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JUN 77 F A DISTASIO, M E BONNETT, F E HARTMAN
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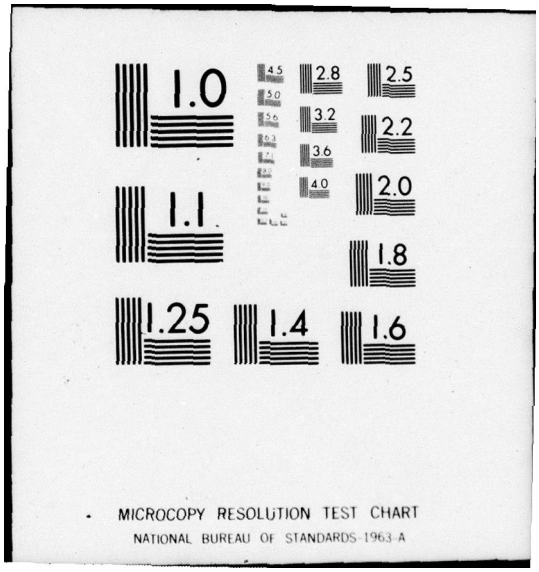
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STUDY REPORT
CAA-SR-77-7
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MANAGEMENT OF CHANGE

(MOC)

JUNE 1977

PREPARED BY

METHODOLOGY, RESOURCES AND COMPUTATION DIRECTORATE

US ARMY CONCEPTS ANALYSIS AGENCY

8120 WOODMONT AVENUE

BETHESDA, MARYLAND 20014

CAA-SR-77-7

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The MOC Study consists principally of an analysis of DA and MACOM policies, regulations, projects, programs, automated systems, and procedures involved with authorization changes. This involvement can be either in generating authorization change, documenting authorization change, or using the authorization data. Within this domain of authorization management, the MOC study addresses the volume, frequency and nature of actions causing change and turbulence. The report consists of six chapters, supported by technical appendices. Chapter 1 provides introductory material and background.

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Chapter 2 contains a discussion of the current environment created by the Army's authorization management processes. The methodology formulated to analyze the authorization environment and change problems is the subject of Chapter 3. Based on application of the methodology, Chapter 4 documents prescriptions nominated to improve procedures and Chapter 5 presents alternative schedules to reduce the characteristics of turbulence observed in the authorization management environment. The final chapter ~~of this report~~ presents the major observations pertaining to the Army authorization environment.

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CAA-SR-77-7

MANAGEMENT OF CHANGE (MOC)

June 1977

Prepared by

Methodology, Resources and Computation Directorate

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REPLY TO
ATTENTION OF:

MOCA-MRR

JUN 30 19[illegible]

SUBJECT: Management of Change (MOC) Study

Deputy Chief of Staff
for Operations & Plans
Department of the Army
ATTN: DAMO-FD
Washington, DC 20310

1. Reference is made to your letters dated 26 May 1976, subject: Tasking Directive - Management of Change (MOC) Study, and 1 March 1977, subject: Management of Change (MOC) Study--Modification of Tasking Directive, respectively. These letters directed the US Army Concepts Analysis Agency (CAA) to provide a study report on Army authorization management by 30 June 1977.

2. Attached is the final report which documents the analyses of Army management systems for promulgating authorization changes, and prescribes ways to improve the assimilation of change at HQDA, MACOM and subordinate units.

3. Seventeen processes critical to authorization management were identified and, for the first time, a detailed analytical treatment of the interactions within and among these processes has been documented. Because of the considerable coordination required during this effort, an immediate benefit to the Army has resulted--the MOC Study has been a catalyst for improving communications throughout the authorization management community. Illustrative of this communication, several of the study's prescriptions to improve the current system already have been adopted. Of greater potential impact, however, are the alternative schedules developed to improve the assimilation of change. Examination of these alternatives by the DA staff may precipitate Army-wide improvements in authorization management.

MOCA-MRR
SUBJECT: Management of Change (MOC) Study

4. The methodologies reported in the MOC study appear to offer potential to the Army in reducing turbulence now and in the future. Through use of such techniques as network analysis, it may be possible to develop a more integrated, efficient future environment for authorization management.

Ennis C Whitehead

1 Incl
as

ENNIS C. WHITEHEAD, JR
Major General, USA
Commanding

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
WASHINGTON, D.C. 20310

REPLY TO ATTENTION OF: DAMO-FDU

1 MAR 1977

SUBJECT: Management of Change (MOC) Study--Modification of Tasking Directive

Commander
US Army Concepts Analysis Agency
8120 Woodmont Avenue
Bethesda, Maryland 20014

1. References:

a. Briefing by CAA to PROBE Steering Committee, 11 January 1977, subject: Management of Change In-Process Review.

b. Letter, DAMO-FDU, 26 May 1976, subject: Tasking Directive--Management of Change (MOC) Study.

2. The PROBE Steering Committee has recommended extending the MOC Study schedule to provide additional time for network analysis (reference 1a). Accordingly, paragraph 7c of the MOC Tasking Directive (reference 1b) is modified as follows:

a. In-Process Review (IPR) for Director, Force Programs and Structure by 18 March 1977.

b. Observations and prescriptive measures IPR to PROBE Steering Committee by 29 April 1977.

c. Delivery of final report by 30 June 1977.

for Walter E. Brown Jr

E. C. MEYER
Lieutenant General, GS
Deputy Chief of Staff
for Operations and Plans

[illegible] BROWN, JR
[illegible], GS
Executive

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
WASHINGTON, D.C. 20310

REPLY TO ATTENTION OF:

DAMO-FDU

SUBJECT: Tasking Directive - Management of Change (MOC) Study

Commander
USA Concepts Analysis Agency
8120 Woodmont Avenue
Bethesda, Maryland 20014

1. Purpose. - This is a Category 3 Study to analyze Army management systems for promulgating authorization changes and to prescribe systematic measures to facilitate assimilation of change at HQDA, MACOM, and subordinate commands.

