternatives to the current system was made. A model forecasting obligations based on expenditures was developed for implementation in the near term. A proposed methodology for implementing a transaction-by-transaction accrual accounting system was presented for consideration as a long-term solution.

c. Suggested ODCSLOG actions are to implement the short-term solution by utilizing the CAA-developed computer routine to extract billing data and the microcomputer spreadsheet applications developed to estimate SDT obligations and disbursements. Use of the CAA-developed factor routine within the disbursements spreadsheet application will allow nonshipment charges to be included in the budget forecast. Other actions that are recommended for consideration by ODCSLOG are to continue the use of MECHTRAM, implement a

weekly billing system (if desired) in the last 2 months of the fiscal year, eliminate all TACs not utilized in the past 3 years, combine TACs that may be duplicative, and to retain edited billing files for 5 years. Test the short-term solution and if it proves to be inadequate, adoption of the long-term transaction-based system should be considered. The basic data for this alternative is already being collected at LCA. However, the initial programming requirements, and the 2 additional people estimated to be required for operation and maintenance, warrant consideration of the costs versus benefits of implementing this alternative.

APPENDIX A
STUDY CONTRIBUTORS

1. STUDY TEAM

a. Study Director

Mr. Kenneth R. Simmons, Force Systems Directorate

b. Team Members

LTC Robert G. Emerick
MAJ James K. Bryant
Mr. Joel S. Gordon
MS. Rose Brown

c. Other Contributors

Mr. Kirk S. Reed
Mr. Richard G. Brown
Ms. Linda A. Coblentz

2. PRODUCT REVIEW BOARD

LTC Daniel R. Noonan, Jr., Chairman
MAJ George J. Captain
Mr. Frank O. Gould

APPENDIX B
STUDY DIRECTIVE



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS
WASHINGTON, D.C. 20310-05

16 APR 1985

DALO-RMB

SUBJECT: Centrally Funded Second Destination Transportation (SDT) Study

Director
U. S. Army Concepts Analysis Agency
Bethesda, MD 20815-2797

1. Purpose of Study Directive. This directive provides for the conduct of a study to evaluate current transportation accounting systems and make recommendations for system modifications.
2. Study Title. Centrally Funded Second Destination Transportation (CFSDT) Study.
3. Background. The current transportation accounting system requires that the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) provide movement forecasts of Army sponsored cargo to the Military Sealift Command (MSC), Military Traffic Management Command (MTMC), and the Military Airlift Command (MAC) in accordance with Joint Chiefs of Staff (JCS) Publication 15. Obligation estimates for cargo moves are provided by ODCSLOG for accounting purposes to the U. S. Army Finance and Accounting Center (USAFAC). USAFAC then establishes obligations of funds based on these bulk forecasted moves. As cargo moves are made, MSC, MTMC, and MAC provide billing data on a monthly basis to USAFAC which pays the billing and performs fund accounting and reporting. However, each transaction which is paid can not be tracked to the specific cargo move to which the obligation pertains, and may lead to potential over obligations or to significant deobligations after the year of execution in which case the funds would be lost to the Army.
4. Study Proponent and Proponent's Study Director. HQDA, ODCSLOG, is the study proponent. LTC Robert H. Ruth, is the Proponent's study representative for the Directorate for Resources and Management, Program 7 and Army Industrial Fund Division (DALO-RMB), ODCSLOG.
5. Study Agency. U. S. Army Concepts Analysis Agency (USACAA).
6. Terms of Reference:
 - a. Statement of the Problem. Current transportation accounting systems do not provide actual obligation (lift) data in sufficient time to provide a basis for decisions to control and adjust resources.
 - b. Purpose. To evaluate current transportation accounting systems for SDT and to identify modifications to systems which could be used to obligate and liquidate SDT costs on a transaction-by-transaction basis.

DALO-RMB

SUBJECT: Centrally Funded Second Destination Transportation (SDT) Study

c. Scope. The study will review current transportation accounting systems and make recommendations for system modifications that will permit obligation and liquidation of over ocean SDT costs on a transaction-by-transaction basis.

d. Objectives. Determine problems associated with the current procedure of estimating obligations based on historical data, forecasted shipments, and bills received. Examine alternative solutions to the problem, evaluate these solutions and provide recommended changes to the current management information and reporting systems.

e. Timeframe. Current.

f. Assumptions.

(1) Cargo rates derived for current systems will be applicable to alternatives.

(2) Current transportation accounting systems for over ocean SDT will be maintained.

(3) DOD Regulation 4500.32R military standard transportation and movement procedures (MILSTAMP), will remain in effect during timeframe of study.

g. Limitations.

(1) Only over ocean SDT transactions will be reviewed.

(2) Only data which reflects the current procedures in estimating obligations for bulk shipment will be used. Thus, historical data for prior years will be usable.

h. Essential Elements of Analysis (EEA).

(1) What was the impact in prior year(s) of over obligation or under obligations of funds for SDT?

(2) How timely and useful is current and historical data on over ocean moves for management of resources and budget estimation?

(3) Can the MECHTRAM (Mechanization of Selected Transportation Movement Reports) system be modified to provide use of a more extensive data base and to provide timely and accurate cost and performance data for use by forecasters and budget analysts?

(4) What are the benefits associated with improved reporting and accounting systems?

(5) What methodologies exist in the other services which might have application to the solution of the Army problem?

DALO-RMB

SUBJECT: Centrally Funded Second Destination Transportation (SDT) Study

7. Responsibilities.

a. The study proponent, ODCSLOG will:

- (1) Provide a study coordinator.
- (2) Establish a study advisory group (SAG) and schedule in-process reviews (IPR) as required.
- (3) Assist in providing study agency with available financial, manpower and transaction data, and points of contact (POC) as requested.
- (4) Prepare an evaluation of study results IAW AR 5-5.

b. The study agency, CAA will:

- (1) Designate a study director and establish a full-time study team.
- (2) Establish direct communications with ODCSLOG, MAC, MSC, MTMC, and other agencies as required for the conduct of the study.
- (3) Provide an IPR if requested and final study documentation to the study proponent.
- (4) Provide programming and ADP support as required for the conduct of the study.

8. Literature Search.

a. A Defense Technical Information Center (DTIC) search will be conducted.

b. Related studies:

- (1) Evaluation of Second Destination Transportation Funding, U. S. Army Logistics Evaluation Agency, 29 December 1978.
- (2) Transportation Workload Forecasting (TWF) Study, U. S. Army Concepts Analysis Agency, January 1984.

9. References.

- a. JCS Pub 15, dated 2 June 1975.
- b. AR 55-23, dated 17 March 1978.
- c. AR 55-30, dated 15 August 1982.
- d. AR 55-133, dated 18 February 1977.

DALO-RMB

SUBJECT: Centrally Funded Second Destination Transportation (SDT) Study

- e. AR 59-8, dated 20 August 1982.
- f. MECHTRAM Users Manual, dated June 1978.
- g. AR 11-18, dated October 1975.
- h. AR 11-28, dated December 1975
- i. AR 5-5, dated October 1975.

10. Administration.

a. Support.

(1) Funding for temporary duty (TDY) and travel associated with the study will be provided by each participating agency.

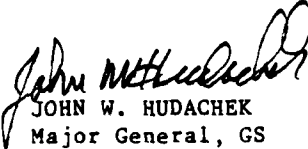
(2) Headquarters or agencies represented on the Study Advisory Group will provide own TDY, per diem, and travel funds.

b. Milestone Schedule:

<u>Event</u>	<u>Date</u>
Brief Study Plan	April 1985
In-Process Review (if requested)	July 1985
Brief Study Results	October 1985
Final Report Published	November 1985

11. Coordination. This directive has been coordinated with CAA in accordance with AR 10-38.

FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:


JOHN W. HUDACHEK
Major General, GS
Director, Resources
and Management

APPENDIX C
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AR 55-167 Policy Governing Transportation of Cargo by Military Sea Transportation Service, August 1969.

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APPENDIX D

ARMY SDT WORKLOAD FORECASTING GUIDELINES

D-1. INTRODUCTION. The purpose of this appendix is to document the three major directives that govern the Army transportation forecasting system and describe the support services provided by LCA.

D-2. FORECASTING. The following paragraphs summarize JCS Publication 15, AR 55-23 and AR 55-30 which provide guidance for Army transportation workload forecasting.

a. Joint Chiefs of Staff Publication 15 (JCS Pub 15). JCS Pub 15, Mobility Systems Policies, Procedures, and Considerations, dated 2 June 1974, contains approved joint transportation procedures applicable to the submission of common-user movement requirements. Specifically, Chapter 4 (Transportation Requirements, Allocations, and Priorities) in JCS Pub 15 addresses shipper service forecasted cargo movement requirements. JCS Pub 15 directs that utilization reports comparing final forecasted requirements with actual cargo for the particular month be provided to the Army monthly. It further requires that each military service and DLA submit four specific forecasts of sealift requirements.

(1) On 1 May of each fiscal year, a preliminary annual forecast (MSC-9) is submitted which provides the worldwide MSC surface movement requirements for the fiscal year beginning 17 months later (e.g., 1 May 84 for fiscal year 1986).

(2) An annual forecast (MSC-10) is submitted on 1 March for the subsequent fiscal year (e.g., 1 March 86 for FY 87). This forecast refines the preliminary forecasts.

(3) A sealift cargo requirement report (short range) is submitted by the 15th day of each month for the succeeding 3 months. Each of the reports states the monthly sealift cargo requirements, in measurement tons, for each traffic route, program, commodity, and type of shipment or mode.

(4) Change reports are required when significant changes to the above forecasts are anticipated.

b. Space Requirements and Performance Reports for Transportation Movements (AR 55-30). AR 55-30 prescribes procedures for the preparation and submission of cargo requirements and performance reports and defines responsibilities for report submission. Responsibilities defined in AR 55-30 are as follows:

(1) The ODCSLOG is responsible for developing long-range cargo movement requirements (preliminary and annual forecast reports) and for programing and budgeting of transportation services.

(2) AMC/LCA has DA responsibility for developing and programming short-range movement requirements.

(3) The commands and agencies reporting under AR 55-30 are required to submit their long-range reports to US Army Management Systems Support Agency (USAMSSA). USAMSSA provides a consolidated report to the Director for Transportation, Energy, and Troop Support, ODCSLOG, who analyzes and adjusts the stated requirements. The adjusted data is then provided to USAMSSA for preparation and submission to MSC and MTMC.

(4) Short-range requirements for surface cargo movement are to be submitted monthly to AMC/LCA. LCA is required to consolidate the reports and forward the Army's statement of requirements to MSC and MTMC.

(5) Change reports are to be submitted when there is a 600-measurement-ton-change over a traffic area (e.g., Gulf Coast to Europe).

c. AR 55-23, Military Sealift, Implements JCS Pub 15 Within the Army. AR 55-23 identifies 57 numbered traffic areas and their associated geographic areas. These areas are the terminals of the traffic channels for which forecasts are submitted. Additionally, AR 55-23 identifies sponsor codes, budgets, programs, cargo classes/commodities, types of shipment, and formats for reports submitted to MSC.

APPENDIX E

CENTRALLY FUNDED ALLOTMENTS

E-1. INTRODUCTION. The purpose of this appendix is to highlight the relationship of centrally funded allotments to the funding of second destination transportation movements. This appendix includes the hierarchy of DOD fund control, related definitions, fund management, and SDT forecasting versus billing activities at Department of the Army level. For a detailed description of centrally funded allotments, refer to DOD Regulation Number 7200.1, subject: Administrative Control of Appropriations.

E-2. HIERARCHY OF DOD FUND CONTROL. The hierarchy of DOD fund control is depicted in Figure E-1. A general discussion of hierarchy elements is included in this paragraph. Paragraph E-3 gives the formal definitions.

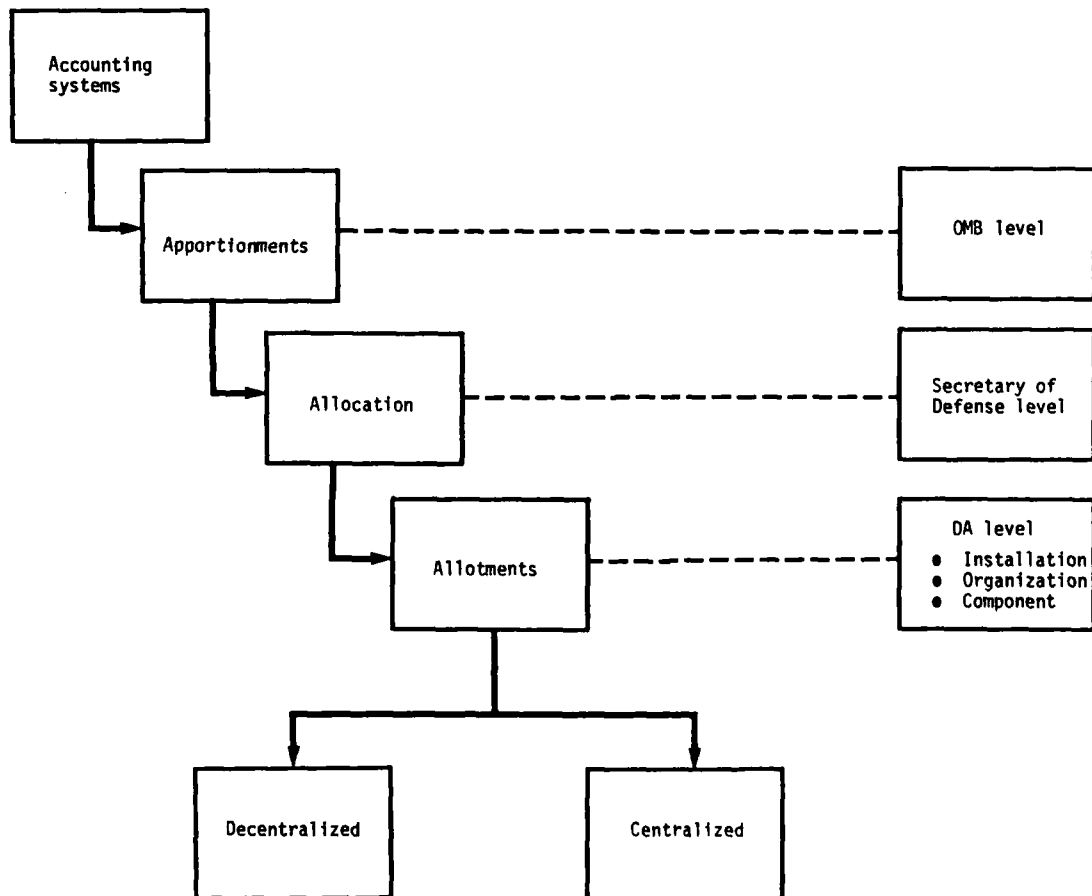


Figure E-1. DOD Fund Control

a. Accounting systems characteristics are designed:

- (1) To restrict obligations to the amount of obligational authority available.
- (2) To provide timely disclosure of authorizations, obligations, and disbursements in excess of amounts available.
- (3) To provide fund management at the highest organizational level possible.

b. Apportionments at OMB level:

(1) Requests for funds to be apportioned are submitted through the Assistant Secretary of Defense (Comptroller) (ASD(C)) to the director of OMB.

(2) Apportionment obligations may not exceed the amount of the approved apportionment over a given time period.

c. Allocation at SECDEF (ASD(C)) level:

(1) ASD(C) allocates apportioned funds.

(2) Secretary of the Army can further suballocate apportioned funds.

(3) Allocations may not exceed the amount of the approved allocation over a given period of time.

d. Allotments are managed at DOD component, installation, and organizational unit level. These allotments include:

(1) Name or title of the allottee.

(2) Amount of allotment.

(3) Period of availability of allotment.

(4) Legal restrictions of obligations and disbursements.

(5) Decentralized allotments.

(6) Centralized allotments.

e. Decentralized allotments are those that require the allotment user to certify the availability of funds prior to obligations of the fund.

f. Centralized allotments permit users to obligate funds without certifying their availability.

E-3. RELATED DEFINITIONS AND CONSTRAINTS. Several definitions and constraints govern the process by which the DOD accounting and fund control system is administered. These were extracted from DOD Regulation 7200.1.

a. Definitions

(1) Administrative Subdivision of Funds. Any subdivision of an appropriation or other fund that makes funds available in a specified amount for incurring obligations for a specific purpose and that generally can be further subdivided. The obligation limitation contained in an operating budget is an administrative subdivision of funds and constitutes an allocation, suballocation, or allotment, as appropriate.

(2) Allocation and Suballocation. An authorization by a designated official of a DOD component making funds available within a prescribed amount to an operating agency for the purpose of making allotments and incurring obligations.

(3) Allotment and Suballotment. An authorization by the head of an operating agency (as defined in paragraph E-3a(8), below) or designee, to the head of any organizational unit to incur obligations within a specified amount.

(4) Apportionment and Reapportionment. A distribution made by OMB of amounts available for obligation in an appropriation or fund account into amounts available for specified time periods, activities, projects, objects, or combinations thereof. The amounts so apportioned limit the obligations that may be incurred.

(5) Appropriations. Statutory authority to incur obligations and to make payments out of the Treasury for specified purposes. As used herein, it also includes authorizations to create obligations in advance of funding action.

(6) Centrally Managed Allotment. Authority issued by the holder of an allocation for incurring obligations for a specific purpose and in a specific amount. It is administered by publishing a centrally managed allotment account number that permits authorized officials to charge the account for authorized purposes without further determination or certification of fund availability for individual transactions.

(7) Decentrally Managed Allotment. A decentrally managed allotment is one in which the availability of funds must be determined or certified each time the allotment is charged.

(8) Operating Agency. A major organizational unit within a military department or defense agency that is responsible for (a) the active planning, direction, and control of a program or segment thereof; and (b) the control of the funds allocated to it.

b. Constraints

(1) Expenditure of funds cannot exceed the amount that has been allocated for a project. Over expenditure results in the violation of DOD, OMB, and Congressional statutes which place the user directly accountable for fiscal mismanagement.

(2) Projects cannot be contracted prior to the allotment of project funds.

(3) The control and administration of funds should be conducted at the highest level possible. That is, funds should not be suballotted to lower levels of management without justification that the funds cannot be administered at a higher level.

E-4. MANAGEMENT OF CENTRALLY FUNDED ALLOTMENTS. This paragraph outlines the activities associated with a centrally funded allotment. It includes the conditions under which a central fund is established, the request for establishment, the role of officials establishing central funds, the control mechanism, and postfund management activities conducted on an annual basis.

a. Preconditions to establishing a centrally funded allotment:

(1) It must be established that it is impractical to administer a decentralized allotment.

(2) It must be demonstrated that adequate controls are in place to prohibit overobligation of the allotment.

b. Request to establish a centrally funded allotment:

(1) A request for the establishment of a centrally funded allotment must justify the need for such an account.

(2) A request for the establishment of a centrally funded allotment must delineate and outline alternatives to a centralized allotment.

(3) A request for the establishment of a centrally funded allotment must demonstrate why a centralized fund is practical.

c. Establishing Centrally Funded Allotments

(1) **Suballocation.** At the Secretary of Defense level (ASD(C)) funds will be suballocated into allotments at DOD component, installation, and organizational level.

(2) **Controls.** A centrally funded allotment must contain controls to ensure that obligations incurred are not over the amount established by the allotment.

(3) **Authorizations.** The individual authorized to incur obligations under the allotment must be clearly delineated.

(4) **Limitations.** Limitations for which obligations are made must be established.

(5) **Accounting.** A system for accounting and reporting of fund activities on a monthly basis must be established.

d. Control of Centrally Funded Allotments. There are three methods to control a centrally funded allotment which prevents the overobligation of the allotment on a timely basis. These are:

(1) The amount of the centrally funded allotment may be increased over time. For example, funds may be allocated at the beginning of the funding period, and this amount increased on a monthly or quarterly basis as the need arises.

(2) The centrally funded allotment may be terminated.

(3) Other steps may be taken as necessary to prevent the overobligation of the centrally funded allotment.

e. Postfund Management. On an annual basis, a centrally funded allotment must undergo an internal audit, and a determination must be made as to whether or not the continuation of the fund is justified.

E-5. SDT FORECASTING AND BILLING ACTIVITIES. This paragraph provides insights into how the SDT forecast and the SDT centrally funded allotment are used in the forecasting and billing of ODCSLOG cargo movements. Typical program and billing activities are contrasted and compared in the following paragraphs.

a. Contrast of Program versus Billing. Transportation forecasts, shipments, and billings do not occur instantaneously, but rather they occur over time. Figure E-2 is a notional graphic depicting the time lag in forecast and billing between the ODCSLOG, Directorate for Resource Management (DRM), and the DOD component managing the centrally funded allotment. The ODCSLOG SDT program is based on transportation forecasts, or cargo to be moved in the future, whereas expenditures are based on completed movements and processed billings. An example of the time lag is as follows (refer to Figure E-2): the ODCSLOG (DRM) is at the end of the second quarter and has already forecasted X_2 cumulative dollars for the centrally funded SDT allotment. It is now desired to raise the amount to X_3 dollars in order to meet the third quarter transportation requirement. The DOD component is also at the end of the second quarter. However, this data base contains expenditures for bills processed through the first quarter, or X_1 bills, and the DOD component, as controller of the centralized allotment, sees no requirement to increase the allotment to X_3 level until X_2 level has been billed. Time period 5 in this example represents the bills processed during the following year's first quarter.

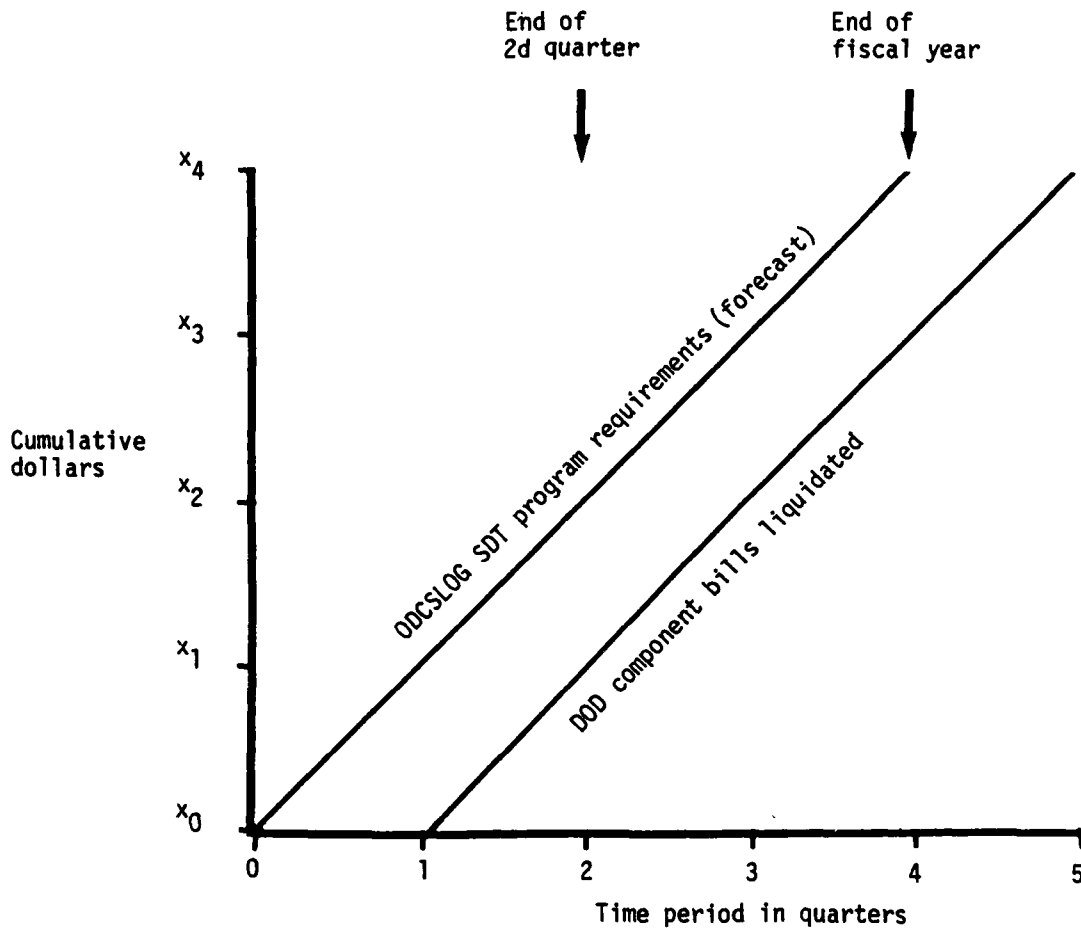


Figure E-2. Time Lag Between Forecast and Bills (notional)

b. **Comparison of Shipping versus Billing Months.** Table E-1 shows a comparison of obligations and expenditures incurred by month. In this example, prior year billings are omitted, but the funds have been obligated since cargo was moved in the prior months and bills for these ship movements were not received before the end of the last fiscal year. Referring to Table E-1, cargo movements made in October are not billed until November. Thus, in the billing month of November, bills for October movements are paid. Similarly, in December, November bills will be paid in addition to bills for October which were not submitted until November. Thus, a matrix is formed as shown in Table E-1, and this technique was used in developing one of the alternatives in this study.

Table E-1. Relationship of Program and Bills^a

Billing month	Shipping month						
	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Oct							
Nov	Oct\$						
Dec	Oct\$	Nov\$					
Jan	Oct\$	Nov\$	Dec\$				
Feb	Oct\$	Nov\$	Dec\$	Jan\$			
Mar	Oct\$	Nov\$	Dec\$	Jan\$	Feb\$		
Apr	Oct\$	Nov\$	Dec\$	Jan\$	Feb\$	Mar\$	
May	Oct\$	Nov\$	Dec\$	Jan\$	Feb\$	Mar\$	Apr\$

^aBillings from prior year not shown.

E-6. SUMMARY

a. Centrally funded allotments do not require a certificate of fund availability each time the fund is obligated.

b. Centrally funded allotments are established only when it is impractical to administer decentralized allotments.

c. Generally, a centrally funded allotment is controlled by increasing the amount of the allotment or terminating the allotment altogether.

APPENDIX F

MECHANIZATION OF SELECTED TRANSPORTATION MOVEMENT REPORTS
(MECHTRAM)

F-1. INTRODUCTION. The purpose of this appendix is to provide a general summary of the MECHTRAM integrated transportation management information system. This appendix addresses the major organizations and their responsibilities in relation to the MECHTRAM information system, the inputs required to generate the various management reports, and the outputs. A detailed description of the system, extracted from the ODCSLOG Program Maintenance Manual published in August 1985, is provided in Annex I to this appendix. The User's Manual from MECHTRAM, dated August 1985, and maintained by the Directorate of Transportation, Energy and Troop Support (DALO-TSP), ODCSLOG, contains a complete discussion on the MECHTRAM system. Annex II to this appendix lists the MECHTRAM components and Annex III displays sample MECHTRAM reports.

F-2. SYSTEM OPERATION. The MECHTRAM system was developed in 1978 as the Integrated Transportation Management Information System (ITMIS) by the US Army Logistics Evaluation Agency, New Cumberland, Pennsylvania. It was developed as a management tool to capture cost and performance data for budget planning and forecast cargo and passenger movements at the DA level. MECHTRAM automates data received from the TOAs pertaining to cargo and passenger movements; i.e., tonnage, number of passengers, and dollar costs. There have been 16 changes to the system since 1978. The magnetic tapes submitted by the TOAs are in the format prescribed by Chapter 10 of the Military Standard Transportation and Movement Procedures (MILSTAMP), Volume II. The tapes are delivered to the US Army Management System Support Agency (USAMSSA) and become part of the MECHTRAM data base. Tapes arrive at DA by the 15th of the month following the movement month and contain all shipment and cost data collected by the TOA up to the 5th working day before the end of the movement month. In September 1984 an Army contract was initiated for services to design, develop, test and implement the MECHTRAM system. Work under this contract resulted in the system as it currently exists. The MECHTRAM system is run using USAMSSA computers and the related telecommunications facilities. USAMSSA provides the ADP support for MECHTRAM through its computer operation and telecommunication facilities. Maintenance of the MECHTRAM software is a responsibility of USAMSSA. However, DALO-TSP is responsible for the maintenance of the data files.

F-3. ORGANIZATIONS. MECHTRAM provides information to a wide array of consumers, all of which have important roles in the input, output, or analysis of the MECHTRAM forecast, budget, performance, or cost data. While ODCSLOG is the primary user of the system, the functional reports produced by MECHTRAM are the basis for reports used by OSD, JCS, the TOAs, the DA Staff, and the forecasting commands. The responsibilities and activities of these organizations are addressed in the following subparagraphs.

a. **Directorate of Transportation, Energy and Troop Support, (DALO-TSP), ODCSLOG.** DALO-TSP is responsible for the implementation and operation of the MECHTRAM system. DALO-TSP has overall Army staff responsibility for the development of movement requirements and programming for all Army-sponsored movements forecast for transport by sea or air and for CONUS port transshipment.

b. **Director for Resources and Management (DRM), ODCSLOG.** The DRM is responsible for the formulation of the budget request and for the management of funds apportioned for SDT. The DALO-TSP provides cost and performance data and appropriation summary data from the prior year out of the MECHTRAM system. The long-range forecast for the budget year is also provided. These are the basic tools used to formulate the budget request. During the execution year the short-range forecasts are used as a guide in estimating the obligations. DALO-TSP analyzes the billing tapes submitted by the TOAs and submits appropriation summary reports in hard copy to the DRM. The appropriation summary reports tons moved and dollar costs by program and point account for each of the TOAs. This provides the budget analyst a means of tracking bills against a given obligation. The DRM is responsible for coordinating the Annual Funding Program (AFP), obligations, and disbursements with USAFAC.

c. **Assistant Secretary of Defense (Comptroller) (ASD(C)).** The Director for Operations, Assistant Secretary of Defense (Comptroller), analyzes the SDT portion of the Army budget submission in terms of the current year movement program, prior year program performance, and use of inflation factors. The SDT portion of the budget is compared to the industrial fund budgets submitted by the TOAs to ensure consistency. The SDT budget is partially derived from the appropriation summary reports produced by MECHTRAM for MSC, MAC, and MTMC.

d. **Joint Chiefs of Staff (JCS).** The Army is provided guidance in JCS Publication 15 for the submission of transportation requirements to MSC, MAC, and MTMC. These requirements are generated out of MECHTRAM and become the long-range forecast which is submitted to the TOAs in May of each year for the fiscal year which begins 17 months later. A short-range forecast is also produced each month for the succeeding 3 months.

e. **Transportation Operating Agencies (TOA)**

(1) **Military Sealift Command (MSC).** MSC plans the total sealift movement requirement after the receipt of the long-range forecast. MSC adjusts these plans based on the short-range forecast. The cargo is moved by the MSC fleet, chartered vessels, American flag commercial vessels, or in special cases, foreign flag vessels. MSC then provides ODCSLOG monthly billing tapes to DALO-TSP in MILSTAMP format containing the movement data and charges for each shipment.

(2) **Military Airlift Command (MAC).** MAC prepares the air channel traffic plan, scheduling aircraft, and cost estimates after receiving the long-range forecast. The plans are adjusted based on the services' short-range forecast. MAC aerial ports receive, load, and document cargo moves.

The aerial ports submit this movement data to revenue data collection points where they are consolidated and submitted to the Industrial Fund Accounting Division at MAC headquarters. This movement data and the related charges are submitted monthly on magnetic tape in MILSTAMP format to DALO-TSP, ODCSLOG.

(3) Military Traffic Management Command (MTMC). In 1985 MTMC assumed responsibility for the preparation of the sealift long-range forecast. Implementation of the forecasting system is detailed in the Transportation Workload Forecasting Study Implementation (TWFS-I). This forecast is used by both MSC and MTMC in developing workload requirements, by channel, for sealift and port handling. MTMC provides transshipment services at CONUS terminals and cargo documentation (ship manifests). The cargo documentation prepared by the various MTMC ocean terminals is submitted to Headquarters, MTMC for compilation. MTMC then provides DALO-TSP, ODCSLOG, with the monthly billing tape, in MILSTAMP format, which contains shipment data and related charges.

f. US Army Finance and Accounting Center (USAFAC) Operating Agency 32: USAFAC is responsible for establishing obligations and submitting purchase orders for transportation services to the TOAs. USAFAC is primarily responsible for fund control, i.e., paying the bills (disbursing) and accounting for SDT funds. USAFAC receives copies of the billing tapes after they have been edited by the DALO-TSP using MECHTRAM. The edited tapes are used by USAFAC to establish the amount of payment out of direct funds and the type reimbursement, namely those that are paid by funded reimbursement and those that must be billed as automatic reimbursements. In order to accomplish this, the charges are sorted by TAC to establish the account responsible for payment. Not all bills submitted to USAFAC are processed through the MECHTRAM system, and this constitutes a shortcoming of the current system. Direct billings are paid by USAFAC out of a miscellaneous obligation document (MOD) as opposed to bills processed by the MECHTRAM system which are paid by the obligations established by the short-range forecast and the purchase order.

g. Logistic Control Activity (LCA). LCA is responsible for analyzing the short-range forecasts submitted by the forecasting agencies. They consolidate the forecasted movement requirements and forward the final programmed requirements to ODCSLOG and the TOAs. LCA also receives the MECHTRAM billing tapes and compares the shipments forecasted with the shipments billed. This comparison of tons forecasted with tons moved and dollar cost forecasted with dollar costs billed is published as a feedback report to the forecasting agencies.

h. Forecasting Commands and Agencies. The commands and agencies shown in Table F-1 are required to submit both long- and short-range forecasts for both airlift and sealift.