2. Reference

a. CSM 75-5-90, 1 Dec 75. subject: Management of Change (MOC) Study.

b. CAA, Methodology and Resources Directorate, 21 April 1976, subject: MINI-PROSPECTUS Management of Change (MOC) Study

3. Study Sponsor. - Office of the Deputy Chief of Staff for Operations and Plans.

4. Study Agency. - US Army Concepts Analysis Agency (CAA).

5. Terms of Reference

a. Background. - The referenced CSM was issued to direct the preparation of a comprehensive study to determine the frequency, magnitude and types of changes documented in The Army Authorization Documents System (TAADS) and to develop procedures that would reduce the amount of changes requiring field response. The CSM assigned to the DCSOPS responsibility for the study, with DA staff and MACOM support as required. The PROBE Steering Committee was assigned to monitor the study.

b. Problem. HQDA, MACOM and subordinate units have experienced frequent changes to Army authorization documents requiring compliance and annotation or submission of alternative proposals. The volume, frequency and/or nature of changes can generate an inordinate workload and cause unnecessary turbulence--particularly at MACOM and subordinate unit level--with a concomitant diversion of mission essential resources.

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c. Objectives

(1) To examine the Army management systems which generate authorization changes.

(2) To identify system information flows and interactions required by authorization changes.

(3) To analyze quantitatively the management processes and supporting systems (MIS) related to authorization changes.

(4) To prescribe alternative measures to facilitate the assimilation of authorization changes.

d. Scope. The study will analyze:

(1) DA policies, regulations, procedures, projects, programs, and automated systems generating authorization changes.

(2) The volume, frequency and/or nature of actions causing changes.

e. Limits. - The study will only develop alternative approaches/ methods to implement authorization changes.

f. Time Frame. - FY 76 - FY 77

g. Assumptions

(1) Administrative staffs are not augmented as a result of the volume and frequency of changes.

(2) All authorization changes do not require the same priority of compliance.

h. Essential Elements of Analysis (EEA)

(1) What types of authorization changes cause the most turbulence?

(2) Are there responses to authorization changes which can be modified to reduce turbulence (e.g., delayed, reduced or eliminated)?

(3) Can alternative information systems, e.g., VFDMIS, be effectively used to reduce turbulence?

i. Methodology. - Potential modeling or quantitative techniques envisioned for this study include:

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SUBJECT: Tasking Directive - Management of Change (MOC) Study

(1) Descriptive information flow graphs

(2) Network analysis

(3) Multivariate analysis

6. Support and Resource Requirements

a. CAA is authorized direct communication with DA, major Army commands, and all agencies supporting this study.

b. The DA and MACOM staffs will provide background information on current management systems and identification of associated problem areas.

c. The study sponsor will secure an extension of CSM 75-5-90 and relief from Inclosure 2 to the CSM, Proposed Milestone Chart/Work Schedule.

7. Administration

a. Study Title. - Management of Change (MOC) Study

b. Study Director. - Mr. Frank A. Distasio, Jr., Methodology and Resources Directorate, US Army Concepts Analysis Agency, 295-1623.

c. Study Schedule. - See Inclosure 2. Delivery of final report: 18 Mar 77.

d. Control Procedures. - The PROBE Steering Committee will be the advisory group providing general officer guidance to the study.

e. Action Documents. - A final report of the study will be prepared.

f. Coordination. - This tasking directive has been coordinated with CAA in accordance with paragraph 4, AR 10-38.

E. C. MEYER
Major General, GS
Assistant Deputy Chief of
Staff for Operations and Plans

SUMMARY

1. BACKGROUND. Every unit in the Army is defined by and organized under a document which shows its personnel and equipment requirements and authorizations. The most prevalent of these documents are called Modification Tables of Organization and Equipment (MTOE) for combat oriented units and Tables of Distribution and Allowances (TDA) for noncombat oriented units. The MTOE and TDA are used in planning, programing, budgeting, requisitioning, training, and distributing personnel and equipment; the MTOE are also used as bases for reporting unit readiness. Since there are about 14,000 MTOE and TDA units in the Army, a mechanism was necessary to maintain and report on the unit authorization documents and control their changes. Consequently, The Army Authorization Documents System (TAADS) was established as an automated system for developing and documenting organizational structures, requirements, and authorizations of personnel and equipment necessary to support the assigned missions of Army units.

a. TAADS is a DA-level automated data processing (ADP) system that contains the authorization document for every MTOE and TDA unit in the Army. With the advent of VTAADS, the MACOM operational counterpart to TAADS, the MACOMs were provided with an automated information system which could be very responsive in transferring data to DA on the implementation of authorization changes and from DA on the approval of proposed changes. This very rapid data transfer capability led to the illumination of two authorization management problems. First, the frequency of authorization changes translates into a documentation workload problem at the MACOM level where personnel were unable to respond adequately to the formal guidance processes. This is complicated by periodic bursts of one-time, special actions which routinely require the MACOM to forgo working on the changes in the formal guidance processes. Second, the frequency of the documentation of formal and informal changes translates into a workload problem at the implementation end of the TAADS spectrum--the unit--where personnel were unable to respond to the frequent revisions to authorization documents.

b. An inordinate workload has been created in the field because of the frequency and volume of authorization changes requiring compliance, annotation, or generation of alternatives. The work and the conditions under which it is accomplished, can be characterized as being turbulent and, in many cases, unnecessary. The turbulence is manifest not only in the MTOE and TDA units, but also at the MACOMs and HQDA as well.

(1) Turbulence at HQDA. Turbulence at DA level is observed as unsynchronized program development. For example, the training program frequently is not in conformance with the training requirement pertaining to the budget year because that documentation may not be forwarded to DA in a timely manner.

(2) Turbulence at MACOM. The volume and frequency of changes create workload problems at the MACOM resulting in undocumented changes. Typically, the major commands attend to the document changes impacting the current year first, deferring documentation of the budget year guidance. The delay of budget year documentation then contributes to the turbulence at HQDA identified in the previous paragraph.

(3) Turbulence at the Unit. The frequent changes result in unstable authorization documents. On the average, a unit had 6 different authorization documents pertaining to FY 76. Such instability causes the units to issue frequent personnel and materiel requisitions, and cancel previous ones; this strains the ability of the requisition system to satisfy the units' needs.

(4) Turbulence in Asset Management. Asset managers observe the turbulence as they contend with uncorrelated validation documents. Before approving a requisition, an asset manager must validate the request by using a document published for that purpose. But many revisions to unit authorizations may not be reflected in the validation documents--resulting in authorized requisitions being rejected and further contributing to turbulence for the units.

c. This problem of turbulence in authorization management received the attention of the Army Staff and resulted in a Chief of Staff Memorandum (CSM) which led to this study.

2. PURPOSE AND SCOPE. On 26 May 1976, the ODCSOPS tasked the US Army Concepts Analysis Agency (CAA) to conduct the Management of Change (MOC) study. The purpose of this study is to:

- Analyze Army management systems for promulgating authorization change.
- Prescribe systematic measures to facilitate the assimilation of change at HQDA, MACOM, and subordinate commands.

a. This study places analytical emphasis on the cause of authorization changes and the formulation of alternatives to remedy the current difficulties in responding to changes in authorization documents.

b. The MOC Study can be defined as an analysis of DA and MACOM policies, regulations, procedures, projects, programs and automated systems involved with authorization changes. That involvement can be either in generating authorization change, documenting authorization change, or using the authorization data.

3. APPROACH. The information in TAADS is used in two capacities: as the official authorization document for every unit in the Army and as a data source for planning, programing, and budgeting at HQDA.

a. The dual role of TAADS highlights a dichotomy with regard to how quickly authorization changes should be documented in TAADS. Changes should be documented rapidly in order to provide feedback on force, personnel, and equipment policy decisions; this can involve frequent changes to the document. Yet it is equally important that authorization documents be sufficiently stable to permit the requisitioning processes to work. Thus, the management of change becomes an important consideration.

b. Through a systematic research and data collection activity, the MOC study identified 17 key management processes associated with 3 functional areas of authorization management. The functional areas are:

(1) The issuance of change guidance.

(2) The documentation of changes.

(3) The use of the documentation.

c. The processes which change guidance, document the changes, and use the documents are listed in Table 1. Collectively, these processes form a continuum of interdependent activity summarized graphically in Figure 1. The figure depicts the linkages among the key authorization management processes and ADP systems, in relation to an MTOE or TDA unit, and depicts the Army system of authorization management. This system creates the authorization change environment which surrounds each MTOE and TDA unit. An update to the Basis of Issue Plan (BOIP) can generate updates in the military occupational specialty (MOS), equipment Supply Bulletin and TOE processes. All of the changes can impact a unit's authorization, requiring updates to its documents. These updates, in turn, affect the equipment distribution and personnel distribution systems.

d. The conditions which contribute to turbulence associated with the 17 formal authorization management processes involve the

Table 1. Key Authorization Management Processes

Functional category	Process
Issuance of change	Program and Budget Guidance (PBG)
	Force Accounting System (FAS)
	Basis of Issue Plan (BOIP)
	Commercial Item Introduction
	Equipment Supply Bulletin
	MOS Update
	TOE Change Cycle
Documentation of change	TAADS (at DA level)
	VTAADS (at MACOM level)
	ITAADS (at Installation level)
Uses of documentation	Personnel Structure and Composition System (PERSACS)
	Logistics Structure and Composition System (LOGSACS)
	Army Program for Individual Training (ARPRINT)
	Initial Issue Quantity/Authorized Acquisition Objective (IIQ/AAO)
	Personnel Requisitions
	Equipment Requisitions
	POMCUS TAADS

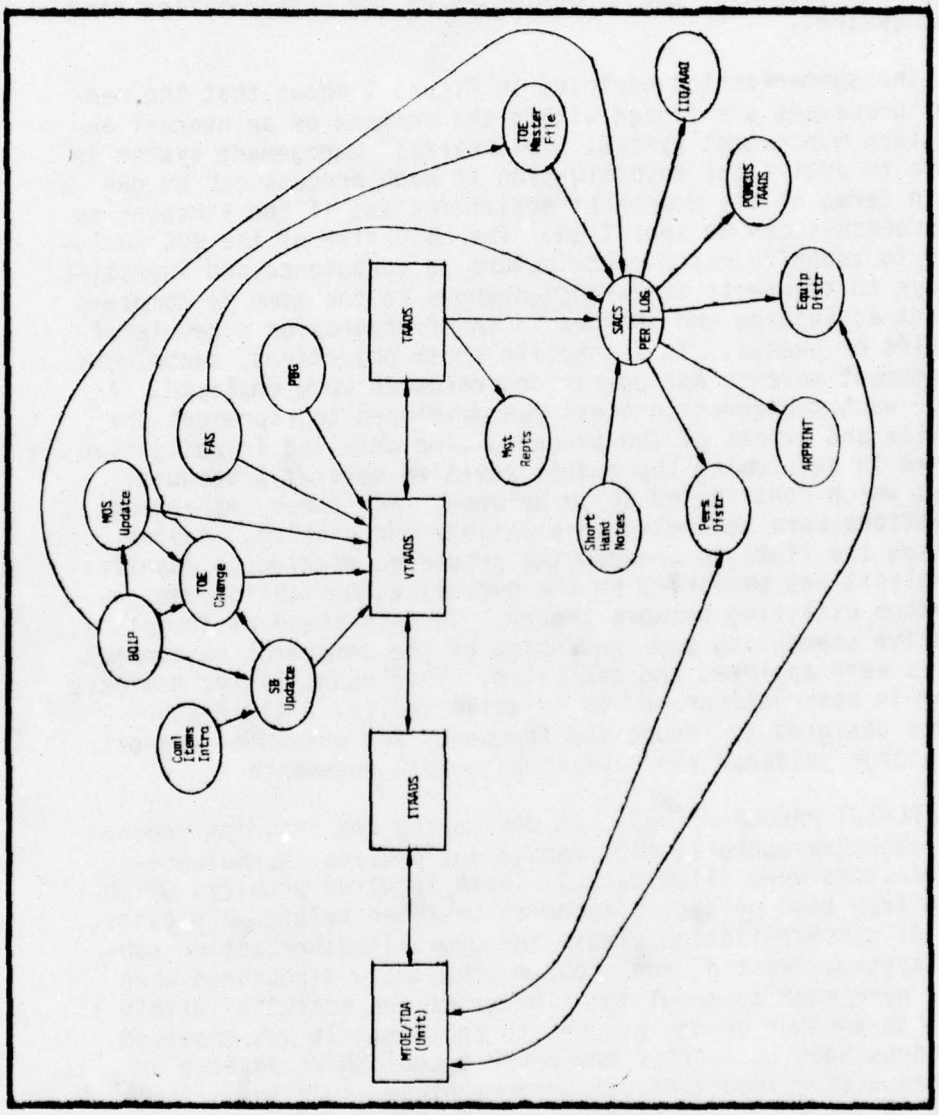

Figure 1. Authorization Management System

time duration to complete each process, the frequency with which each process occurs, and the schedules of those occurrences. Sequencing or scheduling problems can occur intraprocess (i.e., with the activities comprising a process) and interprocess (i.e., with the synchronization of the 17 processes of the authorization management system).