Table F-1. Forecasting Commands and Agencies

Military Postal Service Agency
 Army and Air Force Exchange Service
 Armed Forces Courier Service
 US Army Intelligence and Security Command
 Chief of Engineers
 National Security Agency
 Ballistic Missile Defense Systems Command
 US Army Communications Command
 US Army, AMC, Logistics Control Activity
 US Army Europe
 US Army Japan
 Eighth US Army
 Western Command
 US Army Forces Command
 US Army 193d Infantry Brigade (Panama)
 US Army 172nd Infantry Brigade (Alaska)
 Deputy Chief of Staff for Logistics (HQDA)

F-4. GENERAL DESCRIPTION. The MECHTRAM system is an interactive, automated data processing (ADP) system, designed for use as a management tool to collect, organize, and report movement and cost data on Army sponsored cargo and passengers. There are two types of inputs to the MECHTRAM system. The first type of input is the billing data tapes in MILSTAMP, Volume II, format from the TOAs. Annex I to this appendix displays the record formats and describes the data fields. The second type of input is the forecasts of transportation requirements. The TOAs submit their requirements on ADP cards or on a DA Form 3865-R if there is no ADP capability. Appendix B of Army Regulation 55-30, Space Requirements and Performance Reports for Transportation Movements, specifies the input formats to be used by the TOAs. Annex I to this appendix describes the card input format and displays a copy of the form used for manual input. The MECHTRAM system takes the various inputs, selects and compiles data from predetermined record fields, and provides output reports for planning, budgeting, and analysis of performance. A detailed description of the technical components of MECHTRAM is given in Annex II to this appendix.

F-5. OUTPUT REPORTS. The MECHTRAM system provides a variety of reports for management purposes. There are four categories of reports: MSC, MAC, MTMC, and ERROR. Similar reports are generated for each of the TOAs. In the ERROR report, error listings are produced for each of the TOAs with a passenger error list. The most common reports produced for the TOAs are appropriation summaries, budget summaries, and obligation versus disbursement comparisons. MAC and MSC also receive a TAC summary by channel or port.

F-6. MECHTRAM SUMMARY. MECHTRAM, in summary, automates the costing, performance, budgeting, and forecasting associated with SDT. It provides output reports and tapes necessary for all users to perform their roles in meeting Army transportation needs.

a. Forecasting. The process of moving cargo begins at least 18 months in advance of actual shipment. The process begins when the forecasting commands listed in Table F-1 submit their long-range cargo forecasts to USAMSSA. DALO-TSP, ODCSLOG, consolidates the long-range cargo forecasts, makes adjustments based on known program changes, and returns the consolidated forecast to USAMSSA, where it is properly formatted and transmitted to the TOAs for budget development.

b. Budget. The TOAs use the long-range cargo forecast to develop a fleet plan which outlines the number of ships, airplanes, and cargo handlers required to meet the users demand. From the fleet plan the TOA is able to quote a transportation rate or the cost per measurement ton to move a given quantity of cargo. Shipping rates and budget data are then developed by the TOAs and provided to the services and to the ASD(C) for budget approval. The ASD(C) generally approves the submitted shipping rates with minor variations, thus allowing the TOAs to perform appropriate cargo handling and movement functions.

c. Performance. SDT performance begins with the submission of the short-range forecast by the forecasting commands. This forecast is consolidated by the LCA and submitted to the TOAs to alert them to develop air and ship carrier schedules as well as the scheduling of cargo handlers. Once movement performance has been completed, the TOAs pay the carriers and handlers out of their Industrial Fund budgets and then bill the services for reimbursement for services rendered.

d. Cost. Once the performance of a movement is complete and appropriate bills submitted, managers need to know the cost. Detailed reports produced by MECHTRAM allow users to determine the cost of transportation over time. This cost can then be used to compare actual costs with budget costs for ships, airplanes, and cargo handlers. From this comparison it can be determined if costs were over or under the budgeted program cost. In some cases, MECHTRAM data can be used to make adjustments to the Annual Funding Program that will better align the budgeted costs with actual costs.

ANNEX I TO APPENDIX F

MECHTRAM INPUTS

F-I-1. MECHTRAM INPUTS. The following figures, taken from Section B, Volume II, DOD 4500.23-R, document the record layouts for the MECHTRAM inputs discussed in Appendix F.

```

(1) (TRANSPORTATION OPERATING AGENCY NAME)
X-----X
(2) (RCM) (7)
X---X
(3) STATEMENT OF CARGO TRANSPORTATION CHARGES
(4) AS OF MM YY XXX XX
(5) PRODUCTION DATE XX/XX/XX
(6) FISCAL YEAR XX
(7) PAGE NO. ZZZZ
(8) CUSTOMER CODE X---X
(9) TITLE X---(NAME OF BILL TO CUSTOMER)-----X
X-----X (ADDRESS)-----X
X-----X (ADDRESS)-----X
(11) (12) (13) (14) (15) (16) (17) (18)(19)(20) (21) (22) (23) (24) (25)
TCN PROJ SERV COM- COM- A/ A/ MCC WT CUBE RATE AMOUNT ERROR X---(TOA UNIQUE DATA)---X MBR NAME GI
  CD DATE SIGNEE SIGNOR POE POD (AS DISPLAYED)
  (BELOW)
TAC X--X
X-----X X-X X---X X---X X---X X-X X-X X-X X---X X---X ZZZ.ZZ ZZZZZZ.ZZ X---X X-----X X-----X XX
X-----X X-X X---X X---X X---X X-X X-X X-X X---X X---X ZZZ.ZZ ZZZZZZ.ZZ X---X X-----X X-----X XX
(TAC) WEIGHT CUBE BILLED AMOUNT
X--X SUBTOTALS ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ.ZZ
TAC X--X
X-----X X-X X---X X---X X---X X-X X-X X-X X---X X---X ZZZ.ZZ ZZZZZZ.ZZ X---X X-----X X-----X XX
X-----X X-X X---X X---X X---X X-X X-X X-X X---X X---X ZZZ.ZZ ZZZZZZ.ZZ X---X X-----X X-----X XX
(TAC) WEIGHT CUBE BILLED AMOUNT THE ABOVE TOA UNIQUE DATA FIELDS
X--X SUBTOTALS ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ.ZZ ARE AS FOLLOWS:
(A) (B)(C)(D)(E)(F)
MISSION C D C S T
(26) DATA C C I H P
X-----X X X X X X
FISCAL YEAR XX SUBTOTALS WEIGHT CUBE BILLED AMOUNT
ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ.ZZ
CUSTOMER TOTALS (TOA OPTIONAL) WEIGHT CUBE BILLED AMOUNT
ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ ZZZ,ZZZ,ZZZ.ZZ
(27) VOY SHIP TATA CC TPR
NR NAME PEPD CDB MSC
X---X X-----X XXXX XX XXX
(28) CMDY PRE YES M-
CD CD NR TP NTMC
XX XX X--X XX
  
```

Figure F-I-1. Standard Transportation Billing Print Format

STANDARD TRANSPORTATION BILLING TAPE FORMATS
NOTES

(18)	51			1. PRIMARY SORT - CUSTOMER CODE
WCC	50			
	49			2. SECONDARY SORT - FISCAL YEAR (WITHIN CUSTOMER CODE)
(17)	48			
POD/APOD	47			3. TERTIARY SORT - TAC (WITHIN FISCAL YEAR WITHIN CUSTO- MER CODE)
	46			
(16)	45			4. FINAL SORT - TCN (WITHIN TAC ETC.)
POE/APOE	44			
	43			5. INDIVIDUAL TAC SUBTOTALS (WEIGHT - 9 POSITIONS, CUBE - 9 POSITIONS, AMOUNT - 11 POSITIONS, (2 DECIMALS), PLUS EDITING
(15)	42			
CONSIGNOR	41			6. FISCAL YEAR SUBTOTALS (WEIGHT - 9 POSITIONS, CUBE - 9 POSITIONS, AMOUNT - 11 POSITIONS, (2 DECIMALS), PLUS EDITING
	40			
	39			
	38			
	37			
(14)	36			7. CUSTOMER TOTALS (OPTIONAL)
CONSIGNEE	35			
	34			8. REFER TO FIGURE F-I-3 FOR DATA ELEMENT DESCRIPTIONS
	33			
	32			
	31			
(13)	30			
DATE SERVICE PERFORMED	29			
	28	(23)	78	
	27		77	
	26	ERROR TAC/TCN	76	
	25		75	
(12)	24		74	
PROJECT CODE	23		73	
	22	(22)	72	
	21	AMOUNT	71	
	20		70	
	19		69	
	18		68	
(11)	17		67	
	16		66	
TRANSPORTATION CONTROL NUMBER	15	(21)	65	
	14		64	
	13	RATE	63	
	12		62	
	11		61	
	10		60	
	09	(20)	59	
	08	CUBE	58	
	07		57	
	06		56	
	05	(19)	55	
(10)	04	WEIGHT	54	
TAC	03		53	
	02		52	
	01		51	

Figure F-I-2. Standard Transportation Billing Tape Format
(page 1 of 2 pages)

CH 1
DoD 4500.32-R
Vol II

STANDARD TRANSPORTATION BILLING TAPE FORMATS

MAC UNIQUE DATA		MSC UNIQUE DATA		MTMC UNIQUE DATA	
	120		120		120
	119	FILLER	119		119
FILLER	118	(G) RB	118		118
	117	(27F) YP	117		117
	116	CD	116		116
	115	(27E) MSC	115		115
	114	CC	114		114
	113	(27D) YA-	113	FILLER	113
	112	PD	112		112
(F) YP	111	(27C) YA-	111		111
(E) SH	110	PE	110		110
(D) CI	109	(27B)	109		109
(C) DC	108		108		108
(B) CC	107	SHIP	107		107
(26A)	106		106		106
	105	NAME	105		105
MISSION	104		104	(28D) M-	104
	103		103	TP	103
DATA	102		102	(28C)	102
	101		101	VESSEL	101
	100		100	NUMBER	100
	99	(27A)	99		99
	98	VOYAGE	98	(28B) PC	98
	97	DOCUMENT	97		97
	96	NUMBER	96	(28A) CC	96
	95		95		95
(25) GRADE	94	(25) GRADE	94	(25) GRADE	94
INDICATOR	93	INDICATOR	93	INDICATOR	93
BLANK	92	BLANK	92	BLANK	92
(24)	91	(24)	91	(24)	91
	90		90		90
MEMBER	89	MEMBER	89	MEMBER	89
	88		88		88
NAME	87	NAME	87	NAME	87
	86		86		86
	85		85		85
	84		84		84
	83		83		83
	82		82		82
	81		81		81
	80		80		80
	79		79		79

Figure F-I-2. Standard Transportation Billing Tape Format
(page 2 of 2 pages)

<u>DATA ELEMENT</u>	<u>FIELD LENGTH</u>	<u>PRINT POSITIONS</u>	<u>JUSTIFIED</u>	<u>A/N</u>	<u>REMARKS</u>
(1) Transportation Operating Agency	35	48-82	Centered	A/N	"Military Airlift Command" or "Military Sealift Command" or "Military Traffic Management Command"
(2) Report Control Number (RCN)	7	1-7	L	A/N	Used for ADP registration/identification
(3) Report Title	41	46-86	Centered	A/N	"Statement of Cargo Transportation Charges"
(4) "As of" Date	12	121-132	-	A/N	Date - MM YY MM - First three letters of the month. YY - Last two digits of calendar year
(5) "Production Date"	24	1-24	-	A/N	Date - "DD/MM/YY" DD - Day of Month, two digit MM - Numeric Designator of Month (01-12) YY - Last two digits of calendar year The date the bill is produced.
(6) "Fiscal Year"	14	60-73	-	A/N	XX - Last two digits of fiscal year in which the movement commenced.
(7) "Page No."	13	120-132	-	A/N	
(8) "Customer Code"	19	1-19	-	A/N	Code is A/N, 5 Positions (15-19) Code unique within each TOA.
(9) "Name of Billed to Customer"	70	29-98	L	A/N	Three Lines, Name and Address of "Bill To"
(10) Transportation Account Code	8	3-10	-	A/N	MILSTAMP Volume II
11 "TON" (Transportation Control Number)	17	1-17	-	A/N	MILSTAMP, App K
12 "Proj Cd" (Project Code)	3	19-21	-	A/N	Assigned by Shipper
13 "Serv Date" (Date Service Performed)	6	23-28	-	N	YIPEDD
14 "Consignee"	6	30-35	-	A/N	DDDAC
15 "Consignor"	6	37-42	-	A/N	DDDAC
16 "POE/APOE" (Port of Embarkation)	3	44-46	-	A/N	MILSTAMP Vol I, Section IV, App B (Water) MILSTAMP Vol I, Section XIV, App B (Air)
17 "POD/AFOD" (Port of Debarkation)	3	48-50	-	A/N	MILSTAMP Vol I, Section IV, App B (Water) MILSTAMP Vol I, Section XIV, App B (Air)
18 "WCC" (Water Commodity Code)	3	52-54	-	A/N	MILSTAMP Vol I, Para B13
19 "WT" (Weight)	5	56-60	R	N	Pounds
20 "Cube"	4	62-65	R	N	Cubic Feet
21 "Rate"	6	67-72	R	N	Pounds or Cubic Feet Rate to Two Decimal places.
22 "Amount"	9	74-82	R	N	Two Decimal Places
23 "Error DAC/TON" (Erroneous Transportation Account Code/ Transportation Control Number)	5	84-88	-	A/N	See Figure F-I-2 for codes and definitions.

Figure F-I-3. Standard Transportation Billing
Format Data Element Descriptions
(page 1 of 2 pages)

<u>DATA ELEMENT</u>				<u>A/N</u>	<u>REMARKS</u>	
24	"MR Name" (Member Name)	13	117-129	L	A/N	For Personal Property Shipment Only*
25	"GI" (Grade Indicator)	2	131-132	L	A/N	For Personal Property Shipments Only* MILSTAMP Vol I, App B, Para 96-103
<u>TRANSPORTATION OPERATING AGENCY (TOA) UNIQUE DATA</u>						* Absence of name and grade does not invalidate billing.
<u>MILITARY AIRLIFT COMMAND (MAC)</u>						
26A	"Mission Data"	12	90-101	-	A/N	MAC Manual 55-3 MAC Reg. 60-2, Vol I
26B	"CC" (Commodity Code)	1	103	-	A/N	MILSTAMP Vol I, Para 874
26C	"DC" (Direction Code)	1	105	-	A/N	AFM 300-4
26D	"CI" (Cube Rate Indicator)	1	107	-	A/N	Asterisk, When Set
26E	"SH" (Special Handling Code)	1	109	-	A/N	MILSTAMP Vol I, App B 75-76
26F	"TP" (Transportation Priority)	1	111	-	N	MILSTAMP Vol I, App L
<u>MILITARY SEALIFT COMMAND (MBC)</u>						
27A	"Voy No" (Voyage Document Number)	5	90-94	-	A/N	MILSTAMP Vol I, Section VII
27R	"Ship Name" (Ship Name Abbreviation)	10	95-104	-	A/N	
27C	"Tape" (Traffic Area of FOB)	2	106-107	-	A/N	COMSCINST 7600.3
27D	"Tape" (Traffic Area of FOD)	2	108-109	-	A/N	COMSCINST 7600.3
27E	"CC" (MBC Commodity Code)	2	111-112	-	A/N	COMSCINST 7720.1
27F	"TP-CD" (Type Pack Code)	2	114-115	-	A/N	(114-115) - Type Pack Code. MILSTAMP Vol I, App B, Para 88, 89 and 90
27G	"R-B" (Rate Basis Code)	1	116	-	A/N	(116) - Rate Basis code. See figure 10-0-5 for codes and definitions.
<u>MILITARY TRAFFIC MANAGEMENT COMMAND (MTRC)</u>						
28A	"CHD Cd" (Cargo Commodity Code)	2	91-92	-	N	DA PAM 55-3/MIMCR 37-2, Title in Positions 90-93
28B	"PRM Cd" (Premium Commodity Code)	2	96-97	-	N	DA PAM 55-3/MIMCR 37-2, Title in Positions 95-98
28C	"Ves No" (Vessel Number)	4	100-103	-	A/N	
28D	"TP Cd" (Type Pack Code)	2	105-106	-	A/N	MILSTAMP Vol I, App B, Para. 88, 89 and 90

Figure F-I-3. Standard Transportation Billing
Format Data Element Descriptions
(page 2 of 2 pages)

ANNEX II TO APPENDIX F

MECHTRAM COMPONENTS

F-II-1. INTRODUCTION. Figure F-II-1 depicts the data flow of activities occurring in the MECHTRAM process, from input by the forecasting commands to a representation of the management information MECHTRAM is capable of providing. MECHTRAM consists of two major subsystems and seven interrelated components listed as follows. A detailed description of each component is presented in the following paragraphs.

- a. Forecast and budget subsystem.
 - (1) MAC cargo forecast and budget.
 - (2) MAC passenger forecast and budget.
 - (3) MSC forecast and budget.
- b. Cost and performance subsystem.
 - (1) MSC cost and performance.
 - (2) MAC cargo cost and performance.
 - (3) MTMC cost and performance.
 - (4) MAC passenger cost and performance.

F-II-2. FORECAST AND BUDGET SUBSYSTEM. Outputs of the forecast and budget subsystem are provided to the activities listed in Table F-1.

- a. The forecast and budget subsystem generates the following performance data:
 - (1) Tons of cargo to be shipped.
 - (2) Numbers of passengers to be moved.
 - (3) Dollars to be expended by each TOA.
- b. The forecast and budget subsystem performs the following functions:
 - (1) Updates the sealift and airlift programs.
 - (2) Provides MSC and MAC with monthly projected cargo movement requirements for near-term operational planning.

CAA-SR-86-2

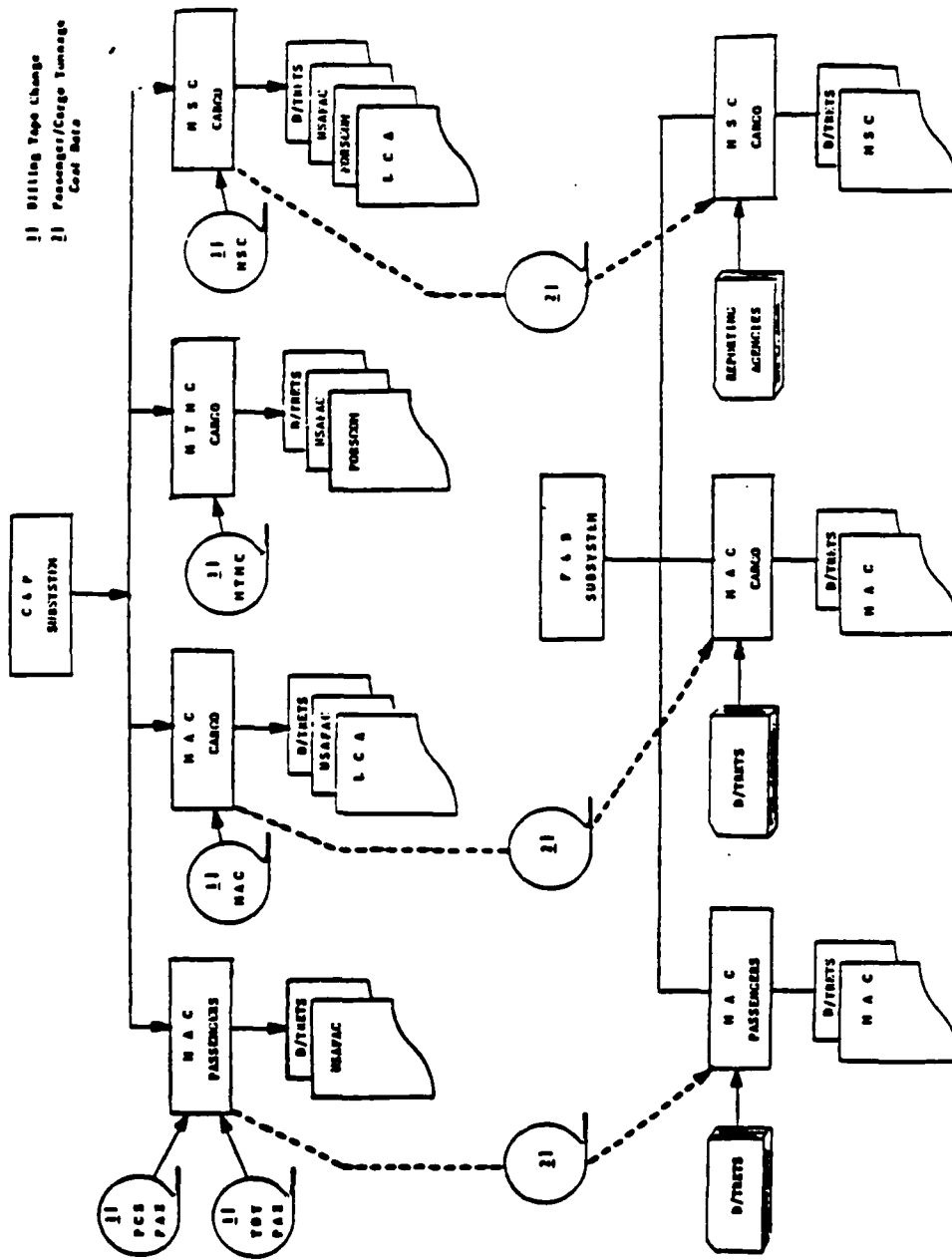
(3) Provides MAC with monthly projected airlift passenger movements for near-term operational planning and fiscal year Army-sponsored passenger airlift requirements.

(4) Generates fiscal year Army-sponsored cargo requirements for all three TOAs for long-term forecasting.

F-II-3. COST AND PERFORMANCE SUBSYSTEM. The cost and performance subsystem generates the following data:

- a. Monthly tons of cargo shipped.
- b. Monthly numbers of passengers moved.
- c. Monthly dollars expended by each TOA.
- d. Current year logistics.
- e. Airlift of Army-sponsored cargo by MAC.
- f. Sealift of Army-sponsored cargo by MSC.

F-II-2



Reference:
MECHTRAM Program Maintenance Manual
ODCSLOG, Washington, D.C., August 1985

Figure F-II-1. MECHTRAM Data Flow

ANNEX III TO APPENDIX F

SAMPLE MECHTRAM REPORTS

F-III-I. This annex contains sample pages of commonly used MECHTRAM output reports taken from the MECHTRAM System Program Maintenance Manual. The sample reports are Military Airlift Command reports. Similar reports are produced for MSC and MTMC. In order to facilitate a review of the report pages, definitions of the most pertinent abbreviations which appear as row or column headings in the subsequent tables are provided below.

ST	- short tons
UC	- unit cost, or cost per short ton
TOT	- total
CGO	- cargo
PE7G	- program element 7 gross or total
PE7D	- program element 7 direct funded
PE7R	- program element 7 reimbursable
TSP	- troop support
FY	- fiscal year
TAC	- transportation account code
YTD	- year to date
CHAN	- channel
ORIG	- origin
DEST	- destination
MTONS	- measurement tons

Table F-III-1. MAC Cargo Cost and Performance

LN	APR		MAY		JUN		3RD QTR		TOT COST	
	ST	UC	ST	UC	ST	UC	ST	UC	ST	UC
1	TOT MAC CGO	9,617.9	1628.14	62,973.4	1,694.17				106,688,063	
2	TOT PE 75	6,911.0	1719.65	45,929.5	1,768.74				81,237,528	
3	PE70	6,883.2	1701.73	45,896.9	1,747.83				78,821,921	
4	PE7R	188.6	2841.63	632.5	2,901.48				2,415,607	
5	TOT MPA	2,154.0	1323.23	12,806.1	1,379.36				17,661,723	
6	TOT MAP	28.2	1469.35	44.1	1,768.12				78,115	
7	TOT SPA-DB	523.6	1683.05	4,195.6	1,837.70				7,710,695	
8	TOT DB AF/M	37.3	682.01	268.5	799.18				208,245	
	## HOUSEHOLD GOODS ##									
9	TOT HHG	1,224.9	527.50	6,562.0	564.20				3,702,329	
10	CIV HHG	48.9	1131.07	200.3	1,614.45				336,398	
11	MIL HHG	1,176.0	502.43	6,353.7	529.76				3,365,930	
	## BAGGAGE ##									
12	TOT BAG	1,006.7	2308.32	6,656.8	2,232.27				14,858,037	
13	CIV BAG	28.6	2246.47	205.6	2,734.60				562,244	
14	MIL BAG	978.0	2310.13	6,450.4	2,216.26				14,295,793	
	## GENERAL ##									
15	TOT GEN	7,423.5	1713.74	58,015.9	1,766.15				88,335,941	
16	TSP	5,984.9	1768.72	48,007.7	1,796.46				73,309,364	
17	TSP-D	5,942.4	1761.58	48,073.6	1,790.47				72,467,049	
18	TSP-R	42.4	2767.33	334.0	2,521.33				868,315	
19	PCP-R	9.5	1599.00	127.5	1,264.05				161,204	
20	CAP	.6	2611.55	.7	2,592.11				2,063	
21	FMS	705.1	1299.09	3,629.6	1,354.70				4,917,063	
22	AFE PET6									
23										
24										
25	AFH PET	9.2	1140.62	88.6	1,579.76				140,122	
26										
27	SAS PET	68.1	896.94	490.2	889.01				396,978	
28	SAS DB AF	37.3	882.01	260.5	799.18				208,245	
29	HAP	28.2	1469.35	44.1	1,768.12				78,115	
30	OGA-R	56.6	3106.36	370.9	3,806.00				1,412,097	
31	SPA-DB	523.6	1683.05	4,195.6	1,837.70				7,710,695	
32	COURIER PET									
33	COURIER DB AF/NAVY	551.7	2069.40	2,669.4	1,416.73				3,781,925	
34	TOT MAIL	308.1	2036.21	1,468.6	1,416.01				2,079,568	
35	DAT MAIL									
36										
37										

REPORT TITLE MAC CARGO COST & PERFORMANCE REPORT FOR FISCAL YEAR 1985
 CHANNEL SUB-AREA AREA
 RSC-CSGLD 1456
 RECAP RECAP RECAP
 # = LESS THAN .1

Table F-III-2. MAC Cargo Monthly TAC Summary

DATE: 08/08/85		MAC CARGO MONTHLY TAC CODE SUMMARY										BILLING MONTH & FY: JUN 1985	
FY	TAC	ORIG	DEST	RSC	S/TONS	AMT BILLED	YTD TONS	YTD BILLED	TAC FY	PAGE			
3	AH31	DOV	FRF	1	0.000	0.00	0.116	447.84	AH31	3			
3	AH31				0.000	0.00	0.116	447.84	AH31	3			
3	AH32	BOG	CHS	2	0.000	0.00	3.053	5,501.72	AH32	3			
3	AH32	BSB	CHS	2	0.000	0.00	7.475	29,492.51	AH32	3			
3	AH32	BSB	HOM	4	0.000	0.00	0.178	1,177.14	AH32	3			
3	AH32	CHS	ASU	1	0.000	0.00	0.997	3,066.22	AH32	3			
3	AH32	CHS	GUA	1	0.000	0.00	1.465	2,564.83	AH32	3			
3	AH32	CHS	LPB	1	0.000	0.00	1.835	4,618.76	AH32	3			
3	AH32	DOV	AVB	1	0.000	0.00	0.227	654.29	AH32	3			
3	AH32	DOV	FRF	1	0.000	0.00	0.187	559.80	AH32	3			
3	AH32	HOM	RMS	1	0.000	0.00	0.215	531.91	AH32	3			
3	AH32	HOM	BUE	4	0.000	0.00	2.961	5,560.00	AH32	3			
3	AH32	HOM	JRS	2	0.000	0.00	0.827	301.23	AH32	3			
3	AH32	LIM	CHS	2	0.000	0.00	0.436	579.60	AH32	3			
3	AH32	LIM	HOM	4	0.000	0.00	4.720	3,965.00	AH32	3			
3	AH32	MGA	CHS	2	0.000	0.00	0.720	602.07	AH32	3			
3	AH32	OCO	CHS	2	0.000	0.00	0.522	1,400.84	AH32	3			
3	AH32	RUN	DOV	2	0.000	0.00	0.302	990.77	AH32	3			
3	AH32	SAL	CHS	2	0.000	0.00	0.607	3,243.75	AH32	3			
3	AH32	SUU	HIK	1	0.000	0.00	0.603	1,038.46	AH32	3			
3	AH32	TIK	ATH	1	0.000	0.00	0.208	1,061.50	AH32	3			
3	AH32	TIK	DIA	1	0.000	0.00	0.264	943.01	AH32	3			
3	AH32	TIK	FRF	1	0.000	0.00	6.540	22,997.60	AH32	3			
3	AH32	TIK	OKO	1	0.000	0.00	0.250	777.50	AH32	3			
3	AH32	TIK	RPS	1	0.000	0.00	5.620	19,170.36	AH32	3			
3	AH32	TIK	THF	1	0.000	0.00	0.494	1,573.60	AH32	3			
TAC TOTAL		3	AH32		0.000	0.00	41.106	112,500.47	AH32	3			
TAC TOTAL		3	AH34	SUU	RMS	1	0.000	0.00	0.065	AH34	3		
TAC TOTAL		3	AH34		0.000	0.00	0.065	230.82	AH34	3			
TAC TOTAL		3	AH35	DOV	RMS	1	0.000	0.00	0.833	AH35	3		
TAC TOTAL		3	AH35	SUU	FEF	1	0.000	0.00	0.312	AH35	3		
TAC TOTAL		3	AH35	TCH	EDF	1	0.000	0.00	0.441	AH35	3		
TAC TOTAL		3	AH35		0.000	0.00	1.586	4,651.08	AH35	3			
TAC TOTAL		3	AH36	CHS	BOG	1	0.000	0.00	0.330	AH36	3		
TAC TOTAL		3	AH36	CHS	HOM	1	0.000	0.00	0.212	AH36	3		
TAC TOTAL		3	AH36	CHS	LPB	1	0.000	0.00	4.167	AH36	3		
TAC TOTAL		3	AH36	CHS	HIQ	1	0.000	0.00	1,798.30	AH36	3		
TAC TOTAL		3	AH36	CHS	TGU	1	0.000	0.00	2,105.46	AH36	3		

Table F-III-3. MAC TAC Summary by Channel Report

DATE: 04/09/85				MAC TAC SUMMARY BY CHANNEL REPORT				BILLING MONTH & FY: FEB 1985		
ORIG	DEST	FY	TAC	H/TONS	AMT BILLED	YTD TONS	YTD REVN	PAGE	1	
ADA	AKT	84	0001	0.000	0.00	0.001	0.75			
CHAN TOTAL										
ADA	AMN	84	0001	0.000	0.00	0.050	9.40			
CHAN TOTAL										
ADA	ATH	84	0001	0.000	0.00	0.057	18.06			
		84	A209	0.000	0.00	0.047	14.92			
		84	AH46	0.000	0.00	0.326	68.06			
		85	A209	0.127	50.94	0.323	128.95			
		85	A205	0.000	0.00	0.000	1.99			
		85	0001	0.201	82.62	0.649	347.74			
CHAN TOTAL										
				0.328	133.56	1.602	572.52			
ADA	AVB	84	AH46	0.000	0.00	0.204	132.44			
		84	0001	0.000	0.00	0.062	40.42			
		85	A205	0.026	16.08	0.075	51.86			
		85	0001	0.293	246.18	0.492	419.63			
CHAN TOTAL										
				0.319	265.06	0.913	644.35			
ADA	BAH	85	0001	0.002	2.99	0.002	2.99			
CHAN TOTAL										
				0.002	2.99	0.002	2.99			
ADA	BDS	85	0001	0.006	3.74	0.033	20.90			
CHAN TOTAL										
				0.006	3.74	0.033	20.90			
ADA	BZI	84	0001	0.000	0.00	0.000	0.11			
		85	0001	0.016	4.81	0.325	92.42			
		85	A205	0.000	0.00	0.083	22.74			
CHAN TOTAL										
				0.016	4.81	0.408	115.27			
ADA	DHA	85	0001	0.000	0.00	0.120	91.85			
CHAN TOTAL										
				0.000	0.00	0.120	91.85			