e. The summarization depicted in Figure 1 shows that the management processes are linked within the context of an overall authorization management system. This overall management system is amenable to analytical investigation if each process can be defined in terms of its component activities and if the linkages to other processes can be specified. The objective of the MOC analysis was to identify major contributors to turbulence and investigate ways to attenuate it through changes in the time to complete component activities and changes in the frequency or schedule of activities or events. To accomplish these objectives, techniques of management science and operations research were employed. A model of each management process was developed to represent the activities and events of the process. The detailed investigation performed in developing the models revealed several procedural problems which contributed to turbulence. For these, management prescriptions were nominated to alleviate the problem. Having identified the linkages between the processes modeled, a quantitative analysis was performed on the overall authorization management system utilizing network theory. In this phase of the study, alternative scheduling and sequencing of the component management processes were analyzed and evaluated. This quantitative analysis resulted in observations on the relative merits of alternate schedules designed to reduce the frequency and volume of authorization change guidance and revisions to unit documents.

4. MANAGEMENT PRESCRIPTIONS. In developing and refining the models of each key authorization management process, turbulence-causing factors were illuminated. These involved problems which resulted from time delays, disconnects between related processes, or lack of synchronization within the overall authorization management system. Most of the problem areas were discovered when attempts were made to model the linkage of one activity (within a process) to another or one process to another. It was observed that changes made to improve one process could have adverse or counterproductive impact on one or more other processes. Since inherent in the MOC study methodology was the ability to analyze authorization management processes in combination, prescriptive measures could be formulated to improve authorization management. The prescriptions transcend both processes and commands; the prescriptions are intended to enhance the efficiency of the activities within processes and interfaces with TAADS.

a. The appropriateness and utility of the management prescriptions contained in this report were verified through coordination with points of contact in authorization management at all levels of command. During the period of coordination, several prescriptions were implemented in the management process; others are being considered for implementation.

b. The complete set of management prescriptions is presented in Chapter 4. A summarization of a prescription is shown in Table 2. The Table indicates, in abbreviated form, the problem; its cause; the effect of the problem; the prescription; and its probable impact.

5. SCHEDULE ALTERNATIVES. The network models which describe the 17 key authorization management processes were translated for computer-assisted analysis. A special software package was then used to support a quantitative analysis of the overall management system incorporating the 17 processes. The analysis proceeded in an organized, progressive fashion from the current authorization management system through a series of alternative schedules designed to improve the synchronization of the individual processes. The nine separate schedules analyzed are discussed in Chapter 5.

a. Figure 2 indicates the schedule currently maintained for updating TAADS as a result of the guidance issued in the various processes. The TAADS updates are transmitted from the MACOM every month of the year to incorporate portions of the change guidance. Since each update makes a unit vulnerable to authorization document changes, the potential for documentation turbulence is high (12 time a year) especially for the TOE units.

b. Figure 3 presents an example of a documentation schedule derived for an alternative designed to limit the issuance and the documentation of authorization change guidance to twice a year. Updates to TAADS would occur in March and September. The units would be subject to change twice a year; the stability of the authorization documents would allow the personnel and equipment requisition systems to respond; and the scheduled updates would support DA programing functions. Details of this schedule are provided in Chapter 5, paragraph 5-7.

6. ESSENTIAL ELEMENTS OF ANALYSIS. The essential elements of analysis (EEA) specified in the tasking directive and associated responses generated by the MOC study are presented in the following paragraphs.

Table 2. Synchronization Problem Involving TDA Documentation

Problem: TRADOC required to increase TDA documentation			Impact of prescription
Cause	Effect	Prescription	
• Semiannual White book replaced by quarterly ARPRINT	• TRADOC required to submit revised TDAs more frequently based on quarterly ARPRINT	• Require TRADOC to submit TDAs only two times a year	• Prevents significant increase in TRADOC's TDA submission requirement

Note: For narrative description see Chapter 4, *paragraph* 4-4d.

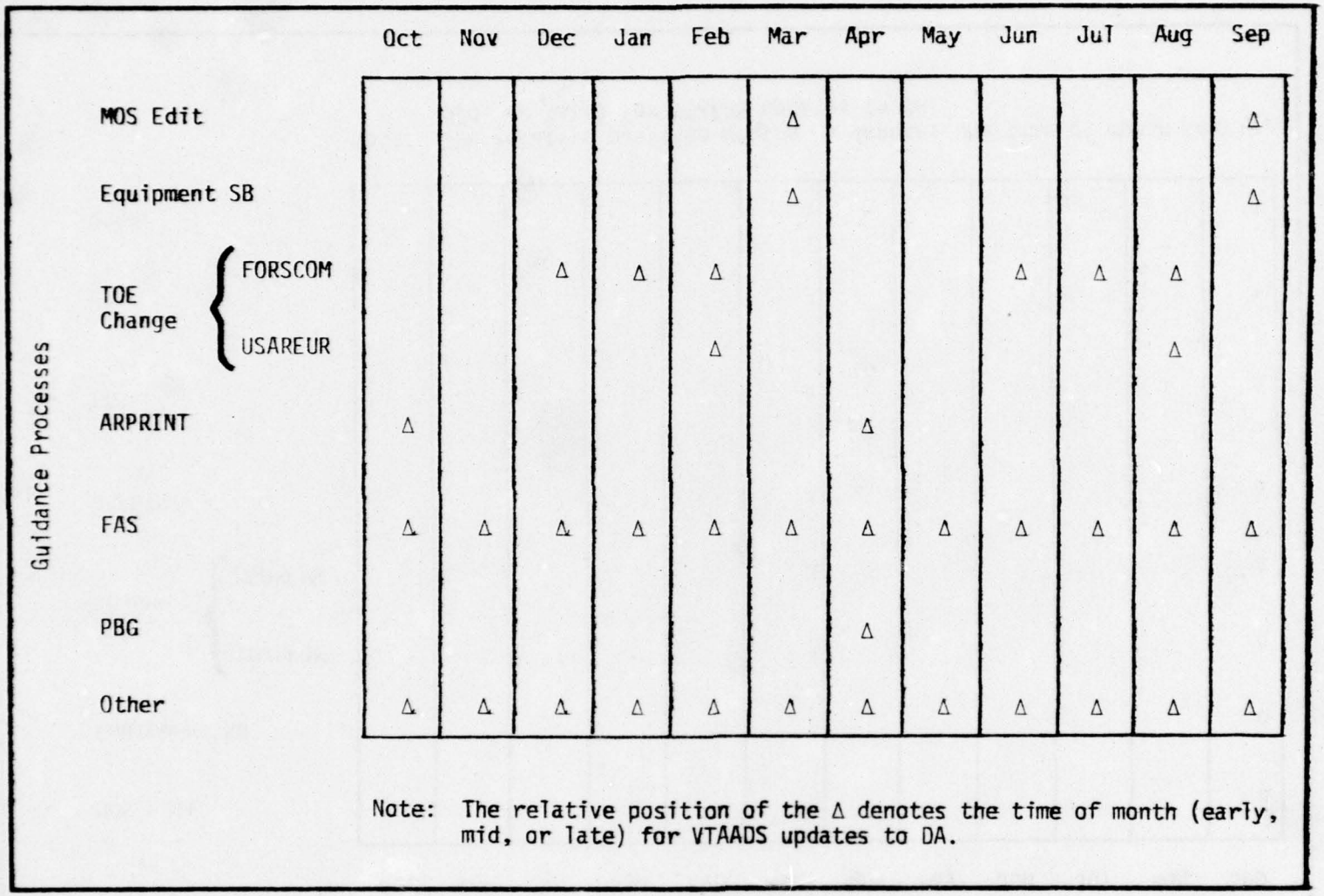

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Figure 2. Current Schedule for Documentation of Changes

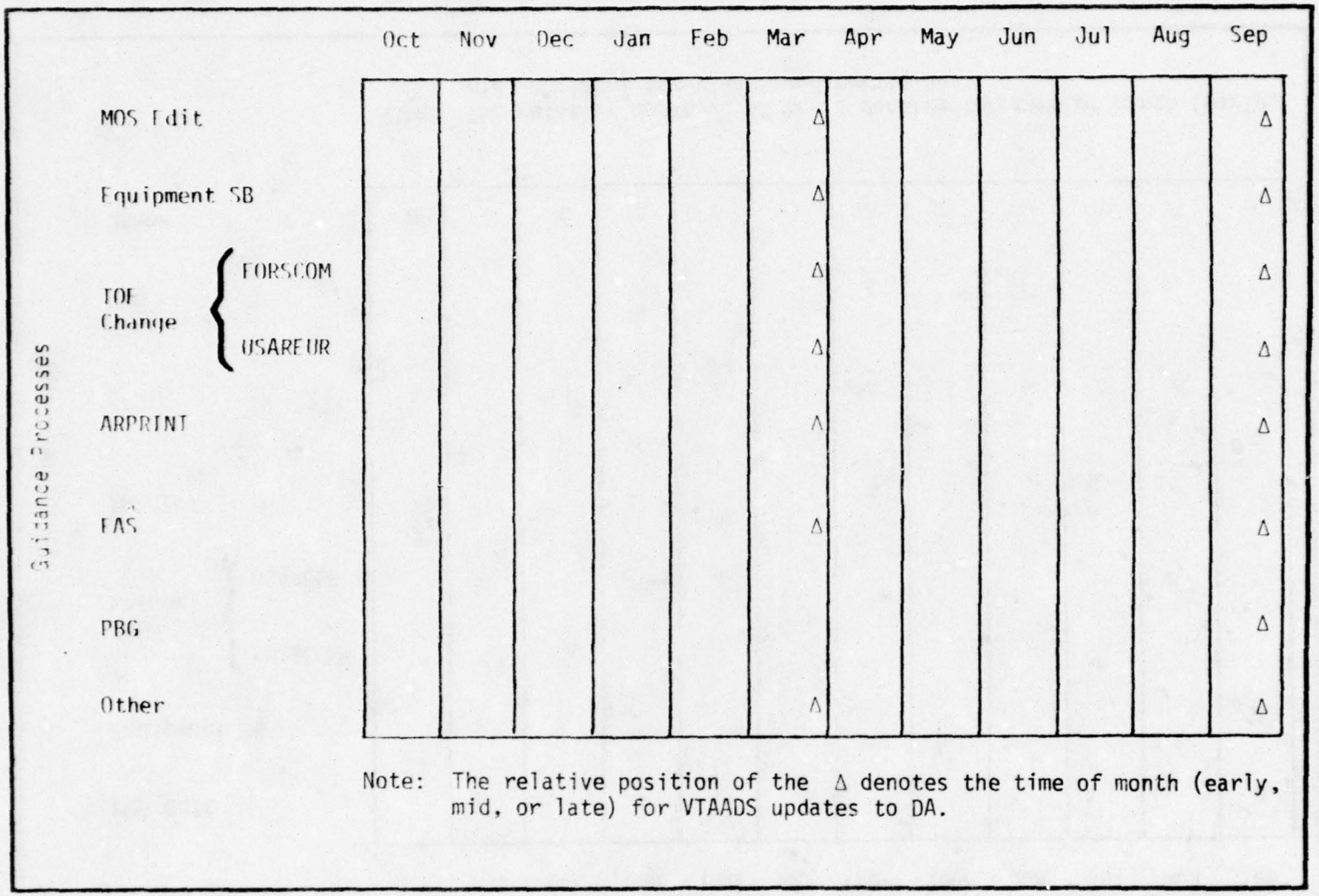

Figure 3. Alternate Schedule for Documentation of Changes

a. What types of authorization changes cause the most turbulence? Two generic types of authorization changes were observed to cause the most turbulence. The first type is authorization change guidance which conflicts with earlier guidance thereby generating additional administrative workload (primarily at MACOM-level) preparing revised authorization documents. An example is a TOE change (CCT) not including the latest equipment Supply Bulletin information. The second type is the frequency of revised documents for MTOE and TDA authorizations creating turbulence in the units through cancellations, corrections and revisions to personnel or equipment requisitions, and mismatches between skilled personnel and equipment authorized and on-hand. The latter example of turbulence directly impacts a unit's readiness condition.