Table F-III-4. MAC Cargo Monthly Appropriation Summary Listing

RUN-DATE:06/06/85	MAC CARGO APPROPRIATION SUMMARY LISTINGS FOR MONTH & FY JUN 85	PAGE 1			
APPROPRIATION	TAC	SHORT-TONS	AMOUNT	YTD-TONS	YTD-AMOUNT
DIRECT BILLING TO HPSS WASH DC BY MAC	0001	360.651	681,543.28	3,571.454	5,656,174.79
DIRECT BILLING TO 381621 BY MAC	A906	360.651	681,543.28	3,571.454	5,656,174.79
21-1131080.ES1 332-1824 OLIC-2200	BESC	1.475	911.15	23.759	62,151.20
21-1131080.ES1 332-1824 OLIC-2200	BESA	1.475	911.15	23.759	62,151.20
21-1141080.8L1 432-1824 OLIC-2200	BBL2			.009	12.44
21-1141080.C01 432-1824 OLIC-2200	BBL2			.310	661.21
21-1141080.ES1 432-1824 OLIC-2200	BCDC			1.705	4,839.90
21-1141080.ES1 432-1824 OLIC-2200	BCDC			1.705	4,839.90
21-1141080.ES1 432-1824 OLIC-2200	BEG4			.009	67.35
21-1141080.ES1 432-1824 OLIC-2200	BESZ			1.864	7,176.40
21-1141080.ES1 432-1824 OLIC-2200	BESZ			1.864	7,176.40
21-1141080.ES1 432-1824 OLIC-2200	BES2			5.209	2,827.55
21-1141080.ES1 432-1824 OLIC-2200	BES6			.075	1,311.34
21-1141080.GR1 432-1824 OLIC-2200	BGR5			6.184	211.35
21-1141080.J01 432-1824 OLIC-2200	BGR5			.247	3,750.74
21-1141080.J01 432-1824 OLIC-2200	BGR5			157.77	157.77
21-1141080.J01 432-1824 OLIC-2200	BJOE	1.600	4,710.64	1.600	4,710.64
21-1141080.J01 432-1824 OLIC-2200	BJO1	1.600	4,710.64	.445	1,294.95
21-1141080.N01 432-1824 OLIC-2200	BN03			2.045	6,005.59
21-1141080.P11 432-1824 OLIC-2200	BP11			1.016	2,348.12
21-1141080.SR1 432-1824 OLIC-2200	BSRC	.100	140.60	1.016	2,348.12
21-1141080.SR1 432-1824 OLIC-2200	BSRM			.679	3,516.05
21-1141080.SR1 432-1824 OLIC-2200	BSR1			.100	3,516.05
21-1141080.TK1 432-1824 OLIC-2200	BTX3	.100	140.60	.293	140.60
21-1151080.C01 532-1824 OLIC-2200	BCDC			1.462	427.68
21-1151080.ES1 532-1824 OLIC-2200	BESZ	3.493	7,416.22	1.462	5,114.03
21-1151080.P11 532-1824 OLIC-2200	BFIC	3.493	7,416.22	1.060	5,682.36
21-1151080.GR1 532-1824 OLIC-2200	BGR1	1.650	3,558.10	1.001	5.48
21-1151080.H01 532-1824 OLIC-2200	BGR5	1.650	3,558.10	1.001	5.48
21-1151080.I01 532-1824 OLIC-2200	BID9			16.426	4,934.67
21-1151080.IT1 532-1824 OLIC-2200	BIT3			13,772.68	13,772.68
21-1151080.KS1 532-1824 OLIC-2200	BKSS			22.46	22.46
TOTAL				17.377	37,432.22
TOTAL				157	120.14
TOTAL				17.534	37,552.36
TOTAL				1.005	663.30
TOTAL				.194	1,199.00
TOTAL				.025	1,199.00
TOTAL				.025	2.68
TOTAL				1.764	6,698.02
TOTAL				1.764	6,698.02

Table F-III-5. MAC PE7 Cargo Monthly Appropriation Summary

APPROPRIATION	TAC	SHORT-TONS	AMOUNT	YTD-TONS	YTD-AMOUNT
2132020 32-1824 P728010.12110-2200	A205	.070	320.07	18.392	20,749.41
2132020 32-1824 P728010.12110-2200	A206			3.325	4,645.03
2132020 32-1824 P728010.12110-2200	A209			5.662	15,260.32
2132020 32-1824 P728010.12110-2200	A213			12.536	12,569.67
2132020 32-1824 P728010.12110-2200	A288			1.507	2,150.50
2132020 32-1824 P728010.12110-2200	A547			.001	32.77
2132020 32-1824 P728010.12110-2200	A561			.067	332.51
2132020 32-1824 P728010.12110-2200	A581			17.104	94,959.90
2132020 32-1824 P728010.12110-2200	A583			.676	1,941.98
2132020 32-1824 P728010.12110-2200	A584			.142	528.57
2132020 32-1824 P728010.12110-2200	A592			.090	476.58
2132020 32-1824 P728010.12110-2200	A620			.607	70.05
2132020 32-1824 P728010.12110-2200	A821			.607	7,151.43
2132020 32-1824 P728010.12110-2200	A951			14.736	10,219.06
TOTAL		.070	320.07	75.101	171,092.91
2142020 32-1824 P728010.12110-2200	A813			.086	192.98
2142020 32-1824 P728010.12110-2200	A204			.212	523.10
2142020 32-1824 P728010.12110-2200	A205	0.156	12,667.25	827.636	1,791,279.37
2142020 32-1824 P728010.12110-2200	A206			10.169	51,565.17
2142020 32-1824 P728010.12110-2200	A209	.038	871.00	393.596	606,290.34
2142020 32-1824 P728010.12110-2200	A210			6.983	4,608.25
2142020 32-1824 P728010.12110-2200	A215			82.448	72,938.63
2142020 32-1824 P728010.12110-2200	A217			6.623	14,036.75
2142020 32-1824 P728010.12110-2200	A221			164.443	360,001.05
2142020 32-1824 P728010.12110-2200	A223			.012	29.54
2142020 32-1824 P728010.12110-2200	A224			12.371	2,968.71
2142020 32-1824 P728010.12110-2200	A231			2.302	2,508.40
2142020 32-1824 P728010.12110-2200	A236			5.273	15,985.06
2142020 32-1824 P728010.12110-2200	A237			.050	23.26
2142020 32-1824 P728010.12110-2200	A240			.194	834.40
2142020 32-1824 P728010.12110-2200	A242			5.340	1,997.16
2142020 32-1824 P728010.12110-2200	A243			176.229	439,166.52
2142020 32-1824 P728010.12110-2200	A257			.064	300.26
2142020 32-1824 P728010.12110-2200	A258			.501	1,332.74
2142020 32-1824 P728010.12110-2200	A263			.381	166.27
2142020 32-1824 P728010.12110-2200	A265			4.726	30,141.05
2142020 32-1824 P728010.12110-2200	A269			35.602	62,021.04
2142020 32-1824 P728010.12110-2200	A270			.403	187.67
2142020 32-1824 P728010.12110-2200	A288			3.211	16,405.11
2142020 32-1824 P728010.12110-2200	A289			10.437	26,633.23
2142020 32-1824 P728010.12110-2200	A301			8.240	4,508.43
2142020 32-1824 P728010.12110-2200	A316			5.587	779.82
2142020 32-1824 P728010.12110-2200	A504			.042	133.75
2142020 32-1824 P728010.12110-2200	A509			.010	60.69
2142020 32-1824 P728010.12110-2200	A541			.444	2,031.55
2142020 32-1824 P728010.12110-2200	A547			.266	1,098.19
2142020 32-1824 P728010.12110-2200	A548			.650	589.84

Table F-III-6. MAC 24-month Disbursement Report

FY84	\$S IN THOUSANDS										MAC 24 MONTH DISBURSEMENT REPORT													
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OCT	11112	576	73	13	55	141	61	62	79	131	8	79	10145	582	28	31	59	4	8	52	5	0	0	0
NOV	10460	387	54	6	156	73	28	21	18	0	71	4	144	101	31	28	39	0	2	0	0	0	0	0
DEC	10925	527	219	167	24	91	54	3	0	20	67	2	391	145	421	87	27	0	0	0	0	0	0	0
JAN	9203	333	397	48	93	149	63	14	73	235	0	1	10179	595	38	68	13	0	0	0	0	0	0	0
FEB	9975	1146	206	40	127	40	18	35	917	6	5	17	843	107	0	64	0	0	0	0	0	0	0	0
MAR	13225	620	142	15	217	12	9	271	17	0	49	12	633	12	2	0	0	0	0	0	0	0	0	0
APR	10182	619	65	12	54	10	193	9	0	1	29	0	722	61	0	0	0	0	0	0	0	0	0	0
MAY	13264	613	59	7	60	20	0	0	0	0	0	0	10773	722	0	0	0	0	0	0	0	0	0	0
JUN	11697	705	70	5	120	25	0	27	0	0	6	0	10971	61	0	0	0	0	0	0	0	0	0	0
JUL	11918	491	55	20	123	0	0	0	9	16	0	4	0	55	20	0	0	0	0	0	0	0	0	0
AUG	13519	911	331	32	41	9	0	2	108	76	5	0	10395	911	32	41	2	0	0	0	0	0	0	0
SEP	12625	866	66	0	13	1	3	49	74	2	0	0	0	66	0	13	1	3	49	74	0	0	0	0
TOT	138105	7794	1737	365	1083	571	429	493	1295	487	240	121	138105	7794	1737	365	1083	571	429	493	1295	487	240	121
FY85	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
OCT	10145	582	28	31	59	4	8	52	5	0	0	0	10145	582	28	31	59	4	8	52	5	0	0	0
NOV	9636	144	101	31	28	39	2	0	0	0	0	0	9636	144	101	31	28	39	2	0	0	0	0	0
DEC	9788	391	145	421	87	27	0	0	0	0	0	0	9788	391	145	421	87	27	0	0	0	0	0	0
JAN	10179	595	480	38	68	13	0	0	0	0	0	0	10179	595	38	68	13	0	0	0	0	0	0	0
FEB	9733	843	107	0	64	0	0	0	0	0	0	0	9733	843	0	64	0	0	0	0	0	0	0	0
MAR	12003	633	12	2	0	0	0	0	0	0	0	0	12003	633	2	0	0	0	0	0	0	0	0	0
APR	10773	722	61	0	0	0	0	0	0	0	0	0	10773	722	0	0	0	0	0	0	0	0	0	0
MAY	10971	1124	0	0	0	0	0	0	0	0	0	0	10971	1124	0	0	0	0	0	0	0	0	0	0
JUN	10395	0	0	0	0	0	0	0	0	0	0	0	10395	0	0	0	0	0	0	0	0	0	0	0
JUL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOT	231627	12828	2671	888	1389	654	439	545	1300	487	240	121	231627	12828	2671	888	1389	654	439	545	1300	487	240	121
COL%	0.91378	0.96438	0.97491	0.97841	0.98368	0.98646	0.98819	0.99034	0.99546	0.99738	0.99832	0.99879	0.91378	0.96438	0.97491	0.97841	0.98368	0.98646	0.98819	0.99034	0.99546	0.99738	0.99832	0.99879

Table F-III-7. PE7 Tons/Dollars by Month and Fiscal Year

	CURRENT YEAR (CY)				PRIOR YEARS (CY-1)			
	DIR	TON	DOL	F/R	DIR	TON	DOL	F/R
OCT	5581	12	0	0	15	0	0	0
NOV	726	4	0	0	0	0	0	0
DEC	327	0	0	0	0	0	0	0
JAN	13739	0	0	0	233	1	0	0
FEB	64617	32	0	0	2108	0	0	0
MAR	2973	5	0	0	252	0	0	0
APR	61364	20	0	0	0	0	0	0
MAY	1124561	703	0	0	15	0	0	0
JUN	10395751	5784	2036	1	0	0	0	0
JUL	0	0	0	0	4560	1	0	0
AUG	0	0	0	0	5344	3	0	0
SEP	0	0	0	0	2785	3	0	0
SUBTOT	11669639	6560	2036	1	15320	6	0	0
ERRTOT	0	0	0	0	0	0	0	0
GRDTOT	11669639	6560	2036	1	15320	6	0	0

	PRIOR YEARS (CY-2)				PRIOR YEARS (ALL OTHERS)			
	DIR	TON	DOL	F/R	DIR	TON	DOL	F/R
OCT	0	0	0	0	0	0	0	0
NOV	0	0	0	0	0	0	0	0
DEC	0	0	0	0	0	0	0	0
JAN	0	0	0	0	0	0	0	0
FEB	0	0	0	0	0	0	0	0
MAR	0	0	0	0	0	0	0	0
APR	0	0	0	0	0	0	0	0
MAY	0	0	0	0	0	0	0	0
JUN	0	0	0	0	0	0	0	0
JUL	0	0	0	0	0	0	0	0
AUG	320	0	0	0	0	0	0	0
SEP	0	0	0	0	0	0	0	0
SUBTOT	320	0	0	0	0	0	0	0
ERRTOT	0	0	0	0	0	0	0	0
GRDTOT	320	0	0	0	0	0	0	0

Table F-III-8. MECHTRAM MAC Cargo Edit Error Listing

06/01/85	REC-ID	MECHTRAM MAC CARGO EDIT ERROR LISTING FOR: JUN, FISCAL YEAR 1995	PAGE: 1
000001	A206FB442051480854XXX	850614FB44206K0002TIKFRF	0006000040015800009480
000002	A206HH8AAW51550Z01XXE	850611HX8AAW517FDHTIKFRF	0183602550033800086190
000003	A206HH8AAW51550Z01XXX	850608HX8AAW517FDHTIKFRF	0444404500033800152100
000004	A206HH8AAW51560Z01XXC	850611HX8AAW517FDHTIKFRF	0241403500033800118300
000005	A206HH8AAW51560Z01XXD	850608HX8AAW517FDHTIKFRF	0667208400033800283920
000006	A206HH8AAW51560Z01XXE	850611HX8AAW517FDHTIKFRF	0215402550033800086190
000007	A206MK45PVM51489010XXX	850603FB5250M45PVMTIKFRF	0001700010031700005396
000008	A206M800HE51276016XXX	850630MK4F9CGK0002TIKFRF	0000900010158000001580
000009	A206M80Y4N51202609XXX	850622MK4FUGK0002TIKFRF	0002200020015800003476
000010	A206MK4A9C42865330XXX	850630MK4F9GK0002TIKTHF	0000300010166490001664
000011	A206MK4E1E5135ACBQXXX	850622MK4-JHV6K0002TIKRHS	0005600020015600008742
000012	A206MK4F1A51405919XXX	850622MK4F1AGK0002TIKRHS	0068200240015600106460
000013	A206MK4F2451333507XXX	850614MK4F24GF0001TIKRHS	0012000060015600018732
000014	A206MK4FH551340005XXX	850622MK4G6M6K0002TIKRHS	0001200010015600001873
000015	A206MK4FH251443007XXX	850604MK4FH2G0002TIKRHS	0000700010156100001561
000016	A206MK4GBN51363027XXX	850622MK4G6M6K0002TIKRHS	0000300010156100001561
000017	A206MK4GEM51330003XXX	850622MK4GEM6K0002TIKRHS	0001200010015600001873
000018	A206MK4GET51353042XXX	850622MK4GET6K0002TIKRHS	0005700020015600008898
000019	A206MK4K6J51300611XXX	850608MK4F98GK0002TIKRHS	0001600010015600002498
000020	A206MK4LDX51302336XXX	850622MK4F96GK0002TIKRHS	0001900010015600002966

APPENDIX G

THE IMPACT OF PROGRAM VARIANCES FROM THE SECOND DESTINATION
TRANSPORTATION (SDT) CARGO FORECAST

G-1. INTRODUCTION. The purpose of this appendix is to highlight the significance of the SDT forecast and its impact on budget activities in DOD. The SDT cargo forecast is the Army's cargo program for a given year. The cargo program and the approved DOD SDT rates make up the Army's budget for SDT, such that:

$$\text{ARMY CARGO PROGRAM} \times \text{DOD RATES} = \text{SDT TRANSPORTATION BUDGET}$$

The Army SDT forecast (Army Program) is important because it is the only variable that can change in the above formula since DOD uses fixed rates for preparing the budget. Because of the DOD fixed rates, any change in the budgeted cost of SDT must normally be attributed to a change in The Army Program or a deviation from the Army forecast. In FY 82, MTMC experienced a 2.5 million measurement ton cargo shortfall from its original forecast. This shortfall had an impact on the Industrial Fund cash balance and affected DOD billing rates for the following year. This appendix presents, from different perspectives, a notional example and some actual shipping data from FY 82 to illustrate the significance of the cargo forecast problem. Additionally, this appendix addresses the impact of cargo forecast variances on Industrial Fund cash balances.

G-2. NOTIONAL EXAMPLE

a. The Cargo Forecast. The Army SDT Program development begins with the Army SDT cargo forecast. As indicated in Chapter 3, shippers submit two types of cargo forecasts. The first is a long-range cargo forecast which ODCSLOG uses to size the SDT budget. The second is a short-range forecast used by the TOAs to allocate resources to specific movements. Table G-1 shows a notional, long-range SDT forecast depicting some 39,000 measurement tons of forecast cargo consisting of various mixes of each item. The TOAs receive this data as the consolidated Army SDT requirement. Based on their negotiations with cargo contractors, the TOAs develop shipping rates and budget data, which is provided to the services for planning purposes. For example, in Table G-1, the 39,000 forecasted measurement tons would be shipped at a rate of \$5.03 per ton. Considering this rate, the ODCSLOG would submit, through channels to the ASD(C), a budget request for \$197,000 for CFSDT in FY XX.

b. The Cargo Execution. Table G-2 complements Table G-1. Table G-2 shows a total of 27,500 measurement tons of cargo shipped against the 39,000 measurement tons forecasted in Table G-1. Note in this example the shortfall of some 30 percent cargo forecasted but not shipped. Also note the change in commodity mix; for example, in Table G-1, a 12 percent forecast of weapons and fire control equipment becomes a 19 percent requirement for actual SDT execution. Also, the rates established in the long-range forecast, and applied to a different actual shipment, results in a change

to the total transportation cost. The impact of this change is an increase in the rate per ton from \$5.03 per measurement ton (MTON) to \$5.51 per measurement ton, or a 10 percent increase in transportation rates for the overall transportation program.

Table G-1. Long-range SDT Cargo Forecast, FY XX (notional)^a

Items forecast	MTON ^b	Item mix (percent)	Rate/MTON (dollars)	Cost (dollars)
Ground forces	1,522	4	\$4.79	\$ 7,292
Electronics	2,433	6	7.19	17,487
Air	1,006	3	23.83	23,976
Tank/automotive	29,352	74	3.19	93,750
Missiles	343	1	23.84	8,180
Weapons/fire control	4,533	12	10.24	46,462
Total	39,189	100	\$5.03	\$197,148

^aThis is a notional table and has no specific relationship to a specific commodity such as the weight of a tank.

^bMTON = measurement tons.

Table G-2. SDT Cargo Execution, FY XX (notional)

Items forecast	MTON	Item mix (percent)	Rate/MTON (dollars)	Cost (dollars)
Ground forces	932	3	\$4.79	\$ 4,464
Electronics	1,276	5	7.19	9,174
Air	622	2	23.83	14,822
Tank/automotive	19,078	70	3.19	60,858
Missiles	335	1	23.84	7,986
Weapons/fire control	5,312	19	10.24	54,394
Total	27,555	100	\$5.51	\$151,698

c. **The Program Variance.** The net result of this example is that \$197,148 was budgeted for SDT, while \$151,698 was actually expended, thus an opportunity to ship \$45,450 of cargo was lost. Also, the Army rate to ship would increase from a forecast rate of \$5.03 to an actual execution rate of \$5.51 per ton. This higher rate is not readily apparent to the Army during the year of execution since the Industrial Fund uses stabilized or fixed rates. However, rates during subsequent years reflect the current year's rates plus the shortfall or oversh shipment during the previous year such that:

$$\begin{array}{rcl} \text{Current year rate} & + \text{ or } - & \text{Previous year} \\ \text{based on forecast} & & \text{deviation} & = & \text{Current year} \\ & & & & \text{total rate} \end{array}$$

G-3. IMPACT OF FY 82 SDT SHIPMENT SHORTFALL ON BUDGET PLANNING AND RATES

a. Transportation Workload Forecasting (1982 data)

(1) **FY 82 Shipping Data.** The FY 82 cargo forecast and actual lift are depicted in Figure G-1. Some 2,000,000 tons of cargo were forecasted, while only 1,400,000 tons were actually executed for the Army. This data was taken from the Transportation Workload Forecasting Study, performed by CAA in 1984, and represents a 25 percent shortfall between the forecast and actual program execution.

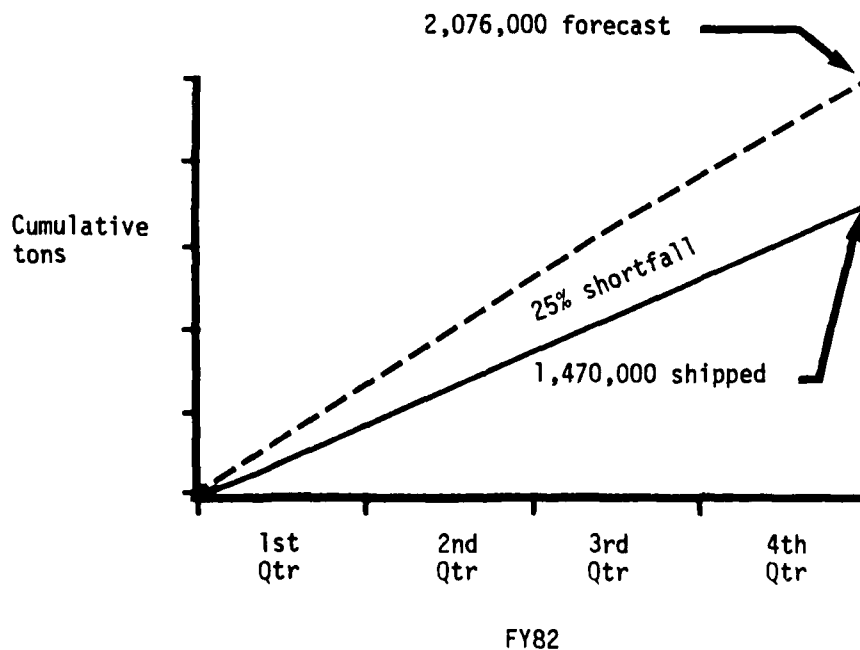


Figure G-1. FY 82 Army SDT Program/Execution (tons)

(2) **FY 82 Budget Data.** The 1982 budget data for the above SDT tonnages was \$601,300,000, or a shipping rate of \$290 per ton. Since the Army shipped less than it forecasted, the transportation bill totaled \$576,600,000, or a rate of \$392 per ton. The difference between \$601,300,000 and \$576,600,000 is 4 percent, not 25 percent as one would normally expect. The relationship between the budget forecast and budget execution is depicted in Figure G-2.

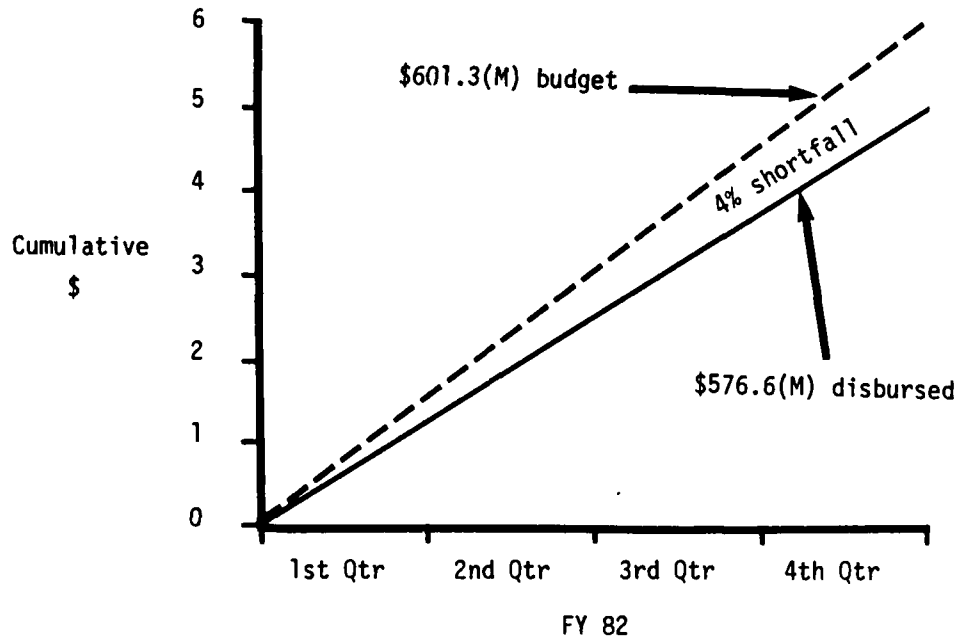


Figure G-2. FY 82 Army SDT Program/Execution (dollars total)

(3) **FY 82 Rate Data.** Figure G-3 is a comparison of the forecast rates with the actual shipping rates. Note that the forecast rate was \$290 per ton while the actual execution rate was \$392 per ton. Generally, shipping and handling contracts contain fixed costs which the shipper must pay, irrespective of the quantity of tons shipped. Additionally, most shipping and handling contracts contain penalties to fixed costs for not providing the quantity of cargo forecasted and bid upon. Also, transportation rates in the Industrial Fund are fixed for a period of 12 months from a budgetary standpoint, resulting in budget costs that are adjustable only on an annual basis. These three factors are instrumental in pushing the rate up when the cargo shipment is less than forecast. The services bill using their current published rates which differ from the composite rate. Thus, the increase from \$290 to \$392 per ton on the composite rate would not be adjustable until the next fiscal year.

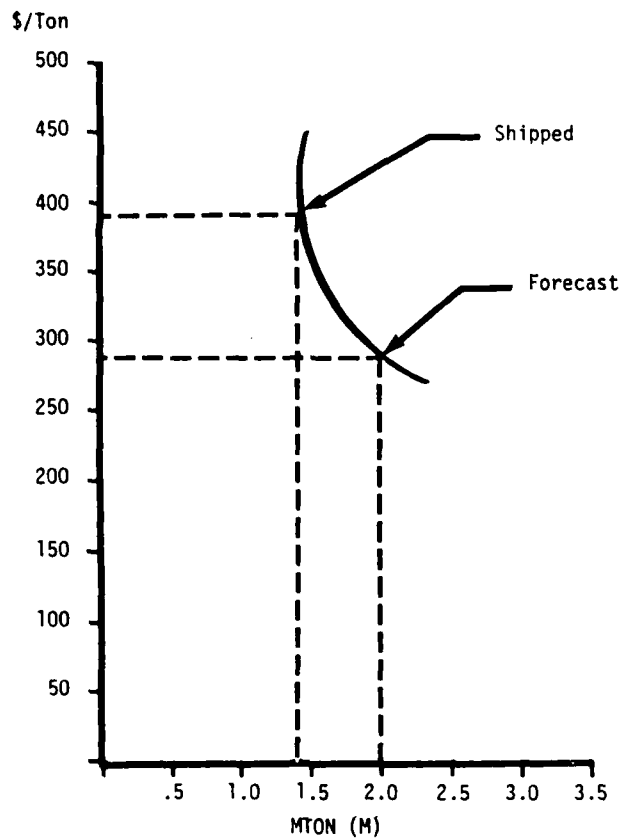


Figure G-3. FY 82 Army SDT Program/Execution
(dollars per ton)

b. Regulatory Perspective

(1) **Air Force Regulation 76-11.** Air Force Regulation 76-11 (subject: Military Airlift (US Government Rate Tariffs)) and Commander, Military Sealift Command (COMSC) Instruction 7600.3G (subject: Military Sealift Command (Billing Rates)) both refer to charges for abnormal expenses. The Army also experiences charges for abnormal expenses. In the foregoing operating agencies, an abnormal expense includes an expense for failure of the user to generate cargo according to forecast. Air Force Regulation 76-11, paragraph 4g, is quoted as follows:

"Charge for Abnormal Expenses. An abnormal expense is that cost incurred as a result of (a) satisfying a customer's special requirement, or (b) failure of the user to generate cargo according to forecast, or (c) for a change in user's requirements resulting in a suspended mission. To be abnormal, the cost must be an additional expense to the Airlift Service Industrial Fund (ASIF) not recoverable through the published rate tariffs. All costs of this nature will be paid by the customer.

"(1) Channel Cargo. The agency is authorized to make an abnormal charge when necessary to recoup a financial loss due to failure of the using agency to generate cargo/mail according to space assignment. Acceptable limits of variance between actual generation and customer's beginning of the month space assignment are established at $\pm 15\%$, based on a world-wide total average of each Service Department. Additional charges may be incurred when a peculiar requirement of the customer necessitates the prepositioning or depositioning of special equipment, aircraft or manpower to satisfy the customer's unusual requirements . . .

"NOTE: Computation of expenses for passengers, the Agency will only bill those costs which exceed anticipated revenue for the individual mission cited. For cargo, the charge will be any additional costs incurred due to failure of the user to generate world-wide cargo within the $\pm 15\%$ parameter of beginning of the month forecasts. For specialized equipment, aircraft or manpower incident to any type mission, the charge will be the actual cost incurred to satisfy the unique requirement . . ."

(2) **Computation of Army FY 82 Abnormal Expenses.** This paragraph addresses the abnormal expenses paid by the Army for transportation during FY 82. Table G-3 depicts forecasting and execution data for FY 82, to include the computation of abnormal expenses.

Table G-3. FY 82 SDT Program/Execution

SDT program ^a		SDT execution ^a	
Tons forecast	2,076,000	Tons shipped	1,470,000
Fixed rate (\$/ton)	\$ 290	Fixed rate (\$/ton)	X\$ 290
SDT program cost ^b	\$601,300,000	SDT shipping cost ^b	\$ 426,300,000
		Deobligated funds ^c	\$ 24,700,000
		Abnormal expenses	\$ 150,300,000
		SDT execution cost	\$ 601,300,000

^aComputations include a small rounding error.

^bCost = tons x rate.

^cFunds deobligated to balance books.

In the above computations, the 2,076,000 tons of cargo forecasted times the fixed rate of \$290 per ton yields an FY 82 SDT program cost of \$601,300,000. In the SDT execution, only 1,470,000 tons of cargo was shipped at a fixed rate at \$290 per ton and yielded an FY 82 SDT shipping cost of \$426,300,000. Additionally, in FY 82, \$24,700,000 was deobligated or transferred from the SDT program for a combined total of \$451,000,000. Subtraction of the \$451,000,000 from the \$601,300,000 execution/program cost yields a result of \$150,300,000 attributed to abnormal expenses. Abnormal expense is compared with SDT shipping cost as follows:

Category	Dollars	Ratio
SDT shipping cost	\$ 426,300,000	1.00
Abnormal expense	150,300,000	0.35

The dollars the SDT fund lost to abnormal expenses are 35 percent of the shipping cost. While minimizing obligations and deobligations of funds are certainly important, equal attention should be given to developing accurate programs which reduce abnormal expenses and thereby accounting for them in the budget process.

c. **TOA Perspective.** In an analysis titled "Financial Impact of Budget Cargo Lift Versus Cargo Lift," MTMC revealed that the difference between budget versus actual breakbulk cargo income in FY 82 was caused by the following factors:

- (1) Changes to total tonnage lifted.
- (2) Changes in commodity mix.
- (3) Changes in the pattern of operations, i.e., average miles a ton of breakbulk cargo is carried.

d. Table G-4 depicts the FY 82 TOA breakbulk data presented by MTMC. Summarizing FY 82 results, there was a 30 percent shortfall in breakbulk cargo carried. Of this amount, 77 percent is due to a change in total breakbulk tonnage, 20 percent is due to a change in the commodity mix, and 3 percent is due to a change in the cargo channel.

Table G-4. FY 82 Income (breakbulk only)

	Tons (000)	Miles (000,000)	Income (\$000)	Income (percent)	Differential (percent)
FY 82 rates developed in preliminary requirement	3,142	12,327	\$378,770	100	---
Actual FY 82 cargo results	2,445	8,811	266,960	70	---
Difference	697	3,516	-111,810	30	---
Difference due to less tons carried	---	---	86,003	---	77
Difference due to item mix	---	---	22,286	---	20
Due to miles/tons cargo carried	---	---	3,521	---	3

G-4. IMPACT OF PROGRAM DIFFERENCES ON INDUSTRIAL FUND CASH FLOW. When actual cargo shipment tonnage is less than forecast tonnage, billing begins to lag expected expenditures. As a result, the TOAs may not have enough cash reserves to pay all of their bills since funding will be reduced. This payment lag continues for services until future shipments approach planned shipments or the end of the fiscal year is reached. A study performed by Ralph P. Auriliz, Budget Office, MTMC Comptroller Directorate, 1983, subject; "The Impact of Workload Shortfall and Stabilized Billing Rates on the Army Industrial Fund Cash Posture," adds emphasis to the manner in which shipping rates are developed. The example is based on MTMC but is characteristic of the manner in which the other TOAs operate. In general, a significant amount of late billing can be attributed to inaccurate forecasts.

G-5. DEFINITION OF COSTS, FACTORS, WORKLOAD, AND CONTRACTS

a. Cost Factors. From the fleet plan and long-range cargo forecast, the TOA computes the shipping and handling rates. Shipping rates, when applied to total tons forecast by each service, yield budget data used by the services to make their forecasts. For example, the cost factors used by MTMC in developing their costs for the Industrial Fund are as follows: stevedoring, lumber, lashing, supply, equipment, and labor costs.

b. Shipping Rate. The above costs are provided by the major coastal ports and activities and consolidated by MTMC. This consolidation results in a shipping or handling rate, per measurement ton by commodity item. Shipping rates include: direct, indirect, fixed, variable, and overhead costs as well as the gains or losses from the prior year.

c. OSD Rate Approval. Shipping rates and budget data are provided to the forecasting commands and agencies, the services, and then to OSD for budget approval. OSD generally approves the submitted shipping rates with minor changes.

d. MTMC Contract. Based on the workload forecast and the OSD approved shipping rates, the TOAs can begin entering into contractual agreements to ship, receive, rehandle, transfer, consolidate, containerize, load, and unload cargo. A MTMC contract usually consists of the following categories:

- (1) Civil Service labor - 36 percent of budget.
- (2) Stevedore company - 35 percent of budget.
- (3) Other categories - 29 percent of budget.

e. Civil Service Contracts. These cost contracts are fixed and will not decrease unless the shipping facility is closed down or deactivated. Stevedoring contracts are generally based on budgeted or forecasted workload (not actual workload).

f. Cost Categories. Cost categories contain fixed costs (which the shipper must pay irrespective of the tons shipped) and variable costs.

g. Penalty Costs. The shipper pays a penalty when he fails to provide the quantity cargo upon which the bid was based.

G-6. SUMMARY. The computation of the SDT Fund is dependent on the following components:

● **Forecast.** The forecast is based on the composite rate which is the primary driver for any computation relevant to the SDT Fund.

● **Rate.** A composite rate is computed during the budget process which is fixed for year execution by DOD.

● **Cost.** The cost, which is dependent on the forecast and the rate. Since the rate is fixed, the cost is dependent only on the forecast.

a. Budget. The SDT forecast is used to develop the SDT budget depending on conditions just stated.

b. Rate Changes. Rate changes are not reflected in current year budgets, but instead are reflected in future year budgets.

c. Cargo Costs. Changes in cargo forecasts are not directly proportional to changes in cargo costs. For example, in FY 82, a 25 percent shortfall in the amount of cargo carried resulted in a 4 percent shortfall in costs paid.

d. Abnormal Expenses. Abnormal expenses associated with differences in forecast equate to 35 percent of the SDT shipping cost in the FY 82 example.

e. TOA Analyses. TOA analyses of cargo forecast for FY 82 breakbulk cargo reveal the following contributed to changes from the forecasted values:

- (1) Change in tonnage - 77 percent.
- (2) Change in item mix - 20 percent.
- (3) Change in patterns of operation - 3 percent.

f. Transportation Program Changes. Transportation program changes may reduce TOA's rate of billing and thus may reduce cash reserves for future shipments.

APPENDIX H

AIR FORCE ENHANCED TRANSPORTATION AUTOMATED DATA SYSTEM (ETADS)

H-1. INTRODUCTION. The ETADS is an Air Force project to redesign, integrate, and upgrade the transportation management portions of the current HQ AFLC Logistics Force Structure Management Systems. ETADS will provide a comprehensive transportation data base that will enable detailed financial accounting of transportation funds and management of the movement of Air Force cargo worldwide.

H-2. BACKGROUND. The current system employed by AFLC to manage SDT and FDT funds consists of two separate systems, the Surface Transportation Tonnage and Cost System and the MAC Tonnage and Cost System. The Surface Transportation Tonnage and Cost System processes data for shipments which use MSC and MTMC CONUS port handling services and commercial carriers. The MAC Tonnage and Cost System collects and compiles historical data on all airlift shipments. Neither of these systems provide the Air Force with real-time capability to record obligations by individual shipment at the time the shipment is initiated. Outputs from the Surface Transportation and MAC Tonnage and Cost Systems taken from the ETADS Functional Description, Volume 2, are shown respectively in Tables H-1 and H-2.

H-3. ETADS TRANSPORTATION DATA BASE. The current batch processing of data does not permit obligation of transportation funds by individual shipment/document prior to the beginning of shipment; or provide for liquidation by individual shipment/document; or permit follow-up on delinquent unbilled transactions. ETADS is expected to provide a comprehensive data base that will provide transportation funds reimbursement computation, capability to track and control reimbursement earnings, and improved capability to manage funds in accordance with the DOD Directive 7200.1, Centrally Managed Allotment (CMA), concept. Figure H-1 illustrates the overall functions of ETADS. ETADS transportation financial management functions support the budgeting and operational management of Air Force transportation funds. As a product of daily operations, the Logistics Airlift Service (LOGAIR), Scheduled Truck Service (STS), and overseas cargo movement functions will provide actual movement information that will be used to obligate funds, as well as to verify billing for Air Force cargo movement operations. ETADS will also account for Air Force costs incurred through the use of non-Air Force modes of transportation such as GBL, carrier, and Navy Cargo Airlift System (QUICKTRANS). Historical information on the actual movements will be used to prepare forecast and budget information.

Table H-1. The Surface Transportation Tonnage and Cost System
(page 1 of 2 pages)

<u>Full Title</u>	<u>Media</u>	<u>Class.</u>	<u>Frequency</u>	<u>As of Date</u>	<u>Due Date</u>	<u>Copies</u>	<u>On/Off Base Receipts</u>
File Maintenance and Error List	List	U	M	23CD	24CD	1	AFLC/DSXR
Table Item List	List	U	M	23CD	24CD	1	AFLC/DSXR
ECAF File	Tape	U	M	17CD	18CD	1	JPPSO/ECAF
System Message List	List	U	M	17CD	18CD	1	AFLC/DSXR
Conversion TAC Code List	List	U	M	17CD	18CD	2	AFLC/DSXR
Incompatible FMS Transaction List	List	U	M	17CD	18CD	2	AFLC/DSXR
MAC Personal Property Shipments - Detail	List	U	M	17CD	18CD	1	AFLC/DSXR
MAC Personal Property Shipments - Summary by Country	List	U	M	17CD	18CD	1	AFLC/DSXR
MAC Personal Property Shipments - Summary	List	U	M	17CD	18CD	1	AFLC/DSXR
Recycle Exceptions Fund Citation List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
SAP/Grant Aid Shipment List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Fuel Citation List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
DDAAC Summary List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Project Code Summary List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Month of Movement Summary List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Continuous Channel History List	Fiche	U	M	17CD	18CD	5	(1) AFLC/DSXR (1) HQ MAC/RRC (1) HQ MAC/LGT (1) HQ PACAF/LGT (1) 21 COMPW/LGV
Command Summary List	Fiche	U	M	17CD	18CD	5	(1) AFLC/DSXR (1) HQ MAC/RRC (1) HQ MAC/LGT (1) HQ PACAF/LGT (1) 21 COMPW/LBT
MAC Personal Property Shipments - Detail	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
MAC Personal Property Shipments - Summary by Country	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
MAC Personal Property Shipments - Summary	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
Channel Forecast Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC
Command Summary Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC
POE Summary Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC

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<u>Full Title</u>	<u>Media</u>	<u>Class.</u>	<u>Frequency</u>	<u>As of Date</u>	<u>Due Date</u>	<u>Copies</u>	<u>On/Off Base Recipients</u>
Project Code Summary List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Month of Movement Summary List	Fiche	U	M	17CD	18CD	1	AFLC/DSXR
Continuous Channel History List	Fiche	U	M	17CD	18CD	5	(1) AFLC/DSXR (1) HQ MAC/RRC (1) HQ MAC/LGT (1) HQ PACAF/LGT (1) 21 COMPW/LGV
Command Summary List	Fiche	U	M	17CD	18CD	5	(1) AFLC/DSXR (1) HQ MAC/RRC (1) HQ MAC/LGT (1) HQ PACAF/LGT (1) 21 COMPW/LBT
MAC Personal Property Shipments - Detail	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
MAC Personal Property Shipments - Summary by Country	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
MAC Personal Property Shipments - Summary	Fiche	U	M	17CD	18CD	2	(1) AFLC/DSXR (1) HQ USAF/MPPD
Channel Forecast Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC
Command Summary Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC
POE Summary Report	List	U	M	25CD	26CD	2	AFLC/DSXR HQ USAF MTMC
Flying Hour Percent Error List	List	U	*	*	*	2	AFLC/DSXR
Annual Long Range Airlift Requirements	List	U	*	*	*	2	AFLC/DSXR
Average Month within Quarter	Card	U	*	*	*	1	AFLC/DSXR
Annual LR Airlift Requirement Errors	Card	U	*	*	*	1	AFLC/DSXR
LR Airlift Requirement Forecast List	Fiche	U	*	*	*	2	AFLC/DSXR HQ USAF/LET
LR Airlift Requirement Forecast by Average Month within Quarter	Fiche	U	*	*	*	2	AFLC/DSXR HQ USAF/LET

Table H-2. The Military Airlift Command Tonnage and Cost System
(page 1 of 3 pages)

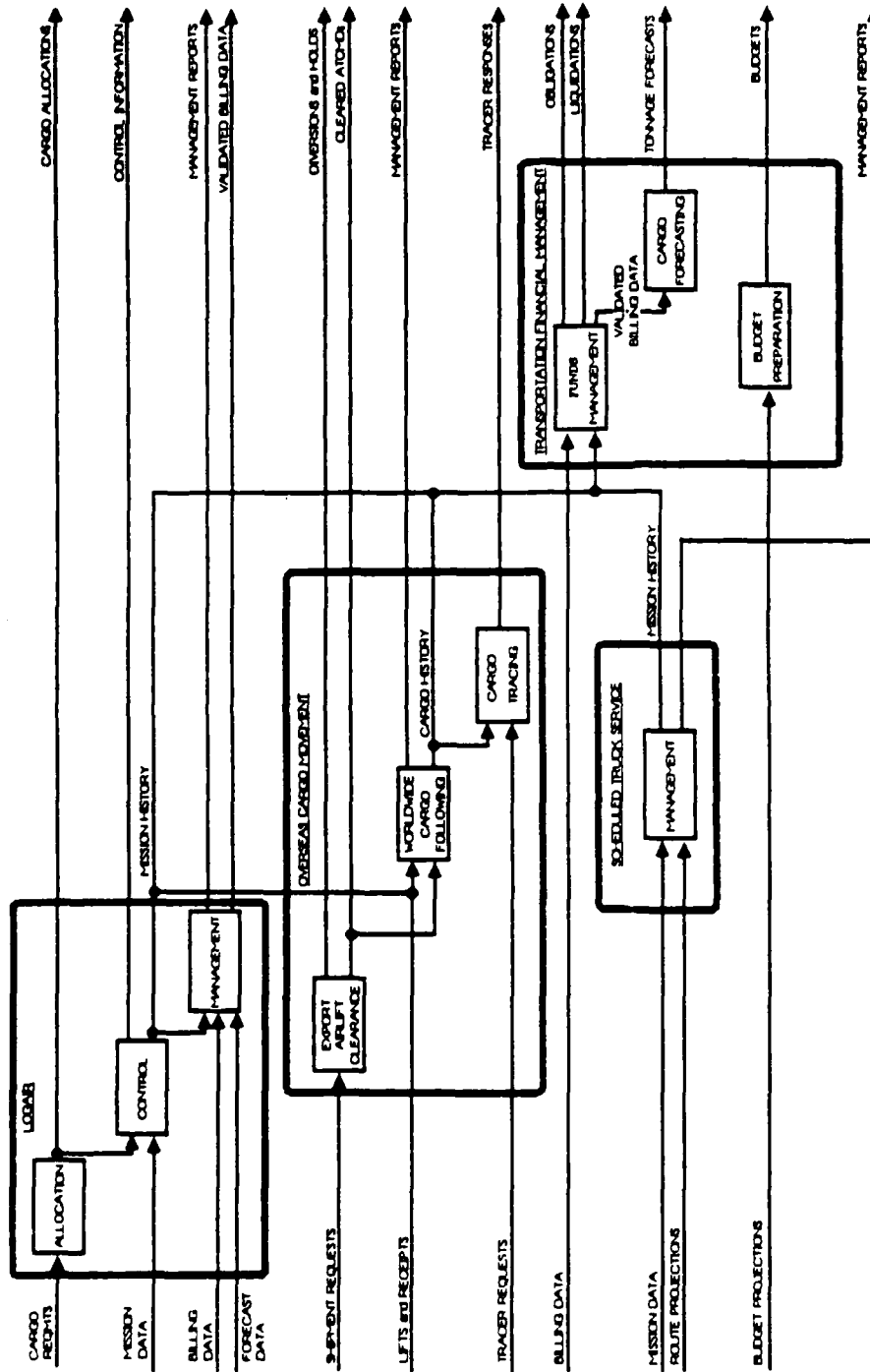
<u>Full Title</u>	<u>Media</u>	<u>Class</u>	<u>Freq</u>	<u>As of Date</u>	<u>Due Date</u>	<u>Copies</u>	<u>On/Off Base Recipients</u>
Annual FY Report of MSC Ocean Transportation Requirements - Cargo	Tape	U	As Req	As Req	ICD	1	COMSC (M51) via Mail
Preliminary Annual FY Report of MSC Ocean Transportation Requirements - Cargo	Tape	U	As Req	As Req	ICD	1	COMSC (M51) via Mail
Report of Sealift Cargo Requirements	Microfiche	U	M	9CD	10CD	1	AFLC/LOZXR
Previous 12-Months History	Microfiche	U	M	9CD	10CD	1	AFLC/LOZXR
Annual FY Report of MSC Ocean Transportation Requirements - Cargo	Microfiche	U	As Req	As Req	ICD	1	AFLC/LOZXR
Preliminary Annual FY Report of MSC Ocean Transportation Requirements - Cargo	Microfiche	U	As Req	As Req	ICD	1	AFLC/LOZXR
O027A/O027B MAC/MSC Tonnage & Cost System Update and Report	Tape	U	M	As Req	ICD	1	JPPSO/ECAF
MTMC Statement of Charges	List	U	M	As Req	ICD	3	(1) AFLC/LOZXR (2) 2750th/ACFSS
MTMC Invalid TAC Codes	List	U	M	As Req	ICD	3	(3) AFLC/LOZXR
MTMC Converted TAC Codes	List	U	M	As Req	ICD	3	(3) AFLC/LOZXR
MTMC Month of Movement	List	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Billing Errors	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Statement of Charges	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MTMC Reimbursement Report	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MTMC Invalid TAC Report	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Converted TAC Report	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Original Input Reconciliation Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Port Handling History	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MTMC DODAAC Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Project Code Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC Month of Movement	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MTMC SAP Grant Aid	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
Updated Tables List	List	U	As Req	As Req	ICD	1	AFLC/LOZXR
Table Changes Error List	List	U	As Req	As Req	ICD	1	AFLC/LOZXR
GBL Transaction Error List	List	U	As Req	As Req	ICD	1	AFLC/LOZXR
USAF GBL Transportation Summary	List	U	As Req	As Req	ICD	1	AFLC/LOZXR
AFLC GBL Trans. SAP Grant Aid Summary	List	U	As Req	As Req	ICD	1	AFLC/LOZXR

Table H-2. The Military Airlift Command Tonnage and Cost System
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<u>Full Title</u>	<u>Media</u>	<u>Class</u>	<u>Freq</u>	<u>As of Date</u>	<u>Due Date</u>	<u>Copies</u>	<u>On/Off Base Recipients</u>
USAF GBL Transportation Summary	Microfiche	U	As Req	As Req	ICD	3	(1) AFLC/LOZXR (1) AFSC/LGTT (1) HQ USAF/LETTB
AFLC GBL Trans. SAP Grant Aid Summary	Microfiche	U	As Req	As Req	ICD	1	AFLC/LOZXR
Tables Listing	List	U	As Req	As Req	IWD	2	(1) AFLC/LOZXR (1) AFLC/LMVTF
Table Statistics	List	U	As Req	As Req	IWD	2	(1) AFLC/LOZXR (1) AFLC/LMVTF
Exception List	List	U	As Req	As Req	IWD	2	(1) AFLC/LOZXR (1) AFLC/LMVTF
O027A/O027B MAC/MSC Tonnage and Cost System Update and Report	Tape	U	M	As Req	ICD	1	JPPSO/ECAF
MSC Statement of Charges	List	U	M	As Req	ICD	3	(1) AFLC/LOZXR (2) 2750th/ACFSS
MSC Reimbursement Report	List	U	M	As Req	ICD	3	(3) 2750th/ACFSS
MSC Invalid TAC Codes	List	U	M	As Req	ICD	3	(3) AFLC/LOZXR
MSC Converted TAC Codes	List	U	M	As Req	ICD	3	(3) AFLC/LOZXR
MSC Month of Movement Report	List	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Transaction Errors	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Statement of Charges	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MSC Reimbursement Report	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MSC Invalid TAC Report	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Converted TAC Report	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Original Input Reconciliation Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC History Report-Mil Pers Prop, Grant Aid, Stock Fund/ANG-Previous Fiscal Year	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MSC History Report-Mil Pers Prop, Grant Aid, Stock Fund/ANG-Current Fiscal Year	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB
MSC History Report-Troop Support-Previous Fiscal Year	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC History Report-Troop Support-Current Fiscal Year	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Military Personal Property-Current Fiscal Year	Microfiche	U	M	As Req	ICD	2	(1) AFLC/LOZXR (1) HQ USAF/MPPB

Table H-2. The Military Airlift Command Tonnage and Cost System
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<u>Full Title</u>	<u>Media</u>	<u>Class</u>	<u>Freq</u>	<u>As of Date</u>	<u>Due Date</u>	<u>Copies</u>	<u>On/Off Base Recipients</u>
MSC Grant Aid-Previous Fiscal Year	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Grant Aid-Current Fiscal Year	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC DODAAC Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Project Code Summary	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Month of Movement	Microfiche	U	M	As Req	ICD	1	AFLC/LOZXR
MSC Forecast Error List	List	U	M	9CD	10CD	1	AFLC/LOZXR
Report of Sealift Cargo Requirements	List	U	M	9CD	10CD	2	(1) AFLC/LOZXR (1) MSC/M8
Previous 12-Months History	List	U	M	9CD	10CD	1	AFLC/LOZXR
Long Range Forecast Work List	List	U	As Req	As Req	ICD	1	AFLC/LOZXR
Preliminary Annual FY Report of MSC Ocean Transportation Requirements - Cargo	List	U	As Req	As Req	ICD	4	(1) AFLC/LOZXR (1) MTMC/PLCR (1) HQ USAF/LETTB (1) MSC/M-51
Annual FY Report of MSC Ocean Transportation Requirements - Cargo	List	U	As Req	As Req	ICD	4	(1) AFLC/LOZXR (1) MTMC/PLCR (1) HQ USAF/LETTB (1) MSC/M-51
Report of Sealift Cargo Requirements	Tape	U	M	9CD	10CD	1	MSC/M8
Report of Sealift Cargo Requirements	Tape	U	M	9CD	10CD	1	MTMC/MT-IT



Reference: ETADS functional description
Vol. 2, MITRE Corp., May 1984

Figure H-1. ETADS Major Functions

H-4. SDT FUNDS MANAGEMENT. Management activities for SDT funds under ETADS will include establishing obligations, processing vouchers, auditing vouchers, processing reimbursements, maintaining internal accounting spreadsheets, allocating funds to the various modes of transportation, and reallocating funds as required. The primary objectives of funds management will be to obligate funds within 30 days after a shipment takes place, to liquidate the obligations as bills are paid, and to provide data necessary for fiscal control.

a. ETADS will receive information on receipt, lift, and data manifest from HQ MAC, HQ MSC, and HQ MTMC. Upon receipt of cargo at the points of embarkation, a receipt transaction will be created. Subsequently, a manifest and lift message will be prepared and transmitted upon movement of the shipment out of the aerial or water point of embarkation. ETADS will create an obligation for each manifest and lift transaction it receives. Upon receipt of monthly billing transactions from the Army, Air Force, and Navy Industrial Funds, ETADS will liquidate the existing obligations by transactions. If ETADS receives a transaction for which there is no obligation, it will include this transaction in an exception report. AFLC personnel will use the exception report to determine why that obligation information is missing and take corrective action.

b. Shippers for commercial air and surface movements will provide GBL information to ETADS. ETADS will utilize cost and appropriation information associated with GBL number to establish obligations. USAFAC will provide billing information for commercial air and surface movements that ETADS will use to liquidate the obligations on a transaction-by-transaction basis.

c. ETADS will permit the preparation of short- and long-range forecasts for Industrial Funds administered by MAC, MSC, and MTMC. Monthly short-range tonnage forecasts for MAC will project cargo movements for a 1-month period beginning $3\frac{1}{2}$ months in the future. This forecast will be based on any known adjustment factors and on triple-exponential smoothing techniques applied to historical shipment data.

(1) Long-range tonnage forecasts for MSC will annually project cargo movements in February for the fiscal year beginning 7 months later, and in April for the fiscal year beginning 18 months later. These forecasts will be based on known adjustment factors and on linear regression techniques applied to historical tons, historical flying hours, and programmed flying hours. These forecasts will also be based on historical and programmed PCS moves. The MSC long-range tonnage projection will be broken out by type of cargo, commodity, and traffic area.

(2) Monthly short-range tonnage forecasts for MSC will project cargo movements for 3-month periods beginning $\frac{1}{2}$ month in the future. This forecast will be based on the MSC long-range forecast and any known adjustment factors.

d. The obligation, liquidation, and billing process under ETADS for cargo shipments moved by MAC are discussed in the following paragraphs with respect to four separate shipment categories of general cargo, subsistence, special airlift assignment missions (SAAM), and Program Action Directives (PAD). AFLC analysts will occasionally need to obligate additional amounts, liquidate individual obligations, and add billing information. This need will be met through the use of MAC manual obligation entries, MAC manual liquidation entries, and MAC manual billing entries.

H-5. GENERAL CARGO. Obligations by transaction will be created by combining the MAC Billing Rate Table with information from the airlifts forwarded by HQ MAC to ETADS. The TAC Table will contain the information on the TACs that are AFLC responsibility. Liquidation by transaction will be based on the information contained in the detailed billing information received from HQ MAC. The actual bill will be the hard copy SF 1080 received twice per month (a progress version and a final version) from HQ MAC. ETADS will access the two most recent MAC Billing Rate Tables.

H-6. SUBSISTENCE. Obligations by transaction will be created by combining the MAC Billing Rate Table with airlift data forwarded by HQ MAC to ETADS. Subsistence shipments will be identified by three TACs: S1JP, S1LP, and S1UP. For S1JP and S1LP, the full amount calculated as the cost of the shipment will be obligated. For S1UP (shipments to warehouses that serve a given geographic area), the amount obligated will be the amount calculated multiplied by a percentage taken from an AF Personnel by Area Table. Liquidation will be based on the information contained in the detailed billing information received from DLA. The actual bill will be the SF 1080 received once per month from DLA. Both the billing information and the SF 1080 will contain combined information for MAC, MSC, and MTMC. ETADS shall use the customer code to distinguish the billing information for MAC, MSC, and MTMC.

H-7. Special Airlift Assignment Mission (SAAM). SAAM shipments will be obligated by transaction based on the estimated cost of a proposed SAAM as entered in the SAAM Document Register maintained by AFLC. Analysts from AFLC will manually liquidate SAAMs based on the SF 1080 received from HQ MAC. This SF 1080 will show a total of all SAAMs and have an attachment that lists the actual cost of each SAAM.

H-8. Program Action Directive (PAD). Since PAD shipments are a form of general cargo, they will be handled as part of the general cargo shipments for the purpose of obligating, liquidating, and billing each shipment.

H-9. SUMMARY. The current batch processing of SDT data does not provide the Air Force with real-time capability to record obligations by individual shipment at the time the shipment is initiated. ETADS will provide on-line capabilities and establish direct interfaces with MAC, MTMC, and MSC, along with other agencies for receipt and lift data to be used for financial management on a transaction-by-transaction basis.

APPENDIX I

CFSDT MONTHLY BILLING ESTIMATES MODEL OPERATIONS

I-1. PURPOSE. The purpose of this appendix is to document the CFSDT Monthly Billing Estimates Model. The model was created in the form of microcomputer spreadsheets.

I-2. OVERVIEW. Two types of spreadsheets were created--the monthly billing estimates spreadsheet and the disbursements spreadsheet. The two microcomputer spreadsheets respectively produce monthly estimates of billing costs by fiscal year for each TOA and the total disbursements (including DLA and other direct billings). The model provides the transportation analyst with a method of examining the data presented on the TOA monthly billing tapes for the three TOAs--MSC, MAC, and MTMC. Each TOA is processed for a billing period of 29 months. By entering the charges for each service month and accumulating this information over the course of 29 months, the analyst can determine the lag in percentage in a fiscal year's bills and compare this lag with the prior year lag. Once the lag has been determined, the analyst can make an estimate of the total bill by month or for the fiscal year.

I-3. HARDWARE. The model operates on an IBM IPC-AT microcomputer under DOS 3.1 with 512K memory, two disk drives, and one hard disk.

I-4. SOFTWARE. The LOTUS 1-2-3 software package was used to create the spreadsheets. The model can be adapted to work on most other spreadsheet software packages.

I-5. MONTHLY BILLING ESTIMATES SPREADSHEET

a. Input. Input data for the model are the aggregated billing costs (\$) by month and fiscal year for each TOA (MSC, MAC, and MTMC). The input data set for each command is obtained from the CAA CFSDT billing program (see Annex I to this appendix). These data are keyed into the LOTUS spreadsheet in the appropriate month columns.

b. Spreadsheet Procedure

(1) The LOTUS 1-2-3 system diskette should be in disk drive A and the data diskette containing the shell spreadsheet files (MACSHELL, MSCSHELL, MTMSHELL), and previous billing estimates files should be in disk drive B.

(2) Enter these commands:

(a) /Worksheet File Retrieve MACSHELL (or one of the other shell spreadsheet files) <ENTER>.

(b) Press HOME Key to position spreadsheet at initial cell, A1.

(3) Enter the fiscal year in the title line of the spreadsheet, if it is different from that shown.

(4) The current date will be updated automatically by the LOTUS function @TODAY.

(5) Key in the aggregated monthly billing costs by reading across the rows of the CFSDT billing program report and entering the data on the spreadsheet down each column by month. Begin at cell B6.

(6) Enter prior year percentages for the past 18 months in column O. Begin at cell O28. Prior year percentages are found in the YR-T-DATE column of the Monthly Billing Estimates Report for the previous fiscal year for each TOA. Percentages and cost estimates for each month will be automatically recalculated by LOTUS. A display of formulas used to compute the estimates is given in Table I-1.

(7) To SAVE the spreadsheet, enter the command: /File Save (FILENAME). Name the file using the following convention: three-character command, two-character fiscal year, two-character billing month (example: MSC8506).

(8) Repeat steps 1 through 7 for each of the three TOAs.

c. **Output.** To print each billing spreadsheet, enter the following commands:

- /Print Printer Options Margins Left 0 ENTER
- Margins Right 134 ENTER Quit
- Range A1 .. 046 ENTER Align Go Page
- Range A46 .. 079 ENTER Align Go Page Quit

Table I-1. Billing Estimates Cell Formulas
(page 1 of 4 pages)

E1	*FISCAL YEAR 1984 MONTHLY BILLING ESTIMATES	D24	#SUM(BDEC)	A30	3
F2	*MILITARY SEALIFT COMMAND	E24	#SUM(TB JAN)	B30	#SUM(B6 B81/B24
N2	(D1) @TODAY	F24	#SUM(TB FEB)	C30	#SUM(C6 C81/C24
B4	*OCT	G24	#SUM(TB MAR)	D30	#SUM(D6 D81/D24
L4	*NOV	H24	#SUM(TB APR)	E30	#SUM(E6 E81/E24
C4	*DEC	I24	#SUM(TB MAY)	F30	#SUM(F6 F81/F24
E4	*JAN	J24	#SUM(TB JUN)	G30	#SUM(G6 G81/G24
F4	*FEB	K24	#SUM(TB JUL)	H30	#SUM(H6 H81/H24
G4	*MAR	L24	#SUM(TB AUG)	J30	#SUM(J6 J81/J24
H4	*APR	M24	#SUM(TB SEP)	K30	#SUM(K6 K81/K24
J4	*JUN	N24	#SUM(TB NOV)	L30	#SUM(L6 L81/L24
K4	*JUL	A25	*	M30	#SUM(M6 M81/M24
L4	*AUG	O26	*PRIOR	N30	#SUM(N6 N81/N24
M4	*SEP	A27	*PERCENT	A31	4
N4	*TOTALS	B27	*OCT	B31	#SUM(B6 B91/B24
A5	*BILL	C27	*NOV	C31	#SUM(C6 C91/C24
A6	1	D27	*DEC	D31	#SUM(D6 D91/D24
N6	#SUM(ROW3)	E27	*JAN	E31	#SUM(E6 E91/E24
A7	2	F27	*FEB	F31	#SUM(F6 F91/F24
N7	#SUM(ROW4)	G27	*MAR	G31	#SUM(G6 G91/G24
A8	3	H27	*APR	H31	#SUM(H6 H91/H24
N8	#SUM(ROW5)	I27	*MAY	I31	#SUM(I6 I91/I24
A9	4	J27	*JUN	J31	#SUM(J6 J91/J24
N9	#SUM(ROW6)	K27	*JUL	K31	#SUM(K6 K91/K24
A10	5	L27	*AUG	L31	#SUM(L6 L91/L24
N10	#SUM(ROW7)	M27	*SEP	M31	#SUM(M6 M91/M24
A11	6	N27	*YR-T-DATE	N31	#SUM(N6 N91/N24
N11	#SUM(ROW8)	O27	*YEAR	A32	5
A12	7	A28	1	B32	#SUM(B6 B101/B24
N12	#SUM(ROW9)	C28	*G6/G24	C32	#SUM(C6 C101/C24
A13	8	D28	*D6/D24	D32	#SUM(D6 D101/D24
N13	#SUM(ROW10)	E28	*E6/E24	E32	#SUM(E6 E101/E24
A14	9	F28	*F6/F24	F32	#SUM(F6 F101/F24
N14	#SUM(ROW11)	G28	*G6/G24	G32	#SUM(G6 G101/G24
A15	10	H28	*H6/H24	H32	#SUM(H6 H101/H24
N15	#SUM(ROW12)	I28	*I6/I24	I32	#SUM(I6 I101/I24
A16	11	J28	*J6/J24	J32	#SUM(J6 J101/J24
N16	#SUM(ROW13)	K28	*K6/K24	K32	#SUM(K6 K101/K24
A17	12	L28	*L6/L24	L32	#SUM(L6 L101/L24
N17	#SUM(ROW14)	M28	*M6/M24	M32	#SUM(M6 M101/M24
A18	13	N28	*N6/N24	N32	#SUM(N6 N101/N24
N18	#SUM(ROW15)	A29	2	A33	6
A19	14	B29	#SUM(B6 B71/B24	B33	#SUM(B6 B111/B24
N19	#SUM(ROW16)	C29	#SUM(C6 C71/C24	C33	#SUM(C6 C111/C24
A20	15	D29	#SUM(D6 D71/D24	D33	#SUM(D6 D111/D24
N20	#SUM(ROW17)	E29	#SUM(E6 E71/E24	E33	#SUM(E6 E111/E24
A21	16	F29	#SUM(F6 F71/F24	F33	#SUM(F6 F111/F24
N21	#SUM(ROW18)	G29	#SUM(G6 G71/G24	G33	#SUM(G6 G111/G24
A22	17	H29	#SUM(H6 H71/H24	H33	#SUM(H6 H111/H24
N22	#SUM(ROW19)	I29	#SUM(I6 I71/I24	I33	#SUM(I6 I111/I24
A23	18	J29	#SUM(J6 J71/J24	J33	#SUM(J6 J111/J24
N23	#SUM(ROW20)	K29	#SUM(K6 K71/K24	K33	#SUM(K6 K111/K24
A24	*TOT BILL	L29	#SUM(L6 L71/L24	L33	#SUM(L6 L111/L24
B24	#SUM(TB OCT)	M29	#SUM(M6 M71/M24	M33	#SUM(M6 M111/M24
C24	#SUM(TB NOV)	N29	#SUM(N6 N71/N24	N33	#SUM(N6 N111/N24