b. Are there responses to authorization changes which can be modified to reduce turbulence (e.g., delayed, reduced or eliminated)? Yes. Some specific examples include: delaying the response to MOS, equipment SB and TOE change guidance in order to permit a single document revision for all three types of guidance; reducing the frequency of VTAADS submissions to a semiannual cycle, thus reducing the frequency of revised documents for the units; and eliminating a special H-530 equipment validation report prepared for, but not used by, FORSCOM. These and other examples are discussed in Chapter 4, Management Prescriptions, and Chapter 5, Scheduling Alternatives.

c. Can alternative information systems, e.g., VFDMIS, be effectively used to reduce turbulence? Alternative information systems can be used to improve the reports derived from information data bases. But, the turbulence does not appear to be caused by information systems. Rather, it is the volume, frequency and schedule of changes to the data contained in the information systems which cause turbulence. It would therefore appear that turbulence can best be controlled through disciplining the procedures for changing input data in the information systems.

7. OBSERVATIONS. The primary observations resulting from this study of the Army authorization management system are presented in the following material.

a. Army authorization management processes form a system which is amenable to analytical investigation. That system is comprised of individual management processes for which detailed representations (models) can be developed. The models can then be analyzed either singly or as interconnected processes using techniques of network theory.

b. The Army authorization management system contains 17 key management processes. These processes either provide guidance on authorization changes, document the changes, or use the documentation (see Table 1).

c. There are different characteristics of authorization turbulence which manifest themselves at the various command and functional levels. At the unit level, the turbulence is associated with implementing the revised documents through requisitions; at the MACOM and installation level, the turbulence is associated with applying the change guidance; at the DA level, the turbulence is associated with obtaining the most complete documentation for program development efforts; and at the personnel and equipment asset manager level, the turbulence is associated with obtaining timely information on current authorizations in the units.

d. The development of thorough and accurate models of the individual processes required the detailed investigation of the authorization management processes. The preparation of the models revealed three types of procedural problems which contribute to turbulence.

(1) Problems due to time delays.

(2) Problems due to disconnects among related processes.

(3) Problems due to the lack of synchronization among processes.

e. The use of network theory is a powerful quantitative device for analyzing the schedule of management processes and improving the synchronization among these processes.

(1) The current schedule for authorization management processes can be modified to reduce the frequency of changes, to synchronize better the interactions and to reduce the turbulence.

(2) The processes of the authorization management system can be limited to a schedule whereby change guidance is issued once a year, documentation of the guidance is required once a year, and unit documents change only once a year. While such a system can be shown analytically to be possible, operational problems of such limitations on change may occur.

(3) Other alternative schedules of management processes can be synchronized to an update of TAADS twice a year (March and September). These schedules, as analyzed in this study, appear to offer three advantages:

(a) The authorization documents remain relatively stable, reducing the frequency of changes to the units and allowing the requisitioning processes to work.

(b) The issuance of guidance can be scheduled to provide sufficient time for updating documents.

(c) The update schedule for authorization documents can be synchronized to support force, personnel, and equipment policy decision milestones at DA.

f. The MOC network diagrams provide HQDA a unique mechanism by which to address the objectives and workflows of the authorization management process and the overall system that results from those processes. The prescriptions and alternative schedules nominated in this study use the diagrams to identify actions for reducing turbulence generated within the official authorization management system. However, the prescriptions and alternatives cannot control the "one time" guidance which contributes to much of the turbulence. Complying with the "one-time" change guidance currently requires about 30% of the MACOM time devoted to documenting changes. A disciplined DA control mechanism for coordinating and approving the release schedule and subsequent documentation feedback for <u>all</u> authorization change guidance could reduce turbulence further.

CONTENTS

FIGURES

TABLES

MANAGEMENT OF CHANGE

CHAPTER 1
INTRODUCTION

1-1. BACKGROUND. The Management of Change (MOC) Study addresses the Army management processes associated with authorization changes. Changes occurring in authorization documents (e.g., a military occupational specialty (MOS) grade change; or change in the quantity of an item of equipment) require that resources be committed to implement the changes in the affected Army units. Of particular concern to commanders is the frequency of the changes since responding to the change guidance can result in resources (personnel, dollar or materiel) being diverted from mission essential activities. The US Army Concepts Analysis Agency (CAA) was tasked to identify ways of reducing the frequency of unit authorization changes, improving the assimilation of changes at all levels, and synchronizing the documentation of changes to support essential Department of the Army (DA) information requirements. The term "authorization change" refers to any action which requires a change to the nomenclature, type or quantity of personnel and/or equipment in an Army unit. The Army has a number of formal functional processes and informal procedures for disseminating authorization change guidance, a central process for documenting the changes, and functional processes which use the authorization information contained in the central documentation system.

a. Documentation System. The single system for recording all authorization changes is The Army Authorization Documents System (TAADS). TAADS, an information system, is defined in AR 310-49 as the Army wide system designed to centralize control of personnel and equipment both required and authorized to Active Army and Reserve Component units. Authorization changes are not directed in TAADS; direction comes from Army management processes which generate change guidance. Rather, TAADS provides detailed information on how the changes are implemented in some 7,500 units identified in the system.

(1) TAADS includes information on the quantity and type of personnel and equipment that is both required and authorized in Army units. For a Table of Organization and Equipment (TOE) unit, the required level of personnel or equipment refers to the quantity and type deemed doctrinally essential for the unit to perform its combat mission; the required level for a Table of Distribution and Allowances (TDA) unit refers to the quantity and type of personnel or equipment required for the unit to perform its support mission. The authorized level of personnel or equipment is that

quantity and type needed for peacetime operations of the unit. An authorization change, then, is any change in personnel or equipment either required or authorized for a unit. Throughout the report the terms "authorization change" and "authorization" will be used generically to refer to changes in TAADS regardless of whether it is a change to the authorized or required entries.