Table I-1. Billing Estimates Cell Formulas
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A34	7	B34	=\$SUM186	B121/B24
B34		C34	=\$SUM1C6	C121/C24
C34		D34	=\$SUM1D6	D121/D24
D34		E34	=\$SUM1E6	E121/E24
E34		F34	=\$SUM1F6	F121/F24
F34		G34	=\$SUM1G6	G121/G24
G34		H34	=\$SUM1H6	H121/H24
H34		J34	=\$SUM1J6	J121/J24
J34		K34	=\$SUM1K6	K121/K24
K34		L34	=\$SUM1L6	L121/L24
L34		M34	=\$SUM1M6	M121/M24
M34		N34	=\$SUM1N6	N121/N24
N34		A35	8	
A35		B35	=\$SUM186	B131/B24
B35		C35	=\$SUM1C6	C131/C24
C35		D35	=\$SUM1D6	D131/D24
D35		E35	=\$SUM1E6	E131/E24
E35		F35	=\$SUM1F6	F131/F24
F35		G35	=\$SUM1G6	G131/G24
G35		H35	=\$SUM1H6	H131/H24
H35		J35	=\$SUM1J6	J131/J24
J35		K35	=\$SUM1K6	K131/K24
K35		L35	=\$SUM1L6	L131/L24
L35		M35	=\$SUM1M6	M131/M24
M35		N35	=\$SUM1N6	N131/N24
N35		A36	9	
A36		B36	=\$SUM186	B141/B24
B36		C36	=\$SUM1C6	C141/C24
C36		D36	=\$SUM1D6	D141/D24
D36		E36	=\$SUM1E6	E141/E24
E36		F36	=\$SUM1F6	F141/F24
F36		G36	=\$SUM1G6	G141/G24
G36		H36	=\$SUM1H6	H141/H24
H36		J36	=\$SUM1J6	J141/J24
J36		K36	=\$SUM1K6	K141/K24
K36		L36	=\$SUM1L6	L141/L24
L36		M36	=\$SUM1M6	M141/M24
M36		N36	=\$SUM1N6	N141/N24
N36		A37	10	
A37		B37	=\$SUM186	B151/B24
B37		C37	=\$SUM1C6	C151/C24
C37		D37	=\$SUM1D6	D151/D24
D37		E37	=\$SUM1E6	E151/E24
E37		F37	=\$SUM1F6	F151/F24
F37		G37	=\$SUM1G6	G151/G24
G37		H37	=\$SUM1H6	H151/H24
H37		J37	=\$SUM1J6	J151/J24
J37		K37	=\$SUM1K6	K151/K24
K37		L37	=\$SUM1L6	L151/L24
L37		M37	=\$SUM1M6	M151/M24
M37		N37	=\$SUM1N6	N151/N24
N37		A38	11	
A38		B38	=\$SUM186	B161/B24
B38		C38	=\$SUM1C6	C161/C24
C38		D38	=\$SUM1D6	D161/D24
D38		E38	=\$SUM1E6	E161/E24
E38		F38	=\$SUM1F6	F161/F24
F38		G38	=\$SUM1G6	G161/G24
G38		H38	=\$SUM1H6	H161/H24
H38		J38	=\$SUM1J6	J161/J24
J38		K38	=\$SUM1K6	K161/K24
K38		L38	=\$SUM1L6	L161/L24
L38		M38	=\$SUM1M6	M161/M24
M38		N38	=\$SUM1N6	N161/N24
N38		A39	12	
A39		B39	=\$SUM186	B171/B24
B39		C39	=\$SUM1C6	C171/C24
C39		D39	=\$SUM1D6	D171/D24
D39		E39	=\$SUM1E6	E171/E24
E39		F39	=\$SUM1F6	F171/F24
F39		G39	=\$SUM1G6	G171/G24
G39		H39	=\$SUM1H6	H171/H24
H39		J39	=\$SUM1J6	J171/J24
J39		K39	=\$SUM1K6	K171/K24
K39		L39	=\$SUM1L6	L171/L24
L39		M39	=\$SUM1M6	M171/M24
M39		N39	=\$SUM1N6	N171/N24
N39		A40	13	
A40		B40	=\$SUM186	B181/B24
B40		C40	=\$SUM1C6	C181/C24
C40		D40	=\$SUM1D6	D181/D24
D40		E40	=\$SUM1E6	E181/E24
E40		F40	=\$SUM1F6	F181/F24
F40		G40	=\$SUM1G6	G181/G24
G40		H40	=\$SUM1H6	H181/H24
H40		J40	=\$SUM1J6	J181/J24
J40		K40	=\$SUM1K6	K181/K24
K40		L40	=\$SUM1L6	L181/L24
L40		M40	=\$SUM1M6	M181/M24
M40		N40	=\$SUM1N6	N181/N24
N40		A41	14	
A41		B41	=\$SUM186	B191/B24
B41		C41	=\$SUM1C6	C191/C24
C41		D41	=\$SUM1D6	D191/D24
D41		E41	=\$SUM1E6	E191/E24
E41		F41	=\$SUM1F6	F191/F24
F41		G41	=\$SUM1G6	G191/G24
G41		H41	=\$SUM1H6	H191/H24
H41		J41	=\$SUM1J6	J191/J24
J41		K41	=\$SUM1K6	K191/K24
K41		L41	=\$SUM1L6	L191/L24
L41		M41	=\$SUM1M6	M191/M24
M41		N41	=\$SUM1N6	N191/N24
N41		A42	15	
A42		B42	=\$SUM186	B201/B24
B42		C42	=\$SUM1C6	C201/C24
C42		D42	=\$SUM1D6	D201/D24
D42		E42	=\$SUM1E6	E201/E24
E42		F42	=\$SUM1F6	F201/F24
F42		G42	=\$SUM1G6	G201/G24
G42		H42	=\$SUM1H6	H201/H24
H42		J42	=\$SUM1J6	J201/J24
J42		K42	=\$SUM1K6	K201/K24
K42		L42	=\$SUM1L6	L201/L24
L42		M42	=\$SUM1M6	M201/M24
M42		N42	=\$SUM1N6	N201/N24
N42		A43	16	
A43		B43	=\$SUM186	B211/B24
B43		C43	=\$SUM1C6	C211/C24
C43		D43	=\$SUM1D6	D211/D24
D43		E43	=\$SUM1E6	E211/E24
E43		F43	=\$SUM1F6	F211/F24
F43		G43	=\$SUM1G6	G211/G24
G43		H43	=\$SUM1H6	H211/H24
H43		J43	=\$SUM1J6	J211/J24
J43		K43	=\$SUM1K6	K211/K24
K43		L43	=\$SUM1L6	L211/L24
L43		M43	=\$SUM1M6	M211/M24
M43		N43	=\$SUM1N6	N211/N24
N43		A44	17	
A44		B44	=\$SUM186	B221/B24
B44		C44	=\$SUM1C6	C221/C24
C44		D44	=\$SUM1D6	D221/D24
D44		E44	=\$SUM1E6	E221/E24
E44		F44	=\$SUM1F6	F221/F24
F44		G44	=\$SUM1G6	G221/G24
G44		H44	=\$SUM1H6	H221/H24
H44		J44	=\$SUM1J6	J221/J24
J44		K44	=\$SUM1K6	K221/K24
K44		L44	=\$SUM1L6	L221/L24
L44		M44	=\$SUM1M6	M221/M24
M44		N44	=\$SUM1N6	N221/N24
N44		A45	18	
A45		B45	=\$SUM186	B231/B24
B45		C45	=\$SUM1C6	C231/C24
C45		D45	=\$SUM1D6	D231/D24
D45		E45	=\$SUM1E6	E231/E24
E45		F45	=\$SUM1F6	F231/F24
F45		G45	=\$SUM1G6	G231/G24
G45		H45	=\$SUM1H6	H231/H24
H45		J45	=\$SUM1J6	J231/J24
J45		K45	=\$SUM1K6	K231/K24
K45		L45	=\$SUM1L6	L231/L24
L45		M45	=\$SUM1M6	M231/M24
M45		N45	=\$SUM1N6	N231/N24

Table I-1. Billing Estimates Cell Formulas
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B47	*OCT	A56	*MAY	B56	BSUM1886	B131/035	K60	BSUM1886	K81/029	
B47	*NOV	B56	BSUM1886	B131/035	L60	BSUM1886	L71/028	L60	BSUM1886	L71/028
D47	*DEC	C36	BSUM1886	C121/034	M60	BSUM1886	M601	M60	BSUM1886	M601
E47	*JAN	D36	BSUM1886	D111/033	A61	*OCT		A61	*OCT	
F47	*FEB	E36	BSUM1886	E101/032	B61	BSUM1886	B181/040	B61	BSUM1886	B181/040
G47	*MAR	F56	BSUM1886	F91/031	C61	BSUM1886	C171/039	C61	BSUM1886	C171/039
H47	*APR	G56	BSUM1886	G81/030	D61	BSUM1886	D161/038	D61	BSUM1886	D161/038
I47	*MAY	H56	BSUM1886	H71/029	E61	BSUM1886	E151/037	E61	BSUM1886	E151/037
J47	*JUN	I56	BSUM1886	I561/028	F61	BSUM1886	F141/036	F61	BSUM1886	F141/036
K47	*JUL	O56	BSUM1886	O561/027	G61	BSUM1886	G131/035	G61	BSUM1886	G131/035
L47	*AUG	A57	*JUN	B57	BSUM1886	B141/036	H61	BSUM1886	H121/034	
M47	*SEP	C57	BSUM1886	C131/035	C57	BSUM1886	C131/035	I61	BSUM1886	I111/033
A48	*ESTIMATE	D57	BSUM1886	D121/034	D57	BSUM1886	D121/034	J61	BSUM1886	J101/032
O48	*ANNUAL	E57	BSUM1886	E111/033	E57	BSUM1886	E111/033	K61	BSUM1886	K91/030
B49	*OCT	F57	BSUM1886	F101/032	F57	BSUM1886	F101/032	L61	BSUM1886	L81/029
B49	186/028	G57	BSUM1886	G91/031	G57	BSUM1886	G91/031	M61	BSUM1886	M71/028
D49	1849*12	H57	BSUM1886	H81/030	H57	BSUM1886	H81/030	O61	BSUM1886	O61
A50	*NOV	I57	BSUM1886	I71/029	I57	BSUM1886	I71/029	A62	*NOV	
B50	BSUM1886	J57	BSUM1886	J571/9*12	J57	BSUM1886	J571/9*12	B62	BSUM1886	B191/041
C50	166/028	K57	BSUM1886	K571/9*12	K57	BSUM1886	K571/9*12	C62	BSUM1886	C181/040
D50	BSUM1850	L57	BSUM1886	L571/9*12	L57	BSUM1886	L571/9*12	D62	BSUM1886	D171/039
A51	*DEC	A58	*JUL	B58	BSUM1886	B151/037	E62	BSUM1886	E161/038	
B51	BSUM1886	C58	BSUM1886	C141/036	C58	BSUM1886	C141/036	F62	BSUM1886	F151/037
C51	BSUM1886	D58	BSUM1886	D131/035	D58	BSUM1886	D131/035	G62	BSUM1886	G141/036
D51	186/028	E58	BSUM1886	E121/034	E58	BSUM1886	E121/034	H62	BSUM1886	H131/035
O51	BSUM1851	F58	BSUM1886	F111/033	F58	BSUM1886	F111/033	I62	BSUM1886	I121/034
A52	*JAN	G58	BSUM1886	G101/032	G58	BSUM1886	G101/032	J62	BSUM1886	J111/033
B52	BSUM1886	H58	BSUM1886	H91/031	H58	BSUM1886	H91/031	K62	BSUM1886	K101/031
C52	BSUM1886	I58	BSUM1886	I81/030	I58	BSUM1886	I81/030	L62	BSUM1886	L91/030
D52	BSUM1886	J58	BSUM1886	J71/029	J58	BSUM1886	J71/029	M62	BSUM1886	M81/030
E52	166/028	K58	BSUM1886	K581/10*12	K58	BSUM1886	K581/10*12	O62	BSUM1886	O62
O52	BSUM1852	L58	BSUM1886	L581/10*12	L58	BSUM1886	L581/10*12	A63	*DEC	
A53	*FEB	A59	*AUG	B59	BSUM1886	B161/038	E63	BSUM1886	E201/042	
B53	BSUM1886	C59	BSUM1886	C151/037	C59	BSUM1886	C151/037	C63	BSUM1886	C191/041
C53	BSUM1886	D59	BSUM1886	D141/036	D59	BSUM1886	D141/036	D63	BSUM1886	D181/040
D53	BSUM1886	E59	BSUM1886	E131/035	E59	BSUM1886	E131/035	E63	BSUM1886	E171/039
E53	BSUM1886	F59	BSUM1886	F121/034	F59	BSUM1886	F121/034	F63	BSUM1886	F161/038
F53	166/028	G59	BSUM1886	G111/033	G59	BSUM1886	G111/033	G63	BSUM1886	G151/037
O53	BSUM1853	H59	BSUM1886	H101/032	H59	BSUM1886	H101/032	H63	BSUM1886	H141/036
A54	*MAR	I59	BSUM1886	I91/031	I59	BSUM1886	I91/031	I63	BSUM1886	I131/035
B54	BSUM1886	J59	BSUM1886	J81/030	J59	BSUM1886	J81/030	J63	BSUM1886	J121/034
C54	BSUM1886	K59	BSUM1886	K71/028	K59	BSUM1886	K71/028	K63	BSUM1886	K111/033
D54	BSUM1886	L59	BSUM1886	L591/11*12	L59	BSUM1886	L591/11*12	L63	BSUM1886	L101/032
E54	BSUM1886	A60	*SEP	B60	BSUM1886	B171/039	M63	BSUM1886	M91/031	
F54	BSUM1886	C60	BSUM1886	C161/038	C60	BSUM1886	C161/038	O63	BSUM1886	O63
G54	166/028	D60	BSUM1886	D151/037	D60	BSUM1886	D151/037	A64	*JAN	
O54	BSUM1854	E60	BSUM1886	E141/036	E60	BSUM1886	E141/036	B64	BSUM1886	B211/043
A55	*APR	F60	BSUM1886	F131/035	F60	BSUM1886	F131/035	C64	BSUM1886	C201/042
B55	BSUM1886	G60	BSUM1886	G121/034	G60	BSUM1886	G121/034	D64	BSUM1886	D191/041
C55	BSUM1886	H60	BSUM1886	H111/033	H60	BSUM1886	H111/033	E64	BSUM1886	E181/040
D55	BSUM1886	I60	BSUM1886	I101/032	I60	BSUM1886	I101/032	F64	BSUM1886	F171/039
E55	BSUM1886	J60	BSUM1886	J91/031	J60	BSUM1886	J91/031	G64	BSUM1886	G161/038
F55	BSUM1886	K60	BSUM1886	K81/030	K60	BSUM1886	K81/030	H64	BSUM1886	H151/037
G55	BSUM1886	L60	BSUM1886	L591/11*12	L60	BSUM1886	L591/11*12	I64	BSUM1886	I141/036
H55	186/028	A61	*FEB	B61	BSUM1886	B181/040	J64	BSUM1886	J131/035	
O55	BSUM1855	C61	BSUM1886	C171/039	C61	BSUM1886	C171/039			

Table I-1. Billing Estimates Cell Formulas
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K64	BSUM18K96	K121/034	K68	BSUM18K96	K161/038
L64	BSUM18L96	L111/033	L68	BSUM18L96	L151/037
M64	BSUM18M96	M101/032	M68	BSUM18M96	M141/036
O64	BSUM18O96	M641	O68	BSUM18O96	M681
A63	*FEB		A69	*JUN	
B63	BSUM18B96	B221/044	B69	*JUL	
C63	BSUM18C96	C211/043	C69	*AUG	
D63	BSUM18D96	D201/042	D69	*SEP	
E63	BSUM18E96	E191/041	E69	BSUM18E96	E221/044
F63	BSUM18F96	F181/040	F69	BSUM18F96	F221/044
G63	BSUM18G96	G171/039	G69	BSUM18G96	G211/043
H63	BSUM18H96	H161/038	H69	BSUM18H96	H201/042
I63	BSUM18I96	I151/037	I69	BSUM18I96	I191/041
J63	BSUM18J96	J141/036	J69	BSUM18J96	J181/040
K63	BSUM18K96	K131/035	K69	BSUM18K96	K171/039
L63	BSUM18L96	L121/034	L69	BSUM18L96	L161/038
M63	BSUM18M96	M111/033	M69	BSUM18M96	M151/037
O63	BSUM18O96	M631	O69	BSUM18O96	M631
A66	*MAR		A70	*JUL	
B66	BSUM18B06	B221/044	B70	*AUG	
C66	BSUM18C96	C221/044	C70	*SEP	
D66	BSUM18D96	D211/043	D70	*OCT	
E66	BSUM18E96	E201/042	E70	*NOV	
F66	BSUM18F96	F191/041	F70	BSUM18F96	F221/044
G66	BSUM18G96	G181/040	G70	BSUM18G96	G221/044
H66	BSUM18H96	H171/039	H70	BSUM18H96	H211/043
I66	BSUM18I96	I161/038	I70	BSUM18I96	I201/042
J66	BSUM18J96	J151/037	J70	BSUM18J96	J191/041
K66	BSUM18K96	K141/036	K70	BSUM18K96	K181/040
L66	BSUM18L96	L131/035	L70	BSUM18L96	L171/039
M66	BSUM18M96	M121/034	M70	BSUM18M96	M161/038
O66	BSUM18O96	M661	O70	BSUM18O96	M61/037
A67	*APR		A71	*AUG	
B67	*MAY		B71	*SEP	
C67	BSUM18C06	C221/044	C71	*OCT	
D67	BSUM18D96	D211/043	D71	*NOV	
E67	BSUM18E96	E201/042	E71	*DEC	
F67	BSUM18F96	F191/041	F71	*JAN	
G67	BSUM18G96	G181/040	G71	*FEB	
H67	BSUM18H96	H171/039	H71	*MAY	
I67	BSUM18I96	I161/038	I71	*JUN	
J67	BSUM18J96	J151/037	J71	*JUL	
K67	BSUM18K96	K141/036	K71	*AUG	
L67	BSUM18L96	L131/035	L71	*SEP	
M67	BSUM18M96	M121/034	M71	*OCT	
O67	BSUM18O96	M671	O71	*NOV	
A68	*MAY		A72	*SEP	
B68	*JUN		B72	*OCT	
C68	*JUL		C72	*NOV	
D68	BSUM18D96	D221/044	D72	*DEC	
E68	BSUM18E96	E211/043	E72	*JAN	
F68	BSUM18F96	F201/042	F72	*FEB	
G68	BSUM18G96	G191/041	G72	*MAY	
H68	BSUM18H96	H181/040	H72	*JUN	
I68	BSUM18I96	I171/039	I72	*JUL	
J68	BSUM18J96	J161/038	J72	*AUG	
K72	BSUM18K96	K201/042	K72	BSUM18K96	K201/042
L72	BSUM18L96	L191/041	L72	BSUM18L96	L191/041
M72	BSUM18M96	M181/040	M72	BSUM18M96	M181/040
O72	BSUM18O96	M721	O72	BSUM18O96	M721
A73	*OCT		A73	*OCT	
B73	*NOV		B73	*NOV	
C73	*DEC		C73	*DEC	
D73	*JAN		D73	*JAN	
E73	*FEB		E73	*FEB	
F73	*MAY		F73	*MAY	
G73	*JUN		G73	*JUN	
H73	*JUL		H73	*JUL	
I73	*AUG		I73	*AUG	
J73	*SEP		J73	*SEP	
K73	*OCT		K73	*OCT	
L73	*NOV		L73	*NOV	
M73	*DEC		M73	*DEC	
O73	*JAN		O73	*JAN	
A74	*FEB		A74	*FEB	
B74	*MAY		B74	*MAY	
C74	*JUN		C74	*JUN	
D74	*JUL		D74	*JUL	
E74	*AUG		E74	*AUG	
F74	*SEP		F74	*SEP	
G74	*OCT		G74	*OCT	
H74	*NOV		H74	*NOV	
I74	*DEC		I74	*DEC	
J74	*JAN		J74	*JAN	
K74	*FEB		K74	*FEB	
L74	*MAY		L74	*MAY	
M74	*JUN		M74	*JUN	
O74	*JUL		O74	*JUL	
A75	*AUG		A75	*AUG	
B75	*SEP		B75	*SEP	
C75	*OCT		C75	*OCT	
D75	*NOV		D75	*NOV	
E75	*DEC		E75	*DEC	
F75	*JAN		F75	*JAN	
G75	*FEB		G75	*FEB	
H75	*MAY		H75	*MAY	
I75	*JUN		I75	*JUN	
J75	*JUL		J75	*JUL	
K75	*AUG		K75	*AUG	
L75	*SEP		L75	*SEP	
M75	*OCT		M75	*OCT	
O75	*NOV		O75	*NOV	
A76	*DEC		A76	*DEC	
B76	*JAN		B76	*JAN	
C76	*FEB		C76	*FEB	
D76	*MAY		D76	*MAY	
E76	*JUN		E76	*JUN	
F76	*JUL		F76	*JUL	
G76	*AUG		G76	*AUG	
H76	*SEP		H76	*SEP	
I76	*OCT		I76	*OCT	
J76	*NOV		J76	*NOV	

I-6. CFSDT MONTHLY DISBURSEMENTS SPREADSHEET**a. Input**

(1) The input data for columns MSC\$, MAC\$, MTMC\$, DLA\$, and OTHER\$ cumulative are taken from the Interim SDT Execution Data Report RCS-CSGLD-1918, prepared by USAFAC.

(2) The TOTAL\$ CUMULATIVE column is taken from the Status of Approved Operating Budget Report, RCS-CSCFA-218, prepared by USAFAC.

(3) The disbursement rates table of prior year percentages is derived from the latest fiscal year for which 36 months of data is available. The actual rates can be modified. Indicate actual or modified in the table heading (example: FY85A for actual or FY85M for modified).

b. Processing

(1) The LOTUS 1-2-3 system diskette should be in disk drive A and the data diskette containing the shell spreadsheet for the CFSDT disbursement data and formulas should be in disk drive B.

(2) Enter these commands:

Worksheet File Retrieve DISBSHELLB <ENTER>
Press HOME key to position spreadsheet to its initial cell, A1.

(3) Enter the fiscal year in the title lines for each of the four spreadsheet sections.

(4) The current date will be updated automatically by the LOTUS function @TODAY.

(5) Key in input data columns: MSC\$ Cumulative, MAC\$ Cumulative, MTMC\$ Cumulative, DLA\$ Cumulative, OTHER\$ Cumulative and TOTAL\$ Cumulative. The formulas as displayed in Table I-2 are used to compute the monthly dollars for the TOAs and others.

(6) The ESTIMATE row (row 43) data is taken from the TOA monthly billing estimates spreadsheet. DLA, OTHER, and TOTAL estimates are calculated as indicated on the display of formulas.

(7) Prior year disbursement rates should be keyed into the disbursement rates spreadsheet section.

(8) The calculated CFSDT disbursement dollars and current CFSDT disbursement rates (percent) are calculated as specified by the formulas for each cell as shown in Table I-2.

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(9) To save the spreadsheet, enter the command:

(a) /FILE SAVE (FILE NAME)

(b) Name the file DISBXXYY where XX is the fiscal year and YY is the update month.

c. **Output.** To print the disbursements spreadsheet, enter the following commands:

- /Print Printer Options Margins Left 0 <ENTER>
- Margins Right 134 <ENTER> Quit
- Range A1 .. N44 <ENTER> Align Go Page
- Range P1 .. W44 <ENTER> Align Go Page
- Range A47 .. N88 <ENTER> Align Go Page
- Range A47 .. W88 <ENTER> Align Go Page Quit

NOTE: ENTER

Table I-2. CFSOT Disbursements Cell Formulas
(page 1 of 8 pages)

A1	CALCULATED CFSOT DISBURSEMENTS	F6	#E6	S8	(F0) +MM43R554	M11	IF(0ISNA(C11),0,*(C11-C10))
H1	FY85	G6	0	T8	(F0) +MM43R754	J11	13200
J1	FEB	M6	#G6	U8	(F0) +MM43R054	K11	IF(0ISNA(I11),0,*(I11-I10))
M1	FEB	I6	0	W8	(F0) +MM43R054	L11	12600
T1	FEB	J6	#I6	Y8	(F0) +MM43R054	M11	IF(0ISNA(K11),0,*(K11-K10))
V1	(C1) @TODAY	K6	#J6	A9	4	N11	102244
W1	DOLLARS IN THOUSANDS (000)	L6	#K6	B9	'JAN	O11	IF(0ISNA(M11),0,*(M11-M10))
X2	CALCULATED CFSOT DISBURSEMENTS	M6	#L6	C9	0	P11	6
C3	MAR	N6	#M6	D9	IF(0ISNA(C9),0,*(C9-C8))	Q11	'MAR
D3	MAR	O6	#N6	E9	21861	R11	(F0) +MM43R057
F3	MAR	P6	#O6	F9	IF(0ISNA(E9),0,*(E9-E8))	S11	(F0) +MM43R557
G3	MAR	Q6	#P6	G9	6641	T11	(F0) +MM43R157
H3	MAR	R6	#Q6	H9	IF(0ISNA(G9),0,*(G9-G8))	U11	(F0) +MM43R057
I3	DUN	S6	#R6	I9	0	V11	(F0) +MM43R057
J3	DUN	T6	#S6	J9	IF(0ISNA(I9),0,*(I9-I8))	W11	(F0) +MM43R057
K3	DUN	U6	#T6	K9	20000	X12	7
L3	DUN	V6	#U6	L9	IF(0ISNA(K9),0,*(K9-K8))	Y12	'APR
M3	DUN	W6	#V6	M9	34619	Z12	66816
N3	TOTALS	X6	#W6	N9	IF(0ISNA(M9),0,*(M9-M8))	A12	IF(0ISNA(C12),0,*(C12-C11))
O3	TOTALS	Y6	#X6	O9	4	B12	56837
P3	TOTALS	Z6	#Y6	P9	0	C12	IF(0ISNA(E12),0,*(E12-E11))
Q3	TOTALS	A7	#Z6	Q9	'JAN	D12	16614
R3	TOTALS	B7	#A7	R9	(F0) +MM43R355	E12	IF(0ISNA(G12),0,*(G12-G11))
S3	TOTALS	C7	#B7	S9	(F0) +MM43R555	F12	17500
T3	TOTALS	D7	#C7	T9	(F0) +MM43R155	G12	IF(0ISNA(I12),0,*(I12-I11))
U3	TOTALS	E7	#D7	U9	(F0) +MM43R055	H12	11361
V3	TOTALS	F7	#E7	V9	(F0) +MM43R055	I12	IF(0ISNA(K12),0,*(K12-K11))
W3	TOTALS	G7	#F7	W9	(F0) +MM43R055	J12	17418
X3	TOTALS	H7	#G7	X9	5	K12	IF(0ISNA(M12),0,*(M12-M11))
Y3	TOTALS	I7	#H7	Y9	'FEB	L12	7
Z3	TOTALS	J7	#I7	Z9	0	M12	IF(0ISNA(O12),0,*(O12-O11))
A4	MONTHLY	K7	#J7	A10	0	N12	IF(0ISNA(Q12),0,*(Q12-Q11))
B4	MONTHLY	L7	#K7	B10	'FEB	O12	'APR
C4	MONTHLY	M7	#L7	C10	0	P12	(F0) +MM43R058
D4	MONTHLY	N7	#M7	D10	IF(0ISNA(C10),0,*(C10-C9))	Q12	(F0) +MM43R558
E4	MONTHLY	O7	#N7	E10	22594	R12	(F0) +MM43R058
F4	MONTHLY	P7	#O7	F10	IF(0ISNA(E10),0,*(E10-E9))	S12	(F0) +MM43R158
G4	MONTHLY	Q7	#P7	G10	6641	T12	(F0) +MM43R058
H4	MONTHLY	R7	#Q7	H10	IF(0ISNA(G10),0,*(G10-G9))	U12	(F0) +MM43R058
I4	MONTHLY	S7	#R7	I10	6345	V12	(F0) +MM43R058
J4	MONTHLY	T7	#S7	J10	IF(0ISNA(I10),0,*(I10-I9))	W12	(F0) +MM43R058
K4	MONTHLY	U7	#T7	K10	22000	X12	8
L4	MONTHLY	V7	#U7	L10	IF(0ISNA(K10),0,*(K10-K9))	Y12	'MAY
M4	MONTHLY	W7	#V7	M10	65979	Z12	77342
N4	MONTHLY	X7	#W7	N10	IF(0ISNA(M10),0,*(M10-M9))	A13	IF(0ISNA(O13),0,*(O13-O12))
O4	MONTHLY	Y7	#X7	O10	5	B13	24866
P4	MONTHLY	Z7	#Y7	P10	0	C13	IF(0ISNA(Q13),0,*(Q13-Q12))
Q4	MONTHLY	A8	#Z7	Q10	'FEB	D13	72838
R4	MONTHLY	B8	#A8	R10	(F0) +MM43R356	E13	IF(0ISNA(S13),0,*(S13-S12))
S4	MONTHLY	C8	#B8	S10	(F0) +MM43R556	F13	IF(0ISNA(T13),0,*(T13-T12))
T4	MONTHLY	D8	#C8	T10	(F0) +MM43R156	G13	24866
U4	MONTHLY	E8	#D8	U10	(F0) +MM43R056	H13	IF(0ISNA(U13),0,*(U13-U12))
V4	MONTHLY	F8	#E8	V10	(F0) +MM43R056	I13	14644
W4	MONTHLY	G8	#F8	W10	(F0) +MM43R056	J13	IF(0ISNA(V13),0,*(V13-V12))
X4	MONTHLY	H8	#G8	X10	(F0) +MM43R056	K13	IF(0ISNA(W13),0,*(W13-W12))
Y4	MONTHLY	I8	#H8	Y10	6	L13	IF(0ISNA(X13),0,*(X13-X12))
Z4	MONTHLY	J8	#I8	Z10	'MAR	M13	21262
A5	MONTHLY	K8	#J8	A11	0	N13	IF(0ISNA(Y13),0,*(Y13-Y12))
B5	MONTHLY	L8	#K8	B11	'MAR	O13	'MAY
C5	MONTHLY	M8	#L8	C11	27011	P13	(F0) +MM43R059
D5	MONTHLY	N8	#M8	D11	IF(0ISNA(C11),0,*(C11-C10))	Q13	(F0) +MM43R559
E5	MONTHLY	O8	#N8	E11	45028	R13	(F0) +MM43R059
F5	MONTHLY	P8	#O8	F11	IF(0ISNA(E11),0,*(E11-E10))	S13	(F0) +MM43R159
G5	MONTHLY	Q8	#P8	G11	3199	T13	(F0) +MM43R059
H5	MONTHLY	R8	#Q8	H11	(F0) +MM43R054		

Table I-2. CFSDT Disbursements Cell Formulas
(page 2 of 8 pages)

U13	(F0) +M4330U59	J16	(F0) +M15NA(I16),0,+I16-I15)	W18	(F0) +M4330U64	L21	(F0) +M15NA(K21),0,+K21-K20)
U13	(F0) +M4330U59	K15	1/055	A19	14	M21	(F0) +M4330U67
U13	(F0) +M4330U59	L16	(F0) +M15NA(K16),0,+K16-K15)	B19	'NOV	M21	(F0) +M15NA(H21),0,+H21-H20)
A14	5	M16	335495	C19	'JAN	P21	16
B14	'JUN	M16	(F0) +M15NA(M16),0,+M16-M15)	D19	(F0) +M15NA(C19),0,+C19-C18)	Q21	'JAN
C14	20742	P16	'AUG	E19	'MAY	R21	(F0) +M4330U67
D14	(F0) +M15NA(C14),0,+C14-C13)	R16	(F0) +M4330R62	F19	(F0) +M15NA(E19),0,+E19-E18)	S21	(F0) +M4330U67
E14	87311	S16	(F0) +M4330S62	G19	'MAY	T21	(F0) +M4330U67
F14	(F0) +M15NA(E14),0,+E14-E13)	T16	(F0) +M4330T62	H19	(F0) +M15NA(C19),0,+C19-C18)	U21	(F0) +M4330U67
G14	32909	U16	(F0) +M4330U62	I19	'MAY	V21	(F0) +M4330U67
H14	(F0) +M15NA(G14),0,+C14-G13)	U16	(F0) +M4330U62	J19	(F0) +M15NA(I19),0,+I19-I18)	W21	(F0) +M4330U67
I14	26187	U16	(F0) +M4330U62	K19	'MAY	A22	17
J14	(F0) +M15NA(H14),0,+I14-I13)	U16	(F0) +M4330U62	L19	(F0) +M15NA(K19),0,+K19-K18)	B22	'FEB
K14	14940	A17	12	M19	'MAY	C22	'MAY
L14	(F0) +M15NA(I14),0,+K14-K13)	B17	'SEP	N19	(F0) +M15NA(M19),0,+M19-M18)	D22	(F0) +M15NA(C22),0,+C22-C21)
M14	260841	C17	'MAY	P19	14	E22	'MAY
N14	(F0) +M15NA(J14),0,+M14-M13)	D17	(F0) +M15NA(N17),0,+C17-C16)	Q19	'NOV	F22	(F0) +M15NA(E22),0,+E22-E21)
O14	5	E17	'MAY	R19	(F0) +M4330R65	G22	'MAY
P14	'JUN	F17	(F0) +M15NA(O17),0,+E17-E16)	S19	(F0) +M4330S65	H22	(F0) +M15NA(G22),0,+C22-C21)
Q14	(F0) +M4330Q60	G17	'MAY	T19	(F0) +M4330T65	I22	'MAY
S14	(F0) +M4330S60	H17	(F0) +M15NA(G17),0,+C17-G16)	U19	(F0) +M4330U65	J22	(F0) +M15NA(I22),0,+I22-I21)
T14	(F0) +M4330T60	I17	'MAY	V19	(F0) +M4330V65	K22	'MAY
U14	(F0) +M4330U60	J17	(F0) +M15NA(H17),0,+I17-I16)	W19	(F0) +M4330W65	L22	(F0) +M15NA(K22),0,+K22-K21)
V14	(F0) +M4330V60	K17	'MAY	A20	15	M22	'MAY
W14	(F0) +M4330W60	L17	(F0) +M15NA(I17),0,+K17-K16)	B20	'DEC	N22	(F0) +M15NA(L22),0,+K22-K21)
X14	10	M17	'MAY	C20	'MAY	P22	17
B15	'JUL	N17	(F0) +M15NA(M17),0,+M17-M16)	D20	(F0) +M15NA(C20),0,+C20-C19)	Q22	'FEB
C15	117071	P17	12	E20	'MAY	R22	(F0) +M4330R68
D15	(F0) +M15NA(B15),0,+C15-C14)	Q17	'SEP	F20	(F0) +M15NA(E20),0,+E20-E19)	S22	(F0) +M4330S68
E15	50824	R17	(F0) +M4330R63	G20	'MAY	T22	(F0) +M4330T68
F15	(F0) +M15NA(D15),0,+E15-E14)	S17	(F0) +M4330S63	H20	(F0) +M15NA(G20),0,+C20-G19)	U22	(F0) +M4330U68
G15	37939	T17	(F0) +M4330T63	I20	'MAY	V22	(F0) +M4330V68
H15	(F0) +M15NA(F15),0,+C15-G14)	U17	(F0) +M4330U63	J20	(F0) +M15NA(I20),0,+I20-I19)	W22	(F0) +M4330W68
I15	27702	V17	(F0) +M4330V63	K20	'MAY	A23	18
J15	(F0) +M15NA(H15),0,+I15-I14)	W17	(F0) +M4330W63	L20	(F0) +M15NA(K20),0,+K20-K19)	B23	'MAY
K15	15054	X17	13	M20	'MAY	C23	'MAY
L15	(F0) +M15NA(I15),0,+K15-K14)	B18	'OCT	N20	(F0) +M15NA(M20),0,+M20-M19)	D23	(F0) +M15NA(C23),0,+C23-C22)
M15	306149	C18	'MAY	P20	15	E23	'MAY
N15	(F0) +M15NA(J15),0,+M15-M14)	D18	(F0) +M15NA(N18),0,+C18-C17)	Q20	'DEC	F23	(F0) +M15NA(E23),0,+E23-E22)
P15	10	E18	'MAY	R20	(F0) +M4330R66	G23	'MAY
Q15	'JUL	F18	(F0) +M15NA(O18),0,+E18-E17)	S20	(F0) +M4330S66	H23	(F0) +M15NA(G23),0,+C23-C22)
R15	(F0) +M4330R61	G18	'MAY	T20	(F0) +M4330T66	I23	'MAY
S15	(F0) +M4330S61	H18	(F0) +M15NA(G18),0,+C18-C17)	U20	(F0) +M4330U66	J23	(F0) +M15NA(I23),0,+I23-I22)
T15	(F0) +M4330T61	I18	'MAY	V20	(F0) +M4330V66	K23	'MAY
U15	(F0) +M4330U61	J18	(F0) +M15NA(H18),0,+I18-I17)	W20	(F0) +M4330W66	L23	(F0) +M15NA(K23),0,+K23-K22)
V15	(F0) +M4330V61	K18	'MAY	A21	16	M23	'MAY
W15	(F0) +M4330W61	L18	(F0) +M15NA(I18),0,+K18-K17)	B21	'JAN	N23	(F0) +M15NA(L23),0,+K23-K22)
X15	11	M18	'MAY	C21	'MAY	P23	18
B16	'AUG	N18	(F0) +M15NA(M18),0,+M18-M17)	D21	(F0) +M15NA(C21),0,+C21-C20)	Q23	'MAY
C16	131417	P18	13	E21	'MAY	R23	(F0) +M4330R69
D16	(F0) +M15NA(B16),0,+C16-C15)	Q18	'OCT	F21	(F0) +M15NA(E21),0,+E21-E20)	S23	(F0) +M4330S69
E16	102607	R18	(F0) +M4330R64	G21	'MAY	T23	(F0) +M4330T69
F16	(F0) +M15NA(D16),0,+E16-E15)	S18	(F0) +M4330S64	H21	(F0) +M15NA(G21),0,+C21-C20)	U23	(F0) +M4330U69
G16	47156	T18	(F0) +M4330T64	I21	'MAY	V23	(F0) +M4330V69
H16	(F0) +M15NA(F16),0,+C16-G15)	U18	(F0) +M4330U64	J21	(F0) +M15NA(I21),0,+I21-I20)	W23	(F0) +M4330W69
I16	34517	V18	(F0) +M4330V64	K21	'MAY	A24	19

Table I-2. CFSDT Disbursements Cell Formulas
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R24	'AUG	M26	IF(0ISNA(H26),0,+M26-M25)	O29	IF(0ISNA(C29),0,+C29-C28)	Q31	'NOV	
R24	QNA	R26	21	E29	QNA	R31	(F0)	+M443R77
R24	IF(0ISNA(C24),0,+C24-C23)	R26	'JUN	F29	IF(0ISNA(E29),0,+E29-E28)	S31	(F0)	+M443S77
R24	QNA	R26	(F0)	G29	QNA	T31	(F0)	+M443T77
R24	IF(0ISNA(E24),0,+E24-E23)	S26	(F0)	H29	IF(0ISNA(C29),0,+C29-C28)	U31	(F0)	+M443U77
R24	QNA	T26	(F0)	I29	QNA	V31	(F0)	+M443V77
R24	IF(0ISNA(C24),0,+C24-C23)	U26	(F0)	J29	IF(0ISNA(I29),0,+I29-I28)	W31	(F0)	+M443W77
R24	QNA	V26	(F0)	K29	QNA	X32	27	
R24	IF(0ISNA(I24),0,+I24-I23)	W26	(F0)	L29	IF(0ISNA(K29),0,+K29-K28)	Y32	'DEC	
R24	QNA	X27	22	M29	QNA	Z32	QNA	
R24	IF(0ISNA(K24),0,+K24-K23)	R27	'JUL	N29	IF(0ISNA(M29),0,+M29-M28)	A32	IF(0ISNA(C32),0,+C32-C31)	
R24	QNA	C27	QNA	P29	24	L32	QNA	
R24	IF(0ISNA(M24),0,+M24-M23)	D27	IF(0ISNA(C27),0,+C27-C26)	Q29	'SEP	F32	IF(0ISNA(E32),0,+E32-E31)	
R24	15	E27	QNA	R29	(F0)	G32	QNA	
R24	'APR	F27	IF(0ISNA(E27),0,+E27-E26)	S29	(F0)	H32	IF(0ISNA(G32),0,+G32-C31)	
R24	(F0)	G27	QNA	T29	(F0)	I32	QNA	
R24	+M443R70	H27	IF(0ISNA(G27),0,+G27-G26)	U29	(F0)	J32	IF(0ISNA(I32),0,+I32-I31)	
R24	+M443S70	I27	QNA	V29	(F0)	K32	QNA	
R24	+M443T70	J27	IF(0ISNA(H27),0,+I27-I26)	W29	(F0)	L32	IF(0ISNA(K32),0,+K32-K31)	
R24	+M443U70	K27	QNA	X30	25	M32	QNA	
R24	+M443V70	L27	IF(0ISNA(I27),0,+I27-I26)	Y30	'OCT	N32	IF(0ISNA(M32),0,+M32-M31)	
R24	20	M27	QNA	O30	QNA	P32	27	
R25	'MAY	N27	IF(0ISNA(H27),0,+H27-H26)	Q30	IF(0ISNA(C30),0,+C30-C29)	R32	'DEC	
R25	QNA	P27	22	E30	QNA	S32	(F0)	+M443R78
R25	IF(0ISNA(C25),0,+C25-C24)	Q27	'JUL	F30	IF(0ISNA(E30),0,+E30-E29)	T32	(F0)	+M443T78
R25	QNA	R27	(F0)	G30	QNA	U32	(F0)	+M443U78
R25	IF(0ISNA(E25),0,+E25-E24)	S27	(F0)	H30	IF(0ISNA(G30),0,+G30-G29)	V32	(F0)	+M443V78
R25	+M443R71	T27	(F0)	I30	QNA	W32	(F0)	+M443W78
R25	+M443S71	U27	(F0)	J30	IF(0ISNA(I30),0,+I30-I29)	X32	(F0)	+M443X78
R25	+M443T71	V27	(F0)	K30	QNA	Y32	(F0)	+M443Y78
R25	+M443U71	W27	(F0)	L30	IF(0ISNA(K30),0,+K30-K29)	Z32	'JAN	
R25	+M443V71	X27	(F0)	M30	QNA	A33	28	
R25	20	Y27	(F0)	N30	IF(0ISNA(M30),0,+M30-M29)	B33	IF(0ISNA(C33),0,+C33-C32)	
R25	'MAY	O27	IF(0ISNA(H27),0,+H27-H26)	P30	25	C33	QNA	
R25	QNA	Q28	IF(0ISNA(C28),0,+C28-C27)	Q30	'OCT	D33	IF(0ISNA(E33),0,+E33-E32)	
R25	IF(0ISNA(E25),0,+E25-E24)	R28	QNA	R30	(F0)	E33	QNA	
R25	+M443R71	S28	QNA	S30	(F0)	F33	IF(0ISNA(F33),0,+F33-E32)	
R25	+M443S71	T28	IF(0ISNA(E28),0,+E28-E27)	T30	(F0)	G33	IF(0ISNA(G33),0,+G33-E32)	
R25	+M443T71	U28	QNA	U30	(F0)	H33	IF(0ISNA(H33),0,+H33-E32)	
R25	+M443U71	V28	IF(0ISNA(G28),0,+G28-G27)	V30	(F0)	I33	QNA	
R25	+M443V71	W28	IF(0ISNA(H28),0,+H28-I27)	W30	(F0)	J33	IF(0ISNA(I33),0,+I33-I32)	
R25	21	X28	QNA	X30	(F0)	K33	QNA	
R25	'JUN	Y28	IF(0ISNA(I28),0,+I28-I27)	Y30	(F0)	L33	IF(0ISNA(K33),0,+K33-K32)	
R25	QNA	Z28	IF(0ISNA(K28),0,+K28-K27)	A31	26	M33	QNA	
R26	QNA	A28	IF(0ISNA(L28),0,+L28-M27)	B31	'NOV	N33	IF(0ISNA(M33),0,+M33-M32)	
R26	IF(0ISNA(M26),0,+M26-E25)	B28	QNA	O31	QNA	P33	28	
R26	IF(0ISNA(C26),0,+C26-E25)	C28	'AUG	Q31	IF(0ISNA(C31),0,+C31-C30)	R33	'JAN	
R26	QNA	D28	(F0)	F31	IF(0ISNA(E31),0,+E31-E30)	S33	(F0)	+M443R79
R26	+M443R74	E28	(F0)	G31	QNA	T33	(F0)	+M443T79
R26	+M443S74	F28	(F0)	H31	IF(0ISNA(G31),0,+G31-C30)	U33	(F0)	+M443U79
R26	+M443T74	G28	(F0)	I31	QNA	V33	(F0)	+M443V79
R26	+M443U74	H28	(F0)	J31	IF(0ISNA(I31),0,+I31-I30)	W33	(F0)	+M443W79
R26	+M443V74	I28	(F0)	K31	QNA	X34	29	
R26	21	J28	(F0)	L31	IF(0ISNA(K31),0,+K31-K30)	Y34	'FEB	
R26	'JUN	K28	(F0)	M31	QNA	Z34	QNA	
R26	IF(0ISNA(L26),0,+L26-I25)	L28	(F0)	N31	IF(0ISNA(M31),0,+M31-M30)	A34	IF(0ISNA(C34),0,+C34-C33)	
R26	QNA	M28	IF(0ISNA(K26),0,+K26-K25)	O31	26	B34	QNA	
R26	IF(0ISNA(K26),0,+K26-K25)	P28	QNA	P31	26	C34	QNA	

Table I-2. CFSDT Disbursements Cell Formulas
(page 5 of 8 pages)

W47	*PRIMR YEAR	L53	(F4) +K58*H53	E56	(F4) +E10/HM10	U58	(F4) 0 038244
C50	*CUMULATIVE	N33	(F4) +H7/ANN42	F36	(F4) +E56*H56	W58	(F4) 0 020574
D50	*OF TOTAL	P53	2	G36	(F4) +G10/HM10	W58	(F4) 0 249344
F50	*CUMULATIVE	Q53	*NOV	H56	(F4) +G56*H56	A59	B
G50	*OF TOTAL	R53	(F4) 0	I36	(F4) +I10/HM10	B59	*MAY
H50	*CUMULATIVE	S53	(F4) 0	J56	(F4) +I56*H56	C59	(F4) +C13/HM13
I50	*OF TOTAL	T53	(F4) 0	K56	(F4) +I56*H56	D59	(F4) +C59*H59
L50	*CUMULATIVE	U53	(F4) 0	L36	(F4) +K10/HM10	E59	(F4) +C13/HM13
M50	*OF TOTAL	V53	(F4) 0 000126	M56	(F4) +K56*H56	F59	(F4) +E59*H59
N50	*CUMULATIVE	W53	(F4) 0 000126	P56	(F4) +M10/HM42	G59	(F4) +C13/HM13
O50	*TOTAL	X53	3	Q56	*FEB	H59	(F4) +C59*H59
P50	*ASC %	B34	*DEC	R56	(F4) 0 030236	I59	(F4) +I13/HM13
Q50	*ASC %	C54	(F4) +G8/HM8	S56	(F4) 0 028984	J59	(F4) +I59*H59
R50	*ASC %	D54	(F4) +G54*H54	T56	(F4) 0 011058	K59	(F4) +K13/HM13
S50	*ASC %	E54	(F4) +E8/HM8	U56	(F4) 0 00865	L59	(F4) +K59*H59
T50	*ASC %	F54	(F4) +E54*H54	V56	(F4) 0 003771	M59	(F4) +M13/HM42
U50	*ASC %	G54	(F4) +G8/HM8	W56	(F4) 0 082505	N59	(F4) +M13/HM42
V50	*ASC %	H54	(F4) +G54*H54	X56	(F4) 0 082505	O59	B
W50	*ASC %	I54	(F4) +I8/HM8	A57	6	P59	*MAY
X50	*ASC %	J54	(F4) +I54*H54	B57	*MAR	Q59	(F4) 0 10471
Y50	*ASC %	K54	(F4) +K8/HM8	C57	(F4) +C11/HM11	R59	(F4) 0 083308
Z50	*ASC %	L54	(F4) +K54*H54	D57	(F4) +E57*H57	S59	(F4) 0 040057
AA50	*ASC %	M54	(F4) +K54*H54	E57	(F4) +E11/HM11	T59	(F4) 0 053764
AB50	*ASC %	N54	(F4) +K8/HM8	F57	(F4) +E57*H57	U59	(F4) 0 012474
AC50	*ASC %	O54	(F4) +K8/HM8	G57	(F4) +G11/HM11	V59	(F4) 0 244341
AD50	*ASC %	P54	3	H57	(F4) +G57*H57	W60	9
AE50	*ASC %	Q54	*DEC	I57	(F4) +G57*H57	X60	*JUN
AF50	*ASC %	R54	(F4) 0	J57	(F4) +I57*H57	Y60	(F4) +C14/HM14
AG50	*ASC %	S54	(F4) 0	K57	(F4) +I57*H57	Z60	(F4) +C60*H60
AH50	*ASC %	T54	(F4) 0 010854	L57	(F4) +K11/HM11	AA60	(F4) +E14/HM14
AI50	*ASC %	U54	(F4) 0	M57	(F4) +K57*H57	AB60	(F4) +E60*H60
AJ50	*ASC %	V54	(F4) 0 000554	N57	(F4) +M11/HM42	AC60	(F4) +G14/HM14
AK50	*ASC %	W54	(F4) 0 011809	O57	*MAR	AD60	(F4) +G60*H60
AL50	*ASC %	X54	4	P57	6	AE60	(F4) +I14/HM14
AM50	*ASC %	Y54	*JAN	Q57	(F4) 0 030439	AF60	(F4) +I60*H60
AN50	*ASC %	B55	(F4) +G9/HM9	R57	(F4) 0 028997	AG60	(F4) +K14/HM14
AO50	*ASC %	C55	(F4) +G55*H55	S57	(F4) 0 025636	AH60	(F4) +K14/HM14
AP50	*ASC %	D55	(F4) +G55*H55	T57	(F4) 0 025636	AI60	(F4) +K60*H60
AQ50	*ASC %	E55	(F4) +E9/HM9	U57	(F4) 0 006875	AJ60	(F4) +K60*H60
AR50	*ASC %	F55	(F4) +E55*H55	V57	(F4) 0 126675	AK60	(F4) +M14/HM42
AS50	*ASC %	G55	(F4) +G9/HM9	W57	(F4) 0 126675	AL60	*JUN
AT50	*ASC %	H55	(F4) +G55*H55	X57	*APR	AM60	(F4) 0 139406
AU50	*ASC %	I55	(F4) +I9/HM9	Y57	(F4) +C12/HM12	AN60	(F4) 0 113625
AV50	*ASC %	J55	(F4) +I55*H55	Z58	(F4) +C58*H58	AO60	(F4) 0 024121
AW50	*ASC %	K55	(F4) +K9/HM9	A58	(F4) +E12/HM12	AP60	(F4) 0 047138
AX50	*ASC %	L55	(F4) +K55*H55	B58	(F4) +E58*H58	AQ60	(F4) 0 001627
AY50	*ASC %	M55	(F4) +M9/HM9	C58	(F4) +G12/HM12	AR60	(F4) 0 327458
AZ50	*ASC %	N55	(F4) +M9/HM9	D58	(F4) +G58*H58	AS60	10
BA50	*ASC %	O55	*JAN	E58	(F4) +G58*H58	AT60	*JUL
BB50	*ASC %	P55	(F4) 0 023823	F58	(F4) +I12/HM12	AV60	(F4) +C15/HM15
BC50	*ASC %	Q55	(F4) 0	G58	(F4) +I58*H58	AW60	(F4) +C61*H61
BD50	*ASC %	R55	(F4) 0 010998	H58	(F4) +K12/HM12	AX60	(F4) +E15/HM15
BE50	*ASC %	S55	(F4) 0	I58	(F4) +K58*H58	AY60	(F4) +E61*H61
BF50	*ASC %	T55	(F4) 0 003647	J58	(F4) +M12/HM42	BA60	(F4) +G15/HM15
BG50	*ASC %	U55	(F4) 0 037469	K58	*APR	BB60	(F4) +G61*H61
BH50	*ASC %	V55	5	L58	(F4) 0 054086	BC60	(F4) +I15/HM15
BI50	*ASC %	W55	*FEB	M58	(F4) 0 006618	BD60	(F4) +I61*H61
BJ50	*ASC %	X55	(F4) +C10/HM10	N58	(F4) 0 027715	BE60	(F4) +I61*H61
BK50	*ASC %	Y55	(F4) +C56*H56	O58	(F4) 0 027715	BF60	(F4) +I61*H61

Table I-2. CFSDT Disbursements Cell Formulas (page 6 of 8 pages)

L61 (F4) +K61*#N61	E84 (F4) +E18/*#M18	U56 (F4) 0 121022	L69 (F4) +K69*#N69
N61 (F4) +M15/*#N62	F64 (F4) +E64*#N64	V66 (F4) 0 011100B	N69 (F4) +M73/*#N62
P61 10	G64 (F4) +C18/*#M18	W66 (F4) 0 87739	P69 18
Q61 10H	H64 (F4) +E64*#N64	X67 16	Q67 10H
R61 (F4) 0 149151	I64 (F4) +I18/*#M18	Y69 (F4) 0 42459	R69 (F4) 0 42459
S61 (F4) 0 120711	J64 (F4) +I64*#N64	Z69 (F4) 0 314515	S69 (F4) 0 314515
T61 (F4) 0 032717	K64 (F4) +I18/*#M18	A69 (F4) 0 071247	T69 (F4) 0 071247
U61 (F4) 0 032696	L64 (F4) +K64*#N64	B69 (F4) 0 12744	U69 (F4) 0 12744
V61 (F4) 0 001811	M64 (F4) +K64*#N64	C69 (F4) 0 015229	V69 (F4) 0 015229
W61 (F4) 0 364788	P64 13	D69 (F4) 0 963063	W69 (F4) 0 963063
X62 11	Q64 10CT	A70 19	X70 19
Y62 10H	R64 (F4) 0 277237	B70 19R	B70 19R
Z62 (F4) +C16/*#M16	S64 (F4) 0 299262	C70 (F4) +C24/*#M24	C70 (F4) +C24/*#M24
A62 (F4) +C62*#N62	T64 (F4) 0 06026	D70 (F4) +C70*#N70	D70 (F4) +C70*#N70
B62 (F4) +E16/*#M16	U64 (F4) 0 097956	E70 (F4) +E24/*#M24	E70 (F4) +E24/*#M24
C62 (F4) +E62*#N62	V64 (F4) 0 003367	F70 (F4) +E70*#N70	F70 (F4) +E70*#N70
D62 (F4) +I62*#M62	W64 (F4) 0 678104	G70 (F4) +G24/*#M24	G70 (F4) +G24/*#M24
E62 (F4) +I16/*#M16	X65 14	H70 (F4) +G70*#N70	H70 (F4) +G70*#N70
F62 (F4) +I62*#N62	Y65 (F4) +C19/*#M19	I70 (F4) +I24/*#M24	I70 (F4) +I24/*#M24
G62 (F4) +I16/*#M16	Z65 (F4) +C63*#N63	J70 (F4) +I70*#N70	J70 (F4) +I70*#N70
H62 (F4) +I62*#N62	A65 (F4) +E19/*#M19	K70 (F4) +K24/*#M24	K70 (F4) +K24/*#M24
I62 (F4) +I16/*#M16	B65 (F4) +E53*#N65	L70 (F4) +K70*#N70	L70 (F4) +K70*#N70
J62 (F4) +I62*#N62	C65 (F4) +C19/*#M19	M70 (F4) +M24/*#N62	M70 (F4) +M24/*#N62
K62 (F4) +K62*#N62	D65 (F4) +C65*#N65	N70 19	N70 19
L62 (F4) +K62*#N62	E65 (F4) +I19/*#M19	P70 19	P70 19
M62 (F4) +M16/*#N62	F65 (F4) +I65*#N65	Q70 19R	Q70 19R
N62 11	G65 (F4) +I19/*#M19	R70 (F4) 0 442747	R70 (F4) 0 442747
O62 10H	H65 (F4) +I65*#N65	S70 (F4) 0 317735	S70 (F4) 0 317735
P62 (F4) 0 201707	I65 (F4) +I19/*#M19	T70 (F4) 0 07432	T70 (F4) 0 07432
Q62 (F4) 0 174065	J65 (F4) +I65*#N65	U70 (F4) 0 131437	U70 (F4) 0 131437
R62 (F4) 0 043839	K65 (F4) +K19/*#M19	V70 (F4) 0 018785	V70 (F4) 0 018785
S62 (F4) 0 071264	L65 (F4) +K65*#N65	W70 (F4) 0 587406	W70 (F4) 0 587406
T62 (F4) 0 002449	M65 (F4) +M19/*#N62	X71 20	X71 20
U62 (F4) 0 473328	N65 14	Y71 10H	Y71 10H
V62 12	O65 10H	Z71 (F4) +C25/*#N25	Z71 (F4) +C25/*#N25
W62 (F4) +I17/*#M17	P65 (F4) 0 303949	A71 (F4) +C71*#N71	A71 (F4) +C71*#N71
X62 (F4) +C63*#N63	Q65 (F4) 0 268489	B71 (F4) +E25/*#M25	B71 (F4) +E25/*#M25
Y62 (F4) +E17/*#M17	R65 (F4) 0 069103	C71 (F4) +E71*#N71	C71 (F4) +E71*#N71
Z62 (F4) +E63*#N63	S65 (F4) 0 097668	D71 (F4) +E71*#N71	D71 (F4) +E71*#N71
A62 (F4) +G17/*#M17	T65 (F4) 0 012069	E71 (F4) +E71*#N71	E71 (F4) +E71*#N71
B62 (F4) +G63*#N63	U65 (F4) 0 751281	F71 (F4) +F25/*#M25	F71 (F4) +F25/*#M25
C62 (F4) +I17/*#M17	V65 15	G71 (F4) +G25/*#M25	G71 (F4) +G25/*#M25
D62 (F4) +I17/*#M17	W65 10H	H71 (F4) +G71*#N71	H71 (F4) +G71*#N71
E62 (F4) +I17/*#M17	X66 10H	I71 (F4) +I25/*#M25	I71 (F4) +I25/*#M25
F62 (F4) +I17/*#M17	Y66 (F4) +C66*#N66	J71 (F4) +I71*#N71	J71 (F4) +I71*#N71
G62 (F4) +I66*#N66	Z66 (F4) +I20/*#M20	K71 (F4) +I25/*#M25	K71 (F4) +I25/*#M25
H62 (F4) +I66*#N66	A66 (F4) +I66*#N66	L71 (F4) +K71*#N71	L71 (F4) +K71*#N71
I62 (F4) +I66*#N66	B66 (F4) +I20/*#M20	M71 (F4) +M25/*#N62	M71 (F4) +M25/*#N62
J62 (F4) +I66*#N66	C66 (F4) +I20/*#M20	N71 20	N71 20
K62 (F4) +I66*#N66	D66 (F4) +I66*#N66	O71 20	O71 20
L62 (F4) +I66*#N66	E66 (F4) +I20/*#M20	P71 20	P71 20
M62 (F4) +I66*#N66	F66 (F4) +E66*#N66	Q71 20	Q71 20
N62 (F4) +I66*#N66	G66 (F4) +G20/*#M20	R71 20	R71 20
O62 (F4) +I66*#N66	H66 (F4) +I66*#N66	S71 (F4) 0 444641	S71 (F4) 0 444641
P62 (F4) 0 276757	I66 (F4) +I20/*#M20	T71 (F4) 0 317603	T71 (F4) 0 317603
Q62 (F4) 0 23073	J66 (F4) +I66*#N66	U71 (F4) 0 076777	U71 (F4) 0 076777
R62 (F4) 0 50151	K66 (F4) +I20/*#M20	V71 (F4) 0 131716	V71 (F4) 0 131716
S62 (F4) 0 097779	L66 (F4) +K66*#N66	W71 (F4) 0 018708	W71 (F4) 0 018708
T62 (F4) 0 007067	M66 (F4) +M20/*#N62	X71 21	X71 21
U62 (F4) 0 67788	N66 15	Y71 20	Y71 20
V62 13	O66 10H	Z71 20	Z71 20
W62 (F4) +C1	P66 (F4) 0 353007	A72 20H	A72 20H
X62 (F4) +C18/*#M18	Q66 (F4) 0 308426	B72 (F4) +C26/*#M26	B72 (F4) +C26/*#M26
Y62 (F4) +C74*#N74	R66 (F4) 0 071316	C72 (F4) +C74*#N74	C72 (F4) +C74*#N74

Table I-2. CFSDT Disbursements Cell Formulas (page 7 of 8 pages)

F72	(F4) !C25/!M36	U74	(F4) 0 130515	L77	(F4) !K77*!N77	ED0	(F4) !E34/!M34
F73	(F4) !E28/!N72	U74	(F4) 0 01R418	N77	(F4) !H31/!N42	F80	(F4) !E00/!M80
G73	(F4) !C70/!M26	W74	(F4) 0 999705	P77	26	G80	(F4) !C34/!M34
H73	(F4) !C72/!N72	A75	24	R77	!NOV	H80	(F4) !C80/!M80
I73	(F4) !E26/!M26	B75	!SEP	S77	(F4) 0 426527	I80	(F4) !E00/!M80
J73	(F4) !E26/!M26	C75	(F4) !C25/!M29	T77	(F4) 0 340363	J80	(F4) !E34/!M34
K73	(F4) !E26/!M26	D75	(F4) !C75/!N75	U77	(F4) 0 079634	K80	(F4) !E00/!M80
L73	(F4) !E26/!M26	E75	(F4) !E25/!M29	V77	(F4) 0 13185	L80	(F4) !E00/!M80
M73	(F4) !E26/!M26	F75	(F4) !E75/!N75	W77	(F4) 0 020256	M80	(F4) !E34/!M34
N73	(F4) !E26/!M26	G75	(F4) !E25/!M29	X77	(F4) 1 000683	N80	25
O73	!JUN	H75	(F4) !C75/!N75	A78	27	O80	!FEB
P73	(F4) 0 443550	I75	(F4) !E25/!M29	B78	!DEC	R80	(F4) 0 42355
Q73	(F4) 0 31733	J75	(F4) !E25/!M29	C78	(F4) !C32/!M32	S80	(F4) 0 39885
R73	(F4) 0 076739	K75	(F4) !E25/!M29	D78	(F4) !E78/!N78	T80	(F4) 0 08251C
S73	(F4) 0 131506	L75	(F4) !E32/!M32	E78	(F4) !E32/!M32	U80	(F4) 0 132634
T73	(F4) 0 015891	M75	(F4) !E25/!M29	F78	(F4) !E78/!N78	V80	(F4) 0 020655
U73	(F4) 0 991535	N75	24	G78	(F4) !E32/!M32	W80	(F4) 1 091413
V73	22	O75	!SEP	H78	(F4) !E78/!N78	X81	30
W73	!JUL	R75	(F4) 0 44539	I78	(F4) !E32/!M32	Y81	!MAR
X73	(F4) !E77/!M27	S75	(F4) 0 325114	J78	(F4) !E78/!N78	Z81	(F4) !C35/!M35
Y73	(F4) !C73/!M73	T75	(F4) 0 076112	K78	(F4) !E32/!M32	AA1	(F4) !E00/!M80
Z73	(F4) !E27/!M27	U75	(F4) 0 130495	L78	(F4) !E78/!N78	AB1	(F4) !E35/!M35
AA73	(F4) !E73/!M73	V75	(F4) 0 018417	M78	(F4) !E32/!M32	BB1	(F4) !E00/!M80
AB73	(F4) !E27/!M27	W75	(F4) 0 999551	N78	(F4) !E32/!M32	CC1	(F4) !E00/!M80
AC73	(F4) !E27/!M27	X76	25	O78	!DEC	DD1	(F4) !C35/!M35
AD73	(F4) !E27/!M27	Y76	(F4) !C30/!M30	P78	(F4) 0 411706	EE1	(F4) !E00/!M80
AE73	(F4) !E27/!M27	Z76	(F4) !C76/!M76	Q78	(F4) 0 344608	FF1	(F4) !E00/!M80
AF73	(F4) !E27/!M27	AA76	(F4) !E30/!M30	R78	(F4) 0 081689	GG1	(F4) !E00/!M80
AG73	(F4) !E27/!M27	AB76	(F4) !E76/!M76	S78	(F4) 0 141592	HH1	(F4) !E00/!M80
AH73	(F4) !E27/!M27	AC76	(F4) !E76/!M76	T78	(F4) 0 021191	II1	(F4) !E00/!M80
AI73	(F4) !E27/!M27	AD76	(F4) !E30/!M30	U78	(F4) 1 000787	JJ1	30
AJ73	!JUL	AE76	(F4) !E30/!M30	V78	!JUN	KK1	!MAR
AK73	(F4) 0 447174	AF76	(F4) !E76/!M76	W78	(F4) !E33/!M33	LL1	(F4) 0 424518
AL73	(F4) 0 321132	AG76	(F4) !E76/!M76	X78	(F4) !C79/!M79	MM1	(F4) 0 381173
AM73	(F4) 0 076984	AH76	(F4) !E30/!M30	Y78	(F4) !C79/!M79	NN1	(F4) 0 082819
AN73	(F4) 0 137017	AI76	(F4) !E76/!M76	Z78	(F4) !C79/!M79	OO1	(F4) 0 132477
AO73	(F4) 0 018024	AJ76	(F4) !E76/!M76	AA78	(F4) !E79/!M79	PP1	(F4) 0 019665
AP73	(F4) 0 996654	AK76	(F4) !E76/!M76	AB78	(F4) !C79/!M79	QQ1	(F4) 0 997273
AQ73	23	AL76	(F4) 1 000386	AC78	(F4) !C79/!M79	RR1	31
AR73	!AUG	AM76	(F4) 0 446001	AD78	(F4) !C79/!M79	SS1	!APR
AS73	(F4) !C28/!M28	AN76	(F4) 0 325949	AE78	(F4) !C79/!M79	TT1	(F4) !C36/!M36
AT73	(F4) !E74/!M74	AO76	(F4) 0 076117	AF78	(F4) !C79/!M79	UU1	(F4) !E00/!M80
AU73	(F4) !E20/!M20	AP76	(F4) 0 130502	AG78	(F4) !C79/!M79	VV1	(F4) !E34/!M34
AV73	(F4) !E74/!M74	AQ76	(F4) 0 018422	AH78	(F4) !C79/!M79	WW1	(F4) !E00/!M80
AW73	(F4) !E28/!M28	AR76	(F4) 1 000386	AI78	(F4) !C79/!M79	XX1	(F4) !C36/!M36
AX73	(F4) !E74/!M74	AS76	(F4) !C31/!M31	AJ78	(F4) 0 425764	YY1	(F4) !C32/!M32
AY73	(F4) !E23/!M23	AT76	(F4) !E77/!M77	AK78	(F4) 0 33087	ZZ1	(F4) !E00/!M80
AZ73	(F4) !E74/!M74	AA77	(F4) !E31/!M31	AL78	(F4) 0 082918	AAA1	(F4) !E00/!M80
BA73	(F4) !E74/!M74	AB77	(F4) !E77/!M77	AM78	(F4) 0 133308	AAA1	(F4) !E00/!M80
BB73	(F4) !E74/!M74	AC77	(F4) !E77/!M77	AN78	(F4) 0 10217	AAA1	(F4) !E00/!M80
BC73	(F4) !E74/!M74	AD77	(F4) !E77/!M77	AO78	(F4) 1 001026	AAA1	(F4) !E00/!M80
BD73	!AUG	AE77	(F4) !E77/!M77	AP78	29	AAA1	!APR
BE73	(F4) 0 445444	AF77	(F4) !E77/!M77	AQ78	(F4) 0 425106	AAA1	(F4) 0 425106
BF73	(F4) 0 323981	AG77	(F4) !E77/!M77	AR78	(F4) 0 108552	AAA1	(F4) 0 108552
BG73	(F4) 0 07611C	AH77	(F4) !E77/!M77	AS78	(F4) 0 00708	AAA1	(F4) 0 00708

Table I-2. CFSOT Disbursements Cell Formulas
(page 8 of 8 pages)

UBP	(F4) 0 135556	LBS	(F4) K85*NB5
UB7	(I4) 0 01544	NB5	(F4) M95*/NM42
UB2	(F4) 0 459613	PB5	34
UB3	32	QB5	*JUL
UB3	*MAY	RB5	(F4) 0 425255
CB3	(F4) +C37/*M37	SB5	(F4) 0 388033
DB3	(F4) +C83*/NB3	TB5	(F4) 0 083907
EB3	(F4) +E37/*M37	UB5	(F4) 0 133311
FB3	(F4) +F83*/NB3	WB5	(F4) 0 01931
CB3	(F4) +C37/*M37	WB5	(F4) 1 000002
DB3	(F4) +D83*/NB3	AB6	35
EB3	(F4) +E37/*M37	BB6	*AUG
FB3	(F4) +F83*/NB3	CB6	(F4) +C40/*M40
LB3	(F4) +L83*/NB3	DB6	(F4) +D86*/NB6
MB3	(F4) +M83*/NB3	EB6	(F4) +E40/*M40
PB3	32	FB6	(F4) +F86*/NB6
PB3	*MAY	GB6	(F4) +G40/*M40
RB3	(F4) 0 424927	HB6	(F4) +H86*/NB6
SB3	(F4) 0 398644	IB6	(F4) +I40/*M40
TB3	(F4) 0 082866	JB6	(F4) +J86*/NB6
UB3	(F4) 0 133552	KB6	(F4) +K40/*M40
VB3	(F4) 0 01544	LB6	(F4) +L86*/NB6
WB3	(F4) 0 459601	MB6	(F4) +M40/*M42
AB4	33	PB6	35
BB4	*JUN	QB6	*AUG
CB4	(F4) +C38/*M38	RB6	(F4) 0 425255
DB4	(F4) +D84*/NB4	SB6	(F4) 0 388032
EB4	(F4) +E38/*M38	TB6	(F4) 0 083907
FB4	(F4) +F84*/NB4	UB6	(F4) 0 13331
GB4	(F4) +G38/*M38	WB6	(F4) 0 01931
HB4	(F4) +H84*/NB4	WB6	(F4) 1
IB4	(F4) +I38/*M38	AB7	36
JB4	(F4) +J84*/NB4	BB7	*SEP
KB4	(F4) +K38/*M38	CB7	(F4) +C41/*M41
LB4	(F4) +L84*/NB4	DB7	(F4) +D87*/NB7
MB4	(F4) +M38/*M42	EB7	(F4) +E41/*M41
PB4	33	FB7	(F4) +F87*/NB7
QB4	*JUN	GB7	(F4) +G41/*M41
RB4	(F4) 0 425015	HB7	(F4) +H87*/NB7
SB4	(F4) 0 337842	IB7	(F4) +I41/*M41
TB4	(F4) 0 083866	JB7	(F4) +J87*/NB7
UB4	(F4) 0 133235	KB7	(F4) +K41/*M41
VB4	(F4) 0 015499	LB7	(F4) +L87*/NB7
WB4	(F4) 0 599453	MB7	(F4) +M41/*M42
AB5	34	PB7	36
BB5	*JUL	QB7	*SEP
CB5	(F4) +C39/*M39	RB7	(F4) 0 425255
DB5	(F4) +D85*/NB5	SB7	(F4) 0 388032
EB5	(F4) +E39/*M39	TB7	(F4) 0 083907
FB5	(F4) +F85*/NB5	UB7	(F4) 0 13331
GB5	(F4) +G39/*M39	VB7	(F4) 0 019104
HB5	(F4) +H85*/NB5	WB7	(F4) 1
IB5	(F4) +I39/*M39		
JB5	(F4) +J85*/NB5		
KB5	(F4) +K39/*M39		

ANNEX I TO APPENDIX I

INPUT DATA

I-I-1. **PURPOSE.** The purpose of this annex is to document the main program and runstreams used to capture the TOA billing data from the TOA billing tapes for input into the Monthly Billing Estimates Model. Detailed program coding of the program used to capture TOA billing data appears in Annex II to Appendix I.