(2) The quantity of information contained and maintained in TAADS is immense. A few examples include:

(a) Data on every personnel space--civilian and military, Active and Reserve--is included to MOS, job series, and grade level of detail. Currently, data exists on approximately 1.7 million spaces.

(b) Data on every major item of equipment is included resulting in some 38,000 different Line Item Number (LIN) entries.

(c) Each space and LIN in TAADS is contained within a paragraph of a particular unit identified by both a Unit Identification Code (UIC) and a fiscal Army Management Structure Code (AMSC).

(3) In addition to the current required and authorized information, detailed future personnel and equipment requirements for the unit are included in TAADS through the use of effective dates (EDATES). Most units have more than one organizational structure documented in TAADS. There is a current document, perhaps another document to be effective later in the fiscal year, and a document effective for the next fiscal year.

(4) Since TAADS is the official source of all this detailed information, it serves as a data bank for a wide variety of uses:

(a) Individual units use the authorization information as the basis for requisitioning and as a baseline requirement for readiness reporting.

(b) The major Army command (MACOM) staffs and intermediate level personnel and equipment managers use the authorization information to initiate and/or validate requisitions.

(c) The DA staff uses the TAADS data in conjunction with other systems to forecast detailed equipment, recruiting and training program requirements.

(5) Even though approximately 90% of the authorization changes documented in TAADS are a result of DA policy decisions,

virtually all of the changes enter TAADS through MACOM input. Vertical TAADS (VTAADS) is the extension of the DA system to MACOM level and provides the MACOM the ability to input changes to TAADS. The MACOMs develop an implementation plan on authorization changes and submit the plan as their latest VTAADS input to update the DA TAADS. The preparation of the update can be difficult and time consuming for the field if an authorization change requires selecting from among various possibilities. This difficulty is compounded when additional change guidance arrives in the field before documentation action is completed on earlier guidance.

b. The Problem. The frequency and volume of authorization changes--requiring documentation, modification or generation of alternatives in TAADS, compliance and implementation by field units, revision of personnel and equipment validation reports, and adjustments to the recruiting, training and equipment programs--creates an inordinate workload Army-wide. The work involved and the conditions under which it is accomplished can be characterized as turbulent and, in many cases, unnecessary. Because resources involved in preparing responses to authorization changes may be employed unnecessarily, the resources are diverted from other mission essential activities. This problem of authorization management received the attention of the Army Staff and resulted in a Chief of Staff Memorandum (CSM) which led to the Management of Change study.

c. Study Concept. CSM 75-5-90, subject: Management of Change (MOC) Study, was published on 1 December 1975, In that CSM, the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) was directed to conduct a review and analysis of the application of authorization changes down to battalion level. The study was to be an integrated DA staff effort, with field participation, monitored by the Program Optimization and Budget Evaluation (PROBE) Steering Committee.*

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*The PROBE Steering Committee is a continuing committee of the Army staff, chaired by the Director of Program Analysis and Evaluation and established by CSR 15-25 Subject: BOARDS, COMMISSIONS and COMMITTEES: Program Optimization and Budget Evaluation Steering Committee, dated 10 March 1975. As an advisory body for the MOC study, the PROBE Steering Committee was augmented by representatives from MILPERCEN, DARCOM, TRADOC and FORSCOM.

(1) As stated in the CSM, the purpose of the study was to provide:

"...for the conduct of a comprehensive study to determine the type, magnitude, and frequency of changes that are required and captured in The Army Authorization Documents System (TAADS) to assure that the application of changes are manageable from unit (battalion) level to HQDA."

(2) The Assistant Deputy Chief of Staff for Operations and Plans (ADCSOPS), being responsible for compliance with the CSM, requested that CAA support this Chief of Staff-directed study through the analysis of Army management systems relating to authorization changes.

1-2. PURPOSE. The purpose of this CAA study on the Management of Change is to: analyze Army management systems for promulgating authorization change, and to prescribe systematic measures to facilitate the assimilation of change at HQDA, MACOM, and subordinate commands. This study places analytical emphasis on the causes of authorization changes and the formulation of alternatives to remedy the current difficulties in responding to changes in authorization documents.

1-3. OBJECTIVE. Descriptions of the four study objectives specified in the tasking directive are summarized below along with an overview of how each was attained.

a. Review Authorization Management Processes. Attaining the first objective required identifying and analyzing the Army management processes involved in authorization changes. A research and data collection effort included reviewing not only the management processes which generate and transmit authorization change guidance, but also those which use and therefore require the documentation of authorization changes.

b. Identify Information Flows. Completion of this objective required detailed review of applicable Army Regulations (ARs) and other documents as well as discussions with knowledgeable staff members at DA, MACOM and unit level to ascertain the interactions within, between and among the various management processes. These activities resulted in a series of original descriptive models, representing the activity workflows in each of the management processes.

c. Analyze the Processes. This third objective required the collection of quantitative data on the management processes. The data was used as input to the models developed in the previous

task and supported a rigorous quantitative analysis using a methodology based on network theory.

d. Prescribe Alternative Measures. The final objective required the nomination of alternative measures to facilitate the assimilation of authorization changes. The alternatives were based on results of attaining each of the preceding objectives. Two types of alternatives have been generated: prescriptions pertaining to authorization management procedures and alternatives pertaining to authorization management schedules.

1-4. SCOPE. The MOC Study consists principally of an analysis of DA and MACOM policies, regulations, projects, programs, automated systems, and procedures involved with authorization changes. This involvement can be either in generating authorization change, documenting authorization change, or using the authorization data. Within this domain of authorization management, the MOC study addresses the volume, frequency and nature of actions causing change and turbulence.

1-5. ASSUMPTIONS. The following two assumptions were established in the tasking directive for this study:

a. On Administrative Staffs. Administrative staffs will not be augmented with additional personnel to process authorization changes. The import of this assumption is that the MOC study is constrained to prescriptions which can be implemented without the need for additional personnel.

b. On Priority of Changes. All authorization changes do not require the same priority of compliance. This assumption relates to how quickly changes have to be entered into TAADS by the field and provides the latitude to consider alternate schedules and sequences of events.