I-I-2. **MAIN PROGRAM**a. **Overview**

(1) **Name of Program.** 99BILLING.PROCESS

(2) **Type of Program.** MAIN PROGRAM

(3) **Purpose.** The program aggregates monthly billing costs (in dollars) by month of service rendered. The program audits this cost matrix by accumulating the total number of records that correspond to the cost sums by billing and service month. Each TOA was processed separately over the 18-month billing period from October 1983 to March 1985.

b. **Calls, Input, and Output Files**

(1) **Calls.** NTRANS\$, LSTAT, PARAM

(2) **Input Files.** Unclassified * 99INPUT10
Magnetic tape

(3) **Output Files.** Printer

(4) **Temporary Files.** UNITs 5, 6, 10

I-I-3. **PROGRAM LOGIC.** The 99BILLING.PROCESS program consists of a main routine plus two internal subroutines. The internal subroutine PARAM stores data from the input file 99INPUT10. for use by the main routine. The other internal subroutine, LSTAT, checks the status of the external subroutine, NTRANS\$, after one block of data (30 records) has been read from the billing tape.

a. PARAM stores data from 99INPUT10. for later use by the main routine. The first record of 99INPUT10. consists of a list of TACs that will be loaded into the array ACCEPT, sorted by TOA. Those TACs that are accepted are subsequently used in the main routine to test the TAC of the current record before processing. TACs that match those in ACCEPT or that match the form: 'AP**' or 'AH**', with * indicating any character, are accepted.

b. The second record of 99INPUT10. consists of the list of 18 billing dates to be used in the main routine to match against the billing files

used for the study. The third data segment of 99INPUT10. consists of the year and month of the 42 service dates considered in the study. Any date earlier than 81/10 is entered as "(m)".

c. The number of files to be read from a given billing tape is loaded into the variable NFILES from INPUT UNIT 5; also, the variable NOLAB is set to 1 if the billing tape has no labels, in which case the appropriate billing dates for that tape follow in the runstream and are read from UNIT 5. If NOLAB is set to 0, the billing dates are read from the header before each billing file. In order to address a format error found on some billing tapes, the program converts the three month characters to the correct date.

d. Blocks of 30 records are then read from the billing tape and decoded from EBCDIC to ASCII with a conversion of the character variable AMOUNT to the signed real variable FAMT.

e. The processing of each record entails the following:

- (1) Test the TAC of the record and accept if appropriate.
- (2) Build the "COST" and "AUDIT" matrices.
- (3) Sum all costs accepted into the variable SUM.
- (4) Count all accepted records into the variable ACPTNO.

(5) Total the number of all accepted records, by billing date, into the variable TOTAL.

I-I-4. INPUT FILE

a. General

- (1) **File Name.** 99INPUT10.
- (2) **Type.** Formatted SDF ASCII disk file.
- (3) **Description.** The file is used to input the following different types of data used by 99BILLING.PROCESS:
 - (a) Accept TACs.
 - (b) Billing dates.
 - (c) Service dates.
- (4) **Edit.** Data is edited into the file by the analyst.
- (5) **Usage.** File used by 99BILLING.PROCESS.

b. File Description**(1) Accepted TACs**

Accept Col. 1-4	Character	TACs to be loaded into the array ACCEPT
Keep Col. 7 (MAC) or Col. 10 (MSC) or Col. 13 (MTMC)	Character	If any character in the appropriate field for the agency is being pro- cessed, then do not store the TAC in ACCEPT array

(2) Billing Dates

BDATA Col. 1-5	Character	18 Billing dates that range from Oct 83 to Mar 85 (Oct 85 to Mar 85)
----------------	-----------	---

(3) Service Dates

SDATA Col. 1-4	Character	42 Service dates that range from Oct 81 to Mar 85 (8110 to 8503)
----------------	-----------	---

I-I-5. RUNSTREAMS FOR 99BILLING.PROCESS. The main program 99BILLING.PROCESS is set to read up to three standard transportation billing tapes consecutively in one execution. However, the current runstreams only read one billing tape per execution. Therefore, the variable NREELS is set to 1 to disable the loop to handle a multireeled execution. In order to execute this loop, first assign extra reels to the run using UNITS 7, 8, and 9, then change the 1 to a 3 on the line just below the @XQT statement. Finally, add two more lines to the runstream listing the number of data files per reel followed by a zero for labeled reels or a one for unlabeled reels. The parameter file 99INPUT10. may need to be edited to update the service and billing dates. A row of 9s marks the end of each record in 99INPUT10.

ANNEX II TO APPENDIX I
COMPUTER PROGRAM TO EXTRACT TOA BILLING DATA

Table I-II-1. Computer Program to Extract TOA Billing Data
(page 1 of 4 pages)

```

UNCLASSIFIED * LEB JLLINE(1), PROCESS(5)
1          C          PROGRAM TO READ THE STANDARD TRANSPORTATION BILLING TAPES
2          C          RECEIVED FROM USAMSSA FOR MAC, MIMC & MSC SERVICES
3          C          WRITTEN BY ROSE A. BRICHAN AND KIRK REED, FSL AUG 15, 1985
4          C
5          C          CFSDT STUDY ANALYSIS
6          C
7          DIMENSION
8          *   DATAIN(900),   HOR(30)
9          CHARACTER
10         *   ACCEPT(170)*4,  AGENCY*4,   ALPHA1(11)*1,  ALPHA2(11)*1,
11         *   ALPHA3(11)*1,  AMOUNT(30)*8,  BDATE(18)*5,   BDATE*5,
12         *   CUBE(30)*4,    ERROR(10)*5,  PCO(30)*3,    POE(30)*3,
13         *   RATE(30)*5,    SDATA(43)*4,  SCATE(30)*6,  TAC(30)*4,
14         *   TCN(30)*1,     WT(30)*5
15         REAL
16         *   COST(18,43),   FANT(30),    SIM
17         INTEGER
18         *   ACPTNO,        ALL,          AUDIT(18,43),  B,
19         *   COUNT,        IN,         INDEX,        IUNIT,
20         *   L,            NFILES,       NCLAE,        NREELS,
21         *   S,            SIGN,         TIT(11)*1
22         DATA ALPHA1 /??.?.A.?B.?C.?D.?E.?F.?G.?H.?I.?J.?K.?L.?M.?N.?O.?P.?Q.?R.?S.?T.?U.?V.?W.?X.?Y.?Z.?
23         DATA ALPHA2 /??.?.J.?K.?L.?M.?N.?O.?P.?Q.?R.?S.?T.?U.?V.?W.?X.?Y.?Z.?
24         DATA ALPHA3 /??.?.1.?2.?3.?4.?5.?6.?7.?8.?9.?0.?
25         C
26         C          LOAD ALL PARAMETER ARRAYS
27         C
28         C          CALL PARAM
29         C
30         C          MULTI-REEL LOOP (DISREGARD IF ONLY PROCESSING ONE REEL: NREELS=1)
31         *****
32         C
33         C          DO 2300 LOOP=1,NREELS
34         C
35         C          HEAD (5,100) NFILES,NOLAB
36         1CC  FORMAT (12,2X,I1)
37         C
38         C          REWIND REEL AND WRITE HEADINGS
39         C
40         C          CALL NTRAN, (IUNIT,10,22)
41         C          WRITE (6,200) AGENCY
42         20L  FORMAT (1,140,'CFSDT - STANDARD TRANSPORTATION BILLING PROGRAM
43         *   FCR ',A4,/)
44         C
45         C          MAIN PROCESSING LOOP *****
46         C
47         C          LC 2200 COUNT=1,NFILES
48         C
49         C          READ HEADER FOR BILLING DATE
50         C
51         C          IF (NOLAB.EQ.1) THEN
52         3CL  READ (5,300) BDATE
53         *   FORMAT (A5)
54         C          ELSE
55         C          IF (COUNT.EQ.1) CALL NTRANS (IUNIT,2,30,HOR,L,22)
56         C          CALL NTRANS (IUNIT,2,30,HOR,L,22)
57         C          DECODE (21,400,HOR) BDATE
58         4CL  FORMAT (16X,A5)
59         C          ENDF
60         C          IF (BDATE.EQ.'JUN84') BDATE='*JUN84'
61         C          IF (BDATE.EQ.'JUL84') BDATE='*JUL84'
62         C          IF (BDATE.EQ.'EPT84') BDATE='*SEPT84'
63         C
64         C          WRITE (6,500) BDATE,COUNT
65         5CL  FORMAT (/, ' BILLING DATE = ',A5, ' FOR DATA FILE #',I2,/)
66         C
67         C          TRANSLATE BILLING DATE INTO INTEGER SUBSCRIPT
68         C
69         C          DO 600 N=1,18
70         C          IF (BDATE.EQ.BDATE(N)) B=N
71         6LL  CONTINUE
72         C
73         C          PRINT HEADING FOR RECORDS (DELETE IF PROCESSING WHOLE REEL)
74         C
75         C          WRITE(6,650)
76         65L  FORMAT(1, TAC*, 17, 'TRANS CONTROL #', I26, 'SDATE', T36,
77         *   'POE', T44, 'POD', T50, 'WEIGHT', T58, 'CLBE', T66, 'RATE',
78         *   T75, 'AMOUNT', T82, 'LRROR', /)
79         C
80         C          POSITION TAPE PAST HEADER EOF MARK
81         C

```

Table I-II-1. Computer Program to Extract TOA Billing Data
(page 2 of 4 pages)

```

82          IF (NOLAB.NE.1) CALL NTRANS (IUNIT,8,1,22)
83      C
84      C      LCCP TO READ AND PROCESS EACH BLOCK OF DATA *****
85      C
86      70L  CALL NTRANS (IUNIT,2,900,DATAIN,L,22)
87          IF (L.LT.0) THEN
88      C
89          CALL LSTAT (L,IUNIT)
90          GO TO 2100
91      ELSE
92          IN=IN+1
93      C
94      C      PRINT ALL BLOCKS OF DATA (DELETE IF PROCESSING WHOLE REEL)
95      C
96      C      WRITE(6,750) ALL,DATAIN
97      75L  FORMAT(1X,I10,7,1X,3CA4)
98      C
99          DECODE (3600,800,DATAIN,LCHAR,ERR=1900) (TAC(J),TCN(J),
100          *      SDATE(J),POE(J),POD(J),WT(J),CUBE(J),RATE(J),AMOUNT(J),
101          *      ERROR(J),J=1,30)
102      80L  FORMAT (30(A4,A17,3X,A6,12X,2/3,1X,A5,A4,A5,A8,A5,42X))
103      C
104      90L  DO 1000 J=1,30
105          IF (TAC(J)(1:1).EQ.* *) THEN
106              GO TO 2100
107          ELSE
108              ALL=ALL+1
109          ENDIF
110      100C  CONTINUE
111      C
112      C      CONVERT RIGHTMOST CHARACTER OF AMOUNT (IBM SIGN BIT POSITION)
113      C      TO NUMERIC
114      C
115          DO 1400 M=1,30
116              SIGN=0
117              DO 1100 N=1,11
118                  IF (AMOUNT(M)(8:8).EQ.ALPHA1(N)) THEN
119                      SIGN=0
120                      AMOUNT(M)(8:8)=ALPHA3(N)
121                  ENDIF
122                  IF (AMOUNT(M)(8:8).EQ.ALPHA2(N)) THEN
123                      SIGN=1
124                      AMOUNT(M)(8:8)=ALPHA3(N)
125                  ENDIF
126      110L  CONTINUE
127          IF (AMOUNT(M)(8:8).LT.'C'.OR.AMOUNT(M)(8:8).GT.'9') THEN
128              WRITE (6,1200) AMOUNT(M),TAC(M),TCN(M)
129      120L  *      FORMAT ('--WARNING AMOUNT =',A8,' RIGHTMOST CHARACTER
130          *      SET = 0 FOR TAC =',A4,' AND TRANS CONTROL N =',A17)
131          AMOUNT(M)(8:8)='0'
132          ENDIF
133          DECODE (8,1300,AMOUNT(M) FANT(M)
134          130L  *      FORMAT (F8.2)
135          IF (SIGN.EQ.1) FANT(M)=-FANT(M)
136      140L  CONTINUE
137      C
138      C      PRINT ALL RECORDS (DELETE IF PROCESSING WHOLE REEL)
139      C
140      C      WRITE(6,1450) (TAC(J),TCN(J),SDATE(J),POE(J),POD(J),
141      *      WT(J),CUBE(J),RATE(J),FANT(J),ERROR(J),J=1,30)
142      C145L  *      FORMAT(30(1X,A4,2X,A17,2X,A6,2(2X,A3,3X),2X,A5,2X,
143          *      A4,2X,A5,2X,F8.2,2X,A5,7))
144      C
145      C      LCCP TO PROCESS ONE RECORD AT A TIME *****
146      C
147      DO 1500 J=1,30
148          IF ((TAC(J)(1:2).EQ.'A3').AND.(AGENCY.NE.'MTHC')).OR.(TAC
149          *      (J)(1:2).EQ.'A5').OR.(TAC(J)(1:2).EQ.'A6')) THEN
150              GO TO 1600
151          ELSE
152              DO 1500 N=1,INDEX
153                  IF (TAC(J).EQ.ACCEPT(N)) GO TO 1600
154      150L  CONTINUE
155          ENDIF
156          GO TO 1600
157      160L  ACPTNO=ACPTNO+1
158      C
159      C      PRINT ALL ACCEPTED RECORDS (DELETE IF PROCESSING WHOLE REEL)
160      C
161      C      WRITE(6,1650) (TAC(J),TCN(J),SDATE(J),POE(J),POD(J),
162      *      WT(J),CUBE(J),RATE(J),FANT(J),ERROR(J)
163      C165L  *      FORMAT(1X,A4,2X,A17,2X,A6,2(2X,A3,3X),2X,A5,2X,A4,

```

Table I-II-1. Computer Program to Extract TOA Billing Data
(page 3 of 4 pages)

```

164 C * 2X,A5,2X,FR.2,2X,A5)
165 C
166 DO 1700 I=1,42
167 IF (SDATE(J)(1:4).EQ.SDAT(I)) S=1
168 IF (SDATE(J)(1:4).LT.'811(') S=43
169
170 1700 CONTINUE
171 COST(B,S)=COST(B,S)+FAMT(J)
172 AUDIT(B,S)=AUDIT(B,S)+1
173 TOTAL(B)=TOTAL(B)+1
174 SUM=SUM+FAMT(J)
175 1800 CONTINUE
176 ENDF
177
178 C DELETE NEXT LINE IF PROCESSING WHOLE REEL
179 IF(IN.6E.25) GO TO 999
180
181 GO TO 700
182
183 C ENC OF FILE: LAST DATA BLOCK FOR THIS BILLING MONTH
184 *****
185
186 C DECODING ERROR MESSAGE
187
188 1900 WRITE (6,2000) IN,DATAIN
189 2100 FORMAT (' ERROR IN DECODE OF DATA BLOCK #: ',I6,'/ ',I4,30A4)
190 GO TO 900
191 RETURN TO POINT OF ERROR AND CONTINUE
192
193 2100 IF (NOLAB.EQ.1) GO TO 2200
194
195 C POSITION TAPE PAST TRAILER EOF MARK
196 CALL NTRANS (IUNIT,8,1,22)
197
198 C DELETE NEXT LINE IF PROCESSING WHOLE REEL
199 CALL NTRANS(IUNIT,8,1,22)
200
201 2200 CONTINUE
202 END MAIN PROCESSING LOOP
203 *****
204
205 C DISREGARD NEXT TWO LINES IF ONLY PROCESSING ONE REEL
206 IUNIT=IUNIT+1
207 2300 CONTINUE
208 ENC MULTI-REEL LOOP
209 *****
210
211 C CALL OUTPUT
212
213 WRITE (6,2400)
214 2400 FORMAT (' === END OF JOB ===')
215
216 C STOP
217
218 C ENC MAIN ROUTINE *****
219 *****
220
221 C SUBROUTINES
222
223 C SUBROUTINE PARAM
224
225 CHARACTER
226 * FMT(3)*10, KEEP*1, OK*4
227 DATA FMT / '(A4,2X,A1)', '(I4,5X,A1)', '(A4,8X,A1)'/
228
229 C IUNIT=7
230 REAC (5,100) AGENCY,NREELS
231 100 FORMAT (A4,I1)
232
233 IF (AGENCY.EQ.'MAC ') N=1
234 IF (AGENCY.EQ.'MSC ') N=2
235 IF (AGENCY.EQ.'MTC ') N=3
236
237 C INDEX=1
238 200 REAC (10,FMT(N),END=300) OK,MFEF
239 IF (OK.EQ.'9999') GO TO 300
240 IF (KEEP.EQ.' ') THEN
241 ACCEPT(INDEX)=OK
242 INDEX=INDEX+1
243 ENDF
244 GO TO 200
245
246 C
247 300 I=1
248 400 REAC (10,500,END=600) BOA1A(I)

```

Table I-II-1. Computer Program to Extract TOA Billing Data
(page 4 of 4 pages)

```

246      5GL FORMAT (A5)
247      IF (BDATA(I).EQ.'99999') GO TO 400
248      I=I+1
249      GO TO 400
250
251      C
252      6GL I=1
253      SDATA(I3)=* (M)*
254      7LL REAT (10,800,END=900) SDATA(I)
255      8CL FORMAT (A4)
256      I=I+1
257      GO TO 700
258      900 RE1LRN
259      C      ENC SUBROUTINE PARAM
260      C      *****
261      C      SUEROUTINE LSTAT (L,IUNIT)
262
263      C      CHARACTER
264      C      LMES(4)*20
265      C      * DATA LMES/* TRANS NOT COMPLETE /* END OF FILE *
266      C      * DEVICE ERROR /* TRANS ABORTEC /*
267
268      C
269      M=ABS(L)
270      10L WRITE (6,100) LMES(M),L,ILNIT
271      10L FORMAT (0,==,'A20,I3,' CN UNIT ',I3)
272      RE1LRN
273      C      ENC SUBROUTINE LSTAT
274      C      *****
275      C      SUEROUTINE OUTPUT
276
277      C
278      10L WRITE (6,100) IN
279      10L FORMAT (7,TOTAL # BLOCKS READ = ',I5)
280      200 WRITE (6,200) ALL
281      200 FORMAT (7,TOTAL # RECORDS READ = ',I15)
282      300 WRITE (6,300) ACPTNO
283      300 FORMAT (7,TOTAL # OF RECCRDS ACCEPTED = ',I14)
284      40L WRITE (6,400)
285      40L FORMAT (7,TOTAL # OF RECCRDS ACCEPTED PER BILLING DATE=')
286      50L WRITE (6,500) (BDATA(I),I=1,18)
287      50L FORMAT (18(2X,A5))
288      600 WRITE (6,600) (TOTAL(J),J=1,18)
289      600 FORMAT (18(1X,I6))
290      N=1
291      DO 1200 J=1,3
292      70L WRITE (6,700)
293      70L FORMAT (1,'////',I50,' COST MATRIX (IN DOLLAR AMOUNTS)',//)
294      800 WRITE (6,800)
295      800 FORMAT (1,'\\ MO. \\ OF ',I, ' OF 18BILL',I, ' SERV. \\')
296      90L WRITE (6,900) (BDATA(I),I=N,N+5)
297      90L FORMAT (5X,6(5X,A5,5X))
298      LC 1100 II=1,43
299      WRITE (6,1000) SDATA(II),(CGST(M,II),M=N,N+5)
300      1000 FORMAT (1X,A4,6(1X,F14.0))
301      1100 (CONTINUE
302      N=N+6
303      1200 CONTINUE
304      WRITE (6,1300) SUM
305      1300 FORMAT (//,' SUM OF ALL MATRIX COSTS = ',F15.0)
306      N=1
307      DO 1700 J=1,3
308      1400 WRITE (6,1400)
309      1400 FORMAT (1,'////',I50,' AUDIT MATRIX (IN NUMBER OF RECORDS)',//)
310      1500 WRITE (6,800)
311      1500 FORMAT (1,'\\ MO. \\ OF ',I, ' OF 18BILL',I, ' SERV. \\')
312      1600 LC 1600 II=1,43
313      WRITE (6,1500) SDATA(II),(AUDIT(K,II),K=N,N+5)
314      1500 FORMAT (1X,A4,6(1X,I14))
315      1600 (CONTINUE
316      N=N+6
317      1700 CONTINUE
318      RE1LRN
319      END

```

0BK2,E

APPENDIX J

US ARMY MATERIEL COMMAND (AMC) LOGISTIC CONTROL ACTIVITY (LCA)

J-1. INTRODUCTION. The purpose of this appendix is to discuss the mission, functions, and organization of the Logistic Control Activity with respect to the long-term alternative discussed in Chapter 5 which would account for transportation costs on a transaction-by-transaction basis. LCA is considered the most promising organization for maintaining the data base necessary to implement the transaction-by-transaction accounting system because of the current data collection capabilities of LCA. Acronyms displayed in the figures and tables to this appendix but not defined in the narrative are defined in the Logistic Control Activity Regulation (LCAR) 700-2.

J-2. MISSION. The mission of LCA is to serve DA as the sole source in providing visibility of the total logistics pipeline, including supply, transportation, and retrograde of materiel in support of US Army forces worldwide.

a. LCA designs and provides recurring, exception, and prototype logistics performance reports and evaluations to all levels of Army management. It also provides independent management analysis support to HQDA, identifying actual or potential pipeline performance problems and submitting appropriate recommendations.

b. LCA performs supply requisition status reconciliation between the Standard Army Intermediate Level Supply System (SAILS), the Army Logistics Intelligence File (LIF), and the wholesale supply managers. In addition it can provide individual supply and movement status in a real-time query/response mode.

d. LCA has a mission to act as the DA Shipper Service Control Office. This includes the following tasks:

- (1) Serve as the Army Airlift Clearance Authority.
- (2) Serve as the Army focal point for processing mass cancellation requests.
- (3) Provide for expediting, frustrating, or diverting Army-sponsored shipments when requested by a DA-approved source.
- (4) Provide documentation for the reconstitution of lost, damaged, or destroyed Army sponsored shipments.

e. LCA develops and staffs procedures for DA and AMC cargo tonnage forecasts.

f. LCA also develops, maintains, and executes plans for support of DA-directed mobilization, emergency, and worldwide contingency operations management, to include AMC crisis plans.

J-3. ORGANIZATION. The Logistic Control Activity is organized along functional lines of responsibility. Figure J-1 illustrates the organizational structure. LCA is commanded by a senior Army logistician, and the command group includes a civilian Deputy Director.

a. The Logistics Readiness Division monitors movement of materiel and provides recurring reports to all levels of the Army as to the efficiency of the logistic system. This division also develops forecasts of overseas surface and airlift requirements, validates and clears air-eligible shipments into the military airlift system, validates special assignment airlift missions, and assists in maintaining the LIF. In addition, the Logistics Readiness Division conducts supply reconciliations with Army customers worldwide.

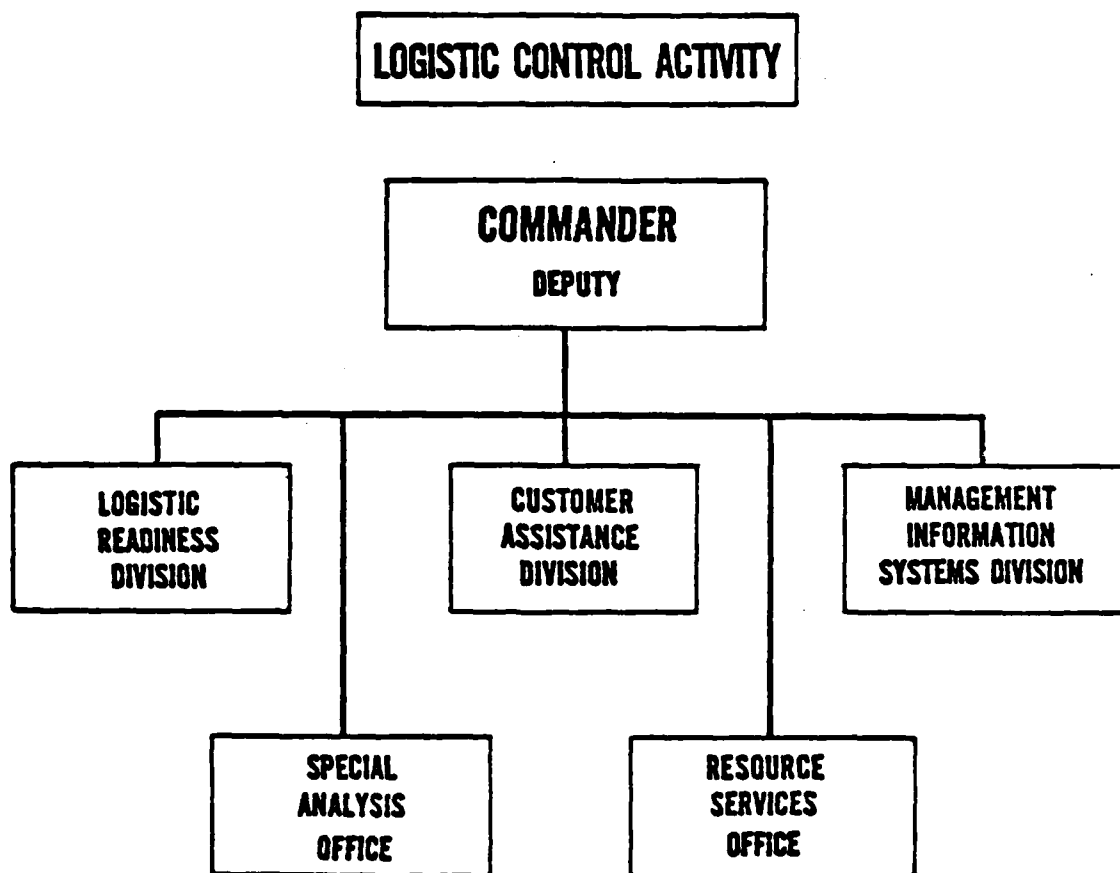


Figure J-1. Structural Organization of the LCA

b. The Customer Assistance Division functions as the point of contact for customers seeking information from the LCA. This division also has the responsibility of initiating frustration actions that result from cancellation requests on materiel moving in the Defense Transportation System (DTS), initiating mass cancellation actions upon request and monitoring supply actions relating to contingency support actions.

c. The Management Information Systems Division maintains the data base and develops, tests, and operates the various programs used by LCA.

d. The Special Analysis Office is comprised of operations research/systems analysts who conduct special logistic analyses and make recommendations to improve operations, increase efficiency, and optimize performance of Army logistic systems.

e. The Resource Services Office administers the budget and various special management programs in support of the functional elements and is responsible for internal supply and administration.

J-4. FUNCTIONS AND OPERATIONS. The primary mission of LCA is to analyze supply and transportation actions involving Army-sponsored requisitions placed on the wholesale supply system and reparables being returned to the wholesale system. This analysis is conducted within the operational framework and under the standards established by the Military Standard Logistics Systems. LCA operates 24 hours a day to accumulate data, post it to the data base, and provide access for customers. Close coordination is required with ODCSLOG, AMC commodity commands, DLA, General Services Administration (GSA), MTMC, MAC, other DOD agencies, commercial suppliers and carriers, and supply and transportation managers throughout the world.

a. Logistics Intelligence File (LIF). The LIF contains supply status, shipment status, and other information on requisitions. As Military Standard Requisition and Issue Procedures (MILSTRIP) documents flow through the Defense Automatic Addressing System (DAAS), image copies are routed to the LCA for establishment and or updating of LIF records. In addition, transportation receipt and lift data are transmitted daily to the LCA from Eastern and Western area MTMC headquarters, and MAC. This automated interface of supply and transportation data is used to update the LIF.

(1) The LIF is the only file that contains correlated supply and transportation data elements. Each record on the file consists of a basic portion that is an image of the transaction used to build the record plus additional management data extracted from ancillary files, i.e., the Activity Identification File and the Army Master Data File. LCA-computed coding and an additional portion of each record reflect key data elements reported on supply/transportation events that occur while the requirement is in the logistics pipeline. There are up to 15 of these additional portions (i.e., segments) that can be stored as partial supply or transportation actions taken against the shipment.

(2) The LIF Record Structure by data element is displayed in Tables J-2 and J-3. These figures are from LCA Regulation 700-2. The record consists of a "basic portion," data elements a(1) through (39) shown in Table J-1, and a variable number of "segments" (data elements b(1) through (28) and c(1) through (14) shown in Table J-2). The segments are one of two different lengths, depending upon the geographic location of the ultimate receiver, CONUS or overseas. Because fewer events are reported against a CONUS record than against an overseas record, the CONUS segment is the shorter of the two. Within this context, the segments themselves are fixed in length and variable in number up to a maximum of 15. The number of segments corresponds to the number of supply/transportation actions reported. Thus, if a requisition for a quantity of 25 were submitted and the supply action occurred in two increments, one for 10 and one for 15, there would be a basic portion containing an image of the requisition data elements (Table J-1(a) (1) through (29)). Then there would be one segment for the quantity of 10 and another segment for the quantity of 15. If the record were CONUS, each segment would consist of data elements from (1) through (28). If the record were overseas, each segment would consist of the same common data elements from (1) through (14). In this example there would be one LIF record in three parts (basic and two segments), each of fixed length. If the supply action had been in three increments, one for 8, one for 7 and one for 10, then there would be one LIF record in four parts (basic and three segments).

(3) When partial supply actions are first reported, they establish segments and, normally, subsequent events are reported against those same partials through receipt takeup by the receiver. The LIF can still monitor and record actions when this "normal" chain of events is disrupted. If, in the example of 25 items being supplied in two increments of 10 and 15 each, there had been notification that one of the increments had been reduced from 10 to 7, then a third segment would automatically be generated to cover the remaining 3. An example of this would be a Materiel Release Order for 10 being followed by a Materiel Release Confirmation for 7. A "dummy" segment would be built for the three and would wait for subsequent documentation.

(4) Shipment and consolidation actions act on the segments in a similar manner. To continue the example of the record for 25 items with three segments for 7, 3, and 15, if shipment status for 7 or 3 or 15 were received, it would post against the appropriate matching segment. The same is true for consolidation notification whether it posts before or after the shipment. If, however, the shipment status were for 10 (representing shipment of the 7 that were confirmed released plus the 3 that had initially been denied), then the shipment would post against the segment for 7 and the segment for 3. Again, consolidation notification would do the same. To complete the example of this record, if shipment status were received for 15, then it would post to the segment for 15. Then, if the subsequent consolidation represented a split of the shipment by the consolidation and containerization point (CCP), 10 going into one container with one TCN and 5 into another, the two transactions reporting this would cause the segment for 15 to split into two, one for 10 and one for 5. This is true regardless of whether the shipment were reported before or after the consolidation.