1-6. ESSENTIAL ELEMENTS OF ANALYSIS (EEA). The tasking directive specified three essential elements of analysis which require the identification of difficulties with the current systems, the proposal of modifications, and an assessment of alternative informatin systems.

a. What types of authorization changes cause the most turbulence?

b. Are there responses to authorization changes which can be modified to reduce turbulence (e.g., delayed, reduced or eliminated)?

c. Can alternative information systems be effectively used to reduce turbulence?

The causes of turbulence are identified through the analysis of the authorization environment; critical problems and procedural modifications to remedy them, are analyzed; and alternative systems such as TAADS at installation level are discussed.

1-7. CONTENTS OF THE REPORT. The following chapters, supported by technical appendices, present the results of this management study. Chapter 2 contains a discussion of the current environment created by the Army's authorization management processes. The methodology formulated to analyze the authorization environment and change problems is the subject of Chapter 3. Based on application of the methodology, Chapter 4 documents prescriptions nominated to improve procedures and Chapter 5 presents alternative schedules to reduce the characteristics of turbulence observed in the authorization management environment. The final chapter of this report presents the major observations pertaining to the Army authorization environment.

CHAPTER 2
AUTHORIZATION CHANGE ENVIRONMENT

2-1. INTRODUCTION. Every unit in the Army is defined by and organized under a document which shows its personnel and equipment requirements and authorizations. The most prevalent of these documents are called Modification Tables of Organization and Equipment (MTOE) for combat oriented units and Tables of Distribution and Allowances (TDA) for noncombat oriented units. There are also Joint Tables of Distribution and Allowance (JTDA) applied to Army organizations involved in joint activities. The MTOE and TDA are used in planning, programing, budgeting, requisitioning, training, and distributing personnel and equipment; the MTOE are also used as the basis for reporting unit readiness. Since there are about 14,000 MTOE and TDA units in the Army, a mechanism was necessary to maintain the unit authorization documents and control their changes. Consequently, The Army Authorization Documents System (TAADS) was established as an automated capability for developing and documenting organizational structures, requirements, and authorizations of personnel and equipment necessary to support the assigned missions of Army units.*

a. TAADS. TAADS is an Army-wide multicommand standard automatic data processing (ADP) system designed to centralize the control of personnel and equipment required by and authorized to Active Army and Reserve Component units and activities. Authorization documents for all MTOE and TDA units are maintained through the TAADS ADP system.

b. TAADS Data. Data banks for TAADS exist at HQDA and at each designated major Army command (MACOM) headquarters; the data are maintained in a current status through DA directives and MACOM approved modifications. Once modifications are made and data files within the banks are updated, Army resource managers can access the latest information available through the use of TAADS.

c. TAADS Input and Management of Change. The frequency and volume of the changes to TAADS data led to the Management of Change (MOC) Study. Authorization documents require modification for a myriad of reasons including: changes in force plans, structure, or guidance; changes in resources; availability of new equipment; changes in a military occupational specialty (MOS); MACOM

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*AR 310-49, Change 1, "The Army Authorization Documents System (TAADS)," 7 Nov 75.

and subordinate unit initiatives; and correction of errors. Fundamentally a passive, facilitating system, TAADS does not make or initiate change. Rather changes are incorporated, documented, and reported through the capabilities provided by TAADS. Changes to TAADS data occur because management systems and Army functional processes which interface with and through TAADS direct a change to occur. The remainder of this chapter contains descriptions of these interfacing systems and processes; how authorization changes are directed, implemented, and used; and how TAADS and its adjuncts act in concert to create an authorization change environment. Unless otherwise noted in the following material, the term TAADS is used to denote collectively and generically the ADP system and data banks which are instrumental in authorization change management.

2-2. AUTHORIZATION MANAGEMENT SYSTEM. TAADS plays a central role in the overall authorization management system. There are a number of other systems (or more properly, sub-systems) which interface with TAADS, either to direct changes or receive data, which collectively comprise the authorization management system. These systems can be viewed as parts of functional processes acting as the mechanisms which cause changes to occur in MTOE and TDA units. As previously noted, the MTOE and TDA documented in TAADS are the official authorization documents for all Army units. When changes are entered in TAADS, the units are affected since the authorization documents in TAADS are the basis for requisitioning personnel and equipment, and for MTOE readiness reporting. This is the genesis of turbulence imposed on the units. The components of this overall system are discussed below.

a. Each time a unit's authorization document changes, the unit is forced to react--if it is to comply with its governing document. The more changes there are to TAADS documents, the more work is required of the units to post the changes, requisition equipment, requisition personnel, cancel other requisitions, adjust training plans, or do whatever else is necessary to adhere to their respective authorization documents and accomplish their mission. Significantly, the speed with which the ADP system, TAADS, reports change has both beneficial and disadvantageous effects: since authorization documents can be updated quickly, TAADS offers substantial responsiveness and flexibility to Army planners, programers, and budgeters; that same speed in updating can create difficulties for units trying to keep up with rapid and frequent changes in their authorizations.

b. The environment at unit level resulting from TAADS changes can be turbulent. The management systems updating TAADS, if not coordinated, can cause a unit's authorization to be changed

several times in conflicting and confounding manners. For example, in TAADS a unit can be authorized a new weapons system but not the people for it; consequently, the unit may requisition and acquire the newly authorized weapon and at the same time an earlier personnel requisition is filled by soldiers trained for the no longer authorized weapon. Only when TAADS authorizes the personnel for the weapons system can they be requested. Such conditions as this are turbulent and chaotic. Analytically, an understanding of the Army functional management processes by which changes in TAADS occur is a first step in attenuating the problem. In the following paragraphs, the management systems which interface with TAADS and contribute to change are discussed in the context of the authorization change environment.

2-3. KEY AUTHORIZATION MANAGEMENT PROCESSES. Many authorization management processes interface with TAADS--usually through the Army functional management systems with which they are associated. MOC research and data collection activities at DA, MACOM, and unit level indicate that there are seventeen key processes which are intrinsic to authorization change management. These key processes include the various functional means for initiating and issuing change guidance; the TAADS process for recording and approving the implementation of the changes; and the processes which use the information for program development and distribution. Table 2-1 lists the key authorization management processes in three functional groupings:

- Processes which provide guidance for making changes.
- Processes which document the changes.
- Processes which make use of the documentation