Table J-1. LIF Data Elements (basic record)

-
- (a)
1. DIC from transaction that built record
 2. RIC from transaction that built record
 3. Media and Status Code from transaction that built record
 4. Stock Number from transaction that built record
 5. Unit of Issue from transaction that built record
 6. Quantity from transaction that built record
 7. Requisition Number from transaction that built record
 8. Demand Code from transaction that built record
 9. Supplementary Address from transaction that built record
 10. Signal Code from transaction that built record
 11. Fund Code from transaction that built record
 12. Distribution Code from transaction that built record
 13. Weapons/Equipment Systems Designator Code or Type Requirement Code from transaction that built record
 14. Project Code from transaction that built record
 15. Priority Designator Code from transaction that built record
 16. RDD from transaction that built record
 17. Advice Code from transaction that built record
 18. First Position of Supply Category of Materiel Code - class of supply (SMC) for the NSN that built record
 19. Air Eligibility Code (AEC) for the NSN that built record
 20. First three positions of MCSC Materiel Category Structure Code - MATCAT (MCSC) for the NSN that built record
 21. Reportable Item Control Code (RICC) for NSN that built record
 22. Unit Price
 23. Geographic Area Code of DODAAC that built record
 24. Overseas Corps Code or CONUS Command Code of DODAAC that built record
 25. Overseas Corps Code (2 pos) or CONUS Installation Code of DODAAC that built record
 26. DSS Indicator
 27. ALOC Code
 28. Date record established on LIF
 29. Date of last update
 30. First backorder date
 31. First cancellation request date
 32. Recoverability Code
 33. Unit of Issue/NSN Change Indicator
 34. Automatic Inquiry, Requestor Code
 35. Date record completed (retired)
 36. Effective date of area change of DODAAC that built record
 37. New Geographic Area Code of DODAAC that built record
 38. New Overseas Corps Code/New CONUS Installation Code of DODAAC that built record
 39. Reconciliation Indicator
-

Table J-2. LIF Data Elements (segment)

Segment (CONUS and overseas)

- (b)
1. Segment number
 2. Posting date of latest transaction
 3. Quantity
 4. Suffix Code
 5. Shipment Stock Number
 6. Unit of Issue
 7. Class of Supply (SCMC)
 8. Air Eligibility Code (AEC)
 9. Cancellation Request Indicator
 10. Backorder Indicator
 11. Confirmed Cancellation Indicator
 12. Reject Indicator
 13. Frustration Indicator
 14. Status Code
 15. Supply Status transaction date
 16. Estimated ship date
 17. Last Known Source (current) (LKS)
 18. Last Known Source (prior) (ORI)
 19. Materiel Release Order Date
 20. Shipping Depot RIC
 21. Denial Date
 22. Depot Shipment Date
 23. Mode of Shipment
 24. Shipment TCN or GBL
 25. POD/CRP Receipt Date
 26. SSAR (DSU) Receipt Date
 27. Master Inventory Record Posting (MIRP) Date
 28. Shipment Status Indicator (elapsed days, depot ship date to LCA receipt date)

Segment Continuation, Overseas LIF

- (c)
1. Segment number
 2. Unit Materiel Fielding Point (UMFP)
 3. PPP Ship Date
 4. Consolidation/Containerization Point (CCP) Receipt Date
 5. CCP Ship Date
 6. ALOC Code
 7. Intermediate TCN
 8. Consolidated TCN
 9. POE
 10. POE Receipt Date
 11. POE Lift Date
 12. Voyage or Flight Number
 13. POD
 14. POD Forward Date
-

(5) The LIF record thus has one basic portion with appropriate segments providing visibility of supply/transportation actions taken in varying combinations. These segments are fixed in length and allow space for the full sets of data elements. The data elements on the record reflect key events and event dates and codes from the reporting transactions. When transactions are matched to the file, only these key data elements are posted. Each segment tracks a partial supply action from inception to completion as a separate entity. When there is a complete supply action (all 25 in one increment), then there is only one segment.

b. Management Information System. The Management Information System at LCA is central to all other operations. The LCA currently operates 2 computer systems. LCA maintains an IBM 4341 with 12 megabytes of main storage and an IBM 370/158 with 7 megabytes of main storage. Each system shares 13 IBM 3380 high-density disk units and 16 magnetic tape drives. Presently, 12 of these tape drives are being upgraded to 6250 BPI for faster processing and greater storage capacity. Additionally, each system has one dedicated high-speed printer and the 370/158 has a card punch assigned. The LCA is currently processing at 85 percent CPU utilization, which is recognized as saturation within the data processing industry. In addition, the LCA will exceed its present disk storage capacity during the second quarter of FY 86. Planned upgrades in LCA data processing capabilities are required to maintain pace with current requirements and accomplish its new missions, such as the development and extension of Total Package/Unit Materiel Fielding and the Central Demand Data Base. Additionally, such key programs as the extension of the Bottoms-up Reconciliation Program worldwide; the development of a Centralized Materiel Obligation Validation process; the expansion of management reports for the Force Modernization Program; providing analysis of turn-ins for reparable items; and improvements of Materiel Returns Program will be greatly delayed or completely deleted if the LCA does not upgrade its present automatic data processing equipment (ADPE). Another visible area impacted is the improvement of Shipper Service Control, which coordinates the movement of Army-sponsored cargo, provides supply and shipment status, and reconstitutes shipments lost or destroyed in transit. This combination of ADPE maintains the LIF and Materiel Returns Data Base (MRDB) which consist of approximately 14,000,000 online master records, of which 5,000,000 are considered active. Additionally, there are 9,000,000 transportation type records of which 2,000,000 are maintained online. Transaction input to the LCA approximates 12,000,000 documents each month. The 370/158 provides direct support as a communications terminal receiving all MILSTRIP/MILSTAMP documents direct from the AUTODIN switch. LCA is the Army's largest AUTODIN user and continues to lead in the interface of ADP and telecommunications technology. This equipment supports all in-house program development; over 100 recurring production reporting systems; 600 remote terminals querying the LIF via the Defense Data Network (DDN), direct dial (commercial and AUTOVON), and AUTODIN Q/R with a monthly volume of 400,000 inquiries.

c. **Movement and Transportation Services.** Movement and transportation services include actions necessary to monitor and selectively coordinate, expedite, and report on the movement of Army-sponsored cargo from the wholesale system to destination. LCA personnel analyze transportation performance which could impact the distribution of suppliers through the logistic pipeline. In addition, LCA is authorized to communicate directly with the DA, ODCSLOG, USAMC, overseas commands, CONUS commands, and other commands concerning those matters which affect the movement of cargo. LCA maintains liaison with HQ Eastern Area and HQ Western Area MTMC. In-transit visibility of Army cargo is maintained and technical guidance, or assistance, is provided in correcting unsatisfactory conditions in shipment preparation, documentation, and identification.

(1) Transportation documentation is used to update the LIF. This makes it possible for LCA to arrange for, coordinate, monitor, control, or trace materiel movements. The LCA reports on the flow of Army-sponsored cargo into and through the DTS and can influence the volume of materiel that is shipped via premium transportation modes.

(2) The Cross-reference File (CRF) is the file that captures cargo movement information and, if possible, passes the information to a record in the LIF or the MRDB. The CRF is actually made up of two files: the Movements Master File (MMF), which was discussed in Chapter 5, and the TCN Requisition File (TRF). Both of these files are keyed to the TCN, unlike the LIF or MRDB which are keyed to document numbers (DON). The MMF records store cargo movement information and the TRF records perform the cross-reference function of the CRF by establishing a link between a TCN and a DON. Table J-3 lists the record data elements and definitions for the MMF and Figure J-2 displays the record layout. It is the MMF which would provide the most logical starting point in developing a file against which the TOA billing records could be matched. There are several considerations in using the MMF as it now exists. The records lack depth because they are purged after approximately 6 months and retired to a historical file. The MMF lacks breadth because it does not contain information on OCONUS shipments, i.e., shipments originating and ending outside the Continental United States. Finally, the MMF currently contains no cost data. As the bills for shipments between CONUS and overseas ports materialize, and the theater movement control agencies (MCA) overseas document their shipments using the Military Standard Logistics System, the current lack of breadth is correctable. By storing the files to a permanent memory source, perhaps for up to 3 years, the depth problem can be overcome, and finally the TOA rate tables are in an automated format and can provide the necessary costs to the MMF.

Table J-3. Movements Master File Data Definitions
(1 of 2 pages)

1. INQUIRY TCN. The Transportation Control Number to which the MMF record is keyed.
2. LATEST RQN. The last DON posted in the TRF that is associated with the inquiry TCN.
3. DIC. The Document Identifier Code of the transaction that built the MMF record.
4. I. Unprogrammed one position field.
5. M. The code for the transportation mode used to ship the materiel from the storage site.
6. P. Unprogrammed one position field.
7. A. Unprogrammed one position field.
8. CNSNEE. DODAAC of the consignee.
9. SHP POE. Port of Embarkation code from a shipment status transaction.
10. DATE SHPD. The date the materiel was shipped from the storage site. Posted from a shipment status transaction or an MRP shipment status transaction.
11. DATE PPS. The date the materiel was shipped from the Materiel Fielding Point. (MFP was called Packaging Processing Point.)
12. CRPR/CCPS. Dual field. Either the date a CONUS shipment was received at the Central Receiving Point (CRP) or the date outbound materiel was received at the Consolidation and Containerization Point (CCP).
13. DATE ESTB. The LCA cycle date when the record was established on the MMF.
14. DATE LUPD. The LCA cycle date of the most recent event that updated the record.
15. NBR RQNS. The number of TRF records that are keyed to the inquiry TCN.
16. SEG CNT. The number of segments on the MMF record.
17. MNIFST. The identifying number of the air lift manifest.
18. CNSGNOR/CARRIER. Dual field. Either the consignor DODAAC or the carrier code.
19. AIRCRAFT/CNTAINER. Dual field. Either the aircraft number or the surface container number.

Table J-3. Movements Master File Data Definitions
(page 2 of 2 pages)

-
20. I. Segment number indicator. (Always a "1.")
 21. POE. Port of Embarkation code.
 22. POD. Port of Debarkation code.
 23. POER. The date the shipment was received at the POE.
 24. POEL. The date the shipment was lifted from the POE.
 25. PCS. The number of pieces lifted under the inquiry TCN.
 26. WT. The weight of the shipment lifted under the inquiry TCN.
 27. CU. The cubic measurement of the materiel lifted under the inquiry TCN.
 28. TAC. Transportation Account Code.
 29. VOY/FLT. Dual field. Either the voyage number of a surface shipment or the flight number of an air shipment.
 30. PODR. The date the shipment was received at the POD.
 31. PODF. The date the shipment was forwarded from the POD.
 32. TCN. A TCN that is related to the inquiry TCN: either the second TCN from a BBC, a TCN that ends in other than "X," or the new TCN from a ZWA.
 33. I. This code indicates whether the related TCN is an intermediate TCN (I), a consolidated TCN (C), a new TCN (N) which has taken the place of the inquiry TCN, or a TCN with other than "X" in the seventeenth position (S).
 34. CMDY. The commodity code of the materiel.
 35. RES. Two position reserved field.
 36. M. Lift mode
 37. LUPD. The most recent date that information was posted to the segment (the LCA cycle date).
-

C7, LCAR 700-2
Chapter 4
31 March 1985

MOVEMENTS MASTER FILE STORAGE RECORD

INQUIRY TCN ①	LATEST RQH ②	DIC ③	I ④	M ⑤	P ⑥	A ⑦	CNSWEE ⑧	SHP POE ⑨	DATE SHPD ⑩	DATE PPPS ⑪	CRPR CCPS ⑫	DATE ESTB ⑬	DATE LUPD ⑭	NBR RQMS ⑮	SEG CNT ⑯
SEG 01	MWIFST ⑰	CNSGR CARRIER ⑱	AIRCRAFT CONTAINER ⑲			I ⑳	POE ㉑	POD ㉒	POER ㉓	POEL ㉔					
SEG 02	PCS ㉕	MT ㉖	CM ㉗	TAC ㉘	VOY/FLT ㉙	POOR ㉚	POOF ㉛								
SEG 03	TCN ㉜	I ㉝	CHDY ㉞	RES ㉟	H ㊱	LUPD ㊲									
SEG 04 ↓ SEG 27															

This layout corresponds to the layout by card * column at Figure 4.2(1a). This figure depicts the MWF storage record layout as it appears in functional test and as a response to a card inquiry (DIC ZMC, ZMD, or ZME) to the MWF. This format is NOT the format of the response to a CRT, AUTOIN, or dial-up TCN inquiry. Query/Response formats for the MWF are in Chapter 7.

Figure 4.02(1b)

* Refer to LCAR 700-2 for Figure 4.2(1a) and Chapter 7

Figure J-2. Movements Master File Storage Record

(3) LCA personnel perform the following wide range of movement/transportation services using these files.

(a) Arrange for the movement of special or high-priority cargo from CONUS supply sources through the DTS to overseas requisitioners. LCA personnel monitor and report on these shipments to ensure that the lift is accomplished expeditiously.

(b) Accomplish diversion of shipments, as directed, on Army cargo moving for export or retrograde.

(c) Compile and report transaction status and lift data on project coded materiel and other special projects as required.

(d) Develop procedures to ensure immediate and efficient response to frustrated or cancelled shipments and diversions to other modes of transportation.

(e) Establish responsibility for shipments and prescribe methods for identifying, scheduling, and clearing those shipments at CONUS air/surface terminals which are frustrated or unidentified because of documentation, erroneous information, or improper packaging or marking.

(4) The LCA serves as the Army Airlift Clearance Authority for all Army-sponsored shipments originating in CONUS and offered to MAC. After receipt of advanced TCMDs, LCA personnel evaluate and determine airlift eligibility of each shipment based on DOD and DA policy, and JCS guidance for control of premium transportation and airlift capabilities. LCA also coordinates with designated shipping activities and MAC to arrange for priority air movement by SAAM in order to expedite the shipment of materiel that is identified by the JCS, DA, AMC, or major commands.

d. Cargo Forecasting. LCA develops, in coordination with other Army activities, shipment tonnage forecasts of all Army-sponsored cargo movements worldwide. These forecasts are provided to AMC and DA for budgetary purposes and adjustments in obligations that have been programed for expenses incurred during cargo movement. Shipment tonnage forecasts are also used by the different TOAs to ensure that adequate air and surface resources will be available. A description of the long- and short-range forecast is found in Chapter 3, and a discussion of forecasting policy and guidance appears in Appendix D. The following paragraphs discuss LCA procedures and methodology for developing the consolidated short-range cargo forecast and providing feedback to the forecasting commands.

(1) LCA is responsible for developing the AMC short- and long-range air and surface overocean cargo forecast. LCA develops the DA short-range air and surface cargo forecast, and then monitors and provides feedback on actual versus forecasted tonnage. The AMC long-range forecasts are developed from input provided from the AMC commodity commands, consolidated at AMC, and forwarded to DA for inclusion with other MACOM long-range forecasts which are developed by LCA from input provided by the commodity commands. However, this AMC short-range forecast, along with the other reporting AMCOM forecasts (Figures J-3 and J-4), are consolidated at LCA to form the DA short-range forecast. The consolidated DA short-range forecast is then sent to the TOAs for the establishment of space requirements and to DA for the establishment of obligations. LCA then monitors and provides DA forecast/feedback reports to the reporting MACOMs.

(2) The formatted output of the short-range airlift forecast is shown in Figure J-5. This is the airlift forecast for the Dover to Frankfurt channel (DDV-FRF), troop support (TSP) cargo, FY 85. Depicted in row 3 of the center section are the August forecast of 1550 short tons and September 1500 short tons. Forecasts are made for October 1640 STON and November 1395 STON in the first row of the bottom section.

(3) Based on the rates established by the TOAs, the LCA then produces an aggregated estimate of the obligation by cargo program from the tonnage forecast. This is displayed in Figure J-6, the Sealift Obligation Report (SEALOB).

(4) The final task is to prepare feedback reports to the reporting commands and DA. This is accomplished by extracting the actual tons billed to the Army from the billing tapes and comparing those tons with the tons forecast. Figure J-7 displays the variances under the column headings "Forecast", "Lift", "Over/Under", by cargo program and by traffic area. The report is by air channel for airlift feedback. The feedback reports provide the reporting command a basis for adjusting their current forecasts.

e. **Summary.** The LCA currently has the most extensive data base on in-transit shipments of Army-sponsored cargo. By widening this data base to include OCONUS intra/intertheater shipments and expanding the data base to encompass a 3-year history, the data base should be extensive enough to cover shipments billed by the TOAs. The current hardware existing at LCA precludes the performance of additional tasks requiring CPU time. However, permanent memory is available for the storage of the expanded data base. Once the data base is established, many of the current report formats could be expanded to handle the additional channels or traffic areas. The procedures at LCA are aimed at tracking and reporting on the status or efficiency of the transportation system rather than the cost. Programs would require alteration to include cost factors. Some work has been done in this area already, as evidenced in the Sealift Obligation Report. In other areas, data links would be required between overseas commands and LCA to provide OCONUS shipment data. USAFAC would be required to report billings which are submitted directly and do not appear in the monthly billing tapes. While these problems are difficult, they are not insurmountable. The manpower requirement necessary to operate the system effectively is a major consideration. The number of transactions handled monthly demands a high degree of accuracy in the automated handling of data. If the bills must be reconciled manually, a great deal of time and coordination would be required between the accounting office and the shipper, TOA, and the recipient of the cargo.

REPORTING MAJOR ARMY COMMANDS AND STAFF AGENCIES

FORECAST MONTH

19

AIR

A231 BMC Ballistic Missile Defense Systems Command
 A3C2 AFC Armed Forces Courier Service
 A3C4 APS Army Postal Service Agency
 A3H0 COE Chief of Engineers
 A420 AMC US Army Materiel Command, LCA
 A430 FRC US Army Forces Command
 A440 SCC US Army Communications Command
 A470 ASA US Army Intelligence & Security Command
 A510 EUR US Army Europe (4th Trans Bde)
 A522 JAP US Army Japan
 A523 KOR US Army Korea
 A526 HAW US Army Support Command Hawaii
 A530 ALS US Army 172d INF BDE (ALASKA)
 A540 CZC US Army 193d INF BDE (CANAL ZONE)
 AX00 AFE Army & Air Force Exchange Service

Date Rec'd	Cards	S/Tons
TOTALS		

Figure J-3. Army Short-range Air Cargo Transportation Requirement Forecasts

REPORTING MAJOR ARMY COMMANDS AND STAFF AGENCIES

			DATE REC'D	CARDS	11/TONS
A231	BMC	BALLISTIC MISSILE DEFENSE SYSTEMS COMMAND			
A3C4	APS	ARMY POSTAL SERVICE AGENCY			
A3H0	COE	CHIEF OF ENGINEERS			
A420	AHC	US ARMY MATERIEL COMMAND, LCA			
A430	FRC	US ARMY FORCES COMMAND			
A510	EUR	US ARMY EUROPE (4TH TRANS BDE)			
A510	EUR	US ARMY EUROPE (INSTL SPT ACTV-ENERGY CEN)			
A522	JAP	US ARMY JAPAN			
A523	KOR	US ARMY KOREA			
A526	HAW	US ARMY SUPPORT COMMAND HAWAII			
A530	ALS	US ARMY 172d INF BDE (ALASKA)			
A540	CZC	US ARMY 193d INF BDE (CANAL ZONE)			
AX00	AFE	ARMY & AIR FORCE EXCHANGE SERVICE			
TOTAL					

Figure J-4. Army Short-range Surface Cargo Transportation Requirements Forecast

```

PROGRAM P9510          FORECAST ARRAY MASTER FILE LISTING          PAGE NO. 81
*****
*****                29 AUGUST 1985                CURRENT DATE 08/29/85
*****
MODE  F/Y  A/PCE  A/PDD  C/GRN  F/RCST  T/YPE  I  C/HA  F/ICAL  F/VAL  D
IND  F/Y  A/PCE  A/PDD  C/GRN  F/RCST  T/YPE  I  C/HA  F/ICAL  F/VAL  D
*****
C/HA  MONTHLY  C/HA  MONTHLY  C/HA  MONTHLY  C/HA  MONTHLY  C/HA  MONTHLY
DEC  P  AL  FC  LIFT  JAN  K  AL  LIFT  FEB  K  AL  LIFT  MAR  K  AL  LIFT  APR  K  AL  LIFT
MAY  VAL  FAC  JUL  VAL  FAC  AUG  VAL  FAC  SEP  VAL  FAC  OCT  VAL  FAC  NOV  VAL  FAC
*****
A  84  DCV  FRF  TSP  GAC  6  0TH  2  10185  16649  OCT  1450  1759  NOV  1330  409
DEC  1450  1112  JAN  1610  1627  FEB  1580  1409  MAR  1727  1426  APR  1730  1176
MAY  1700  1288  JUN  1650  1367  JUL  1550  1316  AUG  1550  1484  SEP  1450  1426

A  85  DCV  FRF  TSP  GAC  6  0TH  2  19950  14127  OCT  1800  1274  NOV  1325  1299
DEC  1325  1274  JAN  1425  1640  FEB  1525  1413  MAR  1800  1519  APR  1450  1632
MAY  1425  1673  JUN  1500  1426  JUL  1600  987  AUG  1550  1500  SEP  1500

A  86  DCV  FRF  TSP  GAC  6  0TH  2  19705  OCT  1640  NOV  1395
DEC  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP

```

Figure J-5. Forecast Array Master File Listing

PROG 9593 SEALDB RIM 275MA0034M PAGE 1
 REPORT DATE 1J AUG 85 DAT MONTHLY MSC OBLIGATION REPORT FORECAST MONTH SEPTEMBER

PE 720010 (COMUS OUT/IM/INTER/INTRA)	M/TONS	DOLLARS
ISP	252928	40,449,837
PPC	164517	30,992,398
EXS	553	55,311
APD	82565	16,281,945
UCA	5113	1,078,056
SAS	130	43,577
MCP		
CAP	50	3,050

MAP - - 1000.001

	OTHER CARGO	AND UNLY	TOTAL
	M/TONS	M/TONS	DOLLARS
COMUS OUTBOUND			
IM1	58		21,692
R21			
R31	58		21,692
R41			
R51			
R61			
IMIER / INTRA			
IM1			
R21			
R31			
R41			
R51			
R61			

Figure J-6. Sealift Obligation Report (SEAL06)

PROGRAM 9463 DA SURFACE CARGO FEEDBACK REPORT PCN 210H89630N 28 FEB 85 PAGE 142

AGENCY CODE: 4920 MEASUREMENT-TONS
 AGENCY NAME: DARCOM
 TRAFFIC AREA: 01 TO 17

MOVEMENT LESS CARGO-OUTBOUND

CARGO PROG: TSP 1985

ACCUMULATIVE YEAR-TO-DATE		FEBRUARY (CMR)		JANUARY (PRV)		DECEMBER (PRIOR)								
TP	OVER/UNDER	LIFT	FORECAST	LIFT	FORECAST	LIFT	FORECAST							
GEN B	17222	16814	1920	-608	1898	969	2-1939	1372	5	526				
GEN C	312316	89089	27870	5359	100	-22311	28927	20242	98	-8719	29579	27831	95	-2543
GEN M		1723	1723			27	27	27	27		27	27	27	27
TOTAL	329538	103426	29808	5359	100	-24449	30855	20743	190	-10112	30929	28435	109	-1985
HMC B														
HMC C		104				104								
HMC M														
TOTAL		104				104								
POV B		11				11								
POV C		99				99								
POV M														
TOTAL		110				110								
SPC B	240103	117237	28197	-122866	28197	-28197	30359	8877	97-21982	23945	1762	38	-19193	
SPC C	408	32014		31606		151	151	151	100	240			8560	
SPC M														
TOTAL	240511	149251	28197	-91260	28197	151	30359	9157	100-21202	23955	13322	109	-10623	
TRAFFIC AREA: 01 TO 17								MOVEMENT LESS CARGO-OUTBOUND						

Figure J-7. Surface Cargo Feedback Report

APPENDIX K
SPONSOR'S COMMENTS

DALO-RMB 1st End MAJ Giordano/phm/73224
SUBJECT: Centrally Funded Second Destination Transportation (CFSDT) Study

HQDA ODCSLOG (DALO-RMB) Wash, D.C. 20310-0505

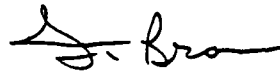
25 MAR 1986

TO: Department of the Army US Army Concepts Analysis Agency, ATTN: CSCA-FSL
8120 Woodmont Avenue, Bethesda, Maryland 20814-2797

The requested study critique is attached.

FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:

1 Encl



JAMES T. BROWN
Deputy Director of
Resources and Management

STUDY CRITIQUE

(This document may be modified to add more space for responses to questions.)

1. Are there any editorial comments? Yes If so, please list on a separate page and attach to the critique sheet.

2. Identify any key issues planned for analysis that are not adequately addressed in the report. Indicate the scope of the additional analysis needed. _____

None

3. How can the methodology used to conduct the study be improved?

No comment

4. What additional information should be included in the study report to more clearly demonstrate the bases for the study findings? _____

None

5. How can the study findings be better presented to support the needs of both action officers and decisionmakers? _____

No comment

6. How can the written material in the report be improved in terms of clarity of presentation, completeness, and style? _____

See attached comments

STUDY CRITIQUE (continued)

7. How can figures and tables in the report be made more clear and helpful? _____

No comment

8. In what way does the report satisfy the expectations that were present when the work was directed? _____

It gives DALO-RMB a analytical tool for making more accurate estimates of fund obligations.

In what ways does the report fail to satisfy the expectations?

No comment. Satisfied all expectations.

9. How will the findings in this report be helpful to the organization which directed that the work be done? _____

Assist in removing the uncertainty in the forecasting of CFSDT obligations which will result in more efficient use of appropriated funds. Will assist in avoiding over/under-obligation of funds.

If they will not be helpful, please explain why not.

N/A

10. Judged overall, how do you rate the study? (circle one)

Poor

Fair

Average

Good

Excellent

No. 6 Comment.

1.	<u>PAGE</u>	<u>PARAGRAPH</u>
	v	3
	3-19	3-7 h
	3-20	3-8

These pages all refer to second destination transportation (SDT) funds not being separately identified in the Program 7 OMA program. This is not true. SDT funds are identified specifically by PE 728010, what is not identified is the overocean portion of 728010 (see AR 37-100-87, PE 728010).

2.	<u>PAGE</u>	<u>PARAGRAPH</u>
	3-7	3-5 b

DALO-DRM should read DALO-RMB.

NOTE: Errata changes listed above have been incorporated into report.

APPENDIX L
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CAA-SR-86-2

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GLOSSARY

ADP	automatic data processing
ADPE	automatic data processing equipment
AF	Air Force
AFB	Air Force base
AFLC	Air Force Logistics Command
AFP	Annual Funding Program
AMC	US Army Materiel Command
AMS	Army management structure
APOD	aerial port of debarkation
APOE	aerial port of embarkation
AR	Army regulation
ARB	Analytical Review Board
ASD(C)	Assistant Secretary of Defense (Comptroller)
ASIF	Airlift Service Industrial Fund
ATCMD	Advance Transportation Control and Movement Document
AUTODIN	automatic digital network
CAA	US Army Concepts Analysis Agency
CCP	consolidation and containerization point
CDCP	central data collection point
CFSDT	Centrally Funded Second Destination Transportation (study)
CGO	cargo
CHAN	channel
CIC	customer identification code
CMA	Centrally Managed Allotment

CAA-SR-86-2

COMSC	Commander, Military Sealift Command
CONUS	Continental United States
CPU	central processing unit
CRF	Cross-reference File
DA	Department of the Army
DAAS	Defense Automatic Addressing System
DALO-RMB	Deputy Chief of Staff for Logistics, Resources and Management Directorate
DALO-TSP	Transportation, Energy, and Troop Support Directorate
DDN	Defense Data Network
DEST	destination
DLA	Defense Logistic Agency
DLSIE	Defense Logistics Studies Information Exchange
DOD	Department of Defense
DODAAC	Department of Defense activity address code
DOMA	Director of Operations and Management
DON	document number(s)
DRM	Director for Resources and Management
DSSN	disbursing station symbol number
DTIC	Defense Technical Information Center
DTS	Defense Transportation System
EEA	essential element(s) of analysis
ETADS	Enhanced Transportation Automated Data System (Air Force)
F&A	finance and accounting
FAD	funding authorization document
FDT	first destination transportation

FS	Fiscal Station
FY	fiscal year
GBL	Government bill of lading
GSA	General Services Administration
HQ	headquarters
HQDA	Headquarters, Department of the Army
ITMIS	Integrated Transportation Management Information System
ITO/DTO	installation transportation officer/depot transportation officer
JCS	Joint Chiefs of Staff
LCA	Logistic Control Activity
LCAR	Logistic Control Activity Regulation
LIF	Logistics Intelligence File
LOGAIR	Logistics Airlift Service
MAC	Military Airlift Command
MACOM	major Army command
MCA	movement control agency
MECHTRAM	Mechanization of Selected Transportation Movement Reports
MILSTAMP	Military Standard Transportation and Movement Procedures
MILSTRIP	Military Standard Requisition and Issue Procedures
MIPR	Military Interdepartmental Purchase Request
MMF	Movement Master File
MOD	miscellaneous obligation document
MRDB	Materiel Returns Data Base
MSC	Military Sealift Command
MSN	mission

CAA-SR-86-2

MT, M/TON	measurement ton(s)
MTMC	Military Traffic Management Command
NAVSUPSYSCOM	Navy Supply Systems Command
OA	operating agency
OCOA	Office of the Comptroller of the Army
OCONUS	outside Continental United States
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
OMA	operation and maintenance, Army
OMB	Office of Management and Budget
ORIG	origin
OSD	Office of the Secretary of Defense
PAD	Program Action Directive
PBD	Program Budget Decision
PE7D	Program element 7 direct funded
PE7G	Program element 7 gross or total
PE7R	Program element 7 reimbursable
POD	point of debarkation
POE	point of embarkation
PRB	Product Review Board
QUICKTRANS	Navy Cargo Airlift System
RTDPC	revenue traffic data processing center(s)
SAAM	special assignment airlift mission
SAILS	Standard Army Intermediate Level Supply Subsystem
SECDEF	Secretary of Defense
SDT	second destination transportation
SEALOB	Sealift Obligation Report

STS	scheduled truck service
TAC	transportation account code
TCMD	transportation control and movement document
TCN	transportation control number
TOA	transportation operating agency
TOLS	terminals of line system
TOT	total
TRF	TCN Requisition File
TSP	troop support
TWFS-I	Transportation Workload Forecasting Study - Implementation
UC	unit cost, or cost per short ton
USAFAC	US Army Finance and Accounting Center
USAMSSA	US Army Management Systems Support Agency
YTD	year to date



CENTRALLY FUNDED SECOND DESTINATION
TRANSPORTATION (CFSDT) STUDY

STUDY
SUMMARY
CAA-SR-86-2

THE REASON FOR PERFORMING THE STUDY was to review and analyze the current transportation accounting systems for second destination transportation (SDT) and identify modifications to the current financial management process or develop new management tools that could enhance the ability to manage SDT.

THE PRINCIPAL FINDINGS of the work reported herein are as follows:

- (1) There is little correlation between total dollars budgeted for overocean cargo and total tons of overocean cargo shipped. Budget estimates are based on fixed rates, but the actual charge may vary significantly from the fixed rate.
- (2) The transportation operating agencies (TOA) may make changes to the initial routing or mode of transportation, causing variances in the cost of individual shipments. Also, the type of commodity affects charges.
- (3) Overocean SDT funds are not identified specifically in the Operation and Maintenance, Army (P7) appropriation, thus tracking of overocean SDT funds is difficult since other funds are included in P7.
- (4) Official billings lag shipments by about 4 months.
- (5) Nonshipment charges amounting to approximately 2 percent of the SDT budget are not budgeted.
- (6) A complete audit trail is not possible due to missing historical records and inconsistent financial accounting records.
- (7) The Navy and Air Force SDT financial management systems have reduced the error rate in obligating SDT funds to a reported rate of less than 1 percent.

THE MAIN ASSUMPTIONS of this work are:

- (1) Cargo rates derived for the current system will be applicable to the alternative system.
- (2) Current SDT accounting systems for overocean SDT will be maintained.
- (3) Department of Defense (DOD) Regulation 4500.32R, Military Standard Transportation and Movement Procedures (MILSTAMP), will remain in effect during the timeframe of the study.

THE PRINCIPAL LIMITATIONS of this work which may affect the findings are:

- (1) Only overocean SDT cargo transactions were reviewed.
- (2) Only data which reflect the current procedures in estimating obligations for overocean cargo shipments were used.

THE SCOPE OF THE STUDY included a review of Army and other service current transportation accounting systems and considered modifications and improvements to the Army system.

THE STUDY OBJECTIVES were:

- (1) Determine problems associated with the current procedure for estimating obligations based on historical data, forecasted shipments, and bills received.
- (2) Examine alternative solutions to the problem, evaluate these solutions, and provide recommended changes to the current Army SDT management information and reporting systems.

THE BASIC APPROACHES used in this study were to:

- (1) Review the current Army SDT accounting system including the forecasting function, budget function, order initiation, preparation of shipment, shipment from depot, receipt at port, ship loading, billing, and reimbursement accounting.
- (2) Review the other services' SDT accounting systems for possible application to the Army.
- (3) Identify system improvements or alternatives.
- (4) Develop a model which could be implemented in the near term to aid program managers at the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) to make more accurate forecasts of overocean SDT billings and disbursements throughout the fiscal year.
- (5) Provide a methodology for an automated system to account for the obligation and liquidation of overocean SDT costs on a transaction-by-transaction basis.

THE STUDY SPONSOR was the Deputy Chief of Staff for Logistics, who established the objectives and monitored study activities.

THE STUDY EFFORT was directed by Kenneth R. Simmons, Force Systems Directorate.

COMMENTS AND QUESTIONS may be sent to the Director, US Army Concepts Analysis Agency, ATTN: CSCA-FS, 8120 Woodmont Avenue, Bethesda, Maryland, 20814-2797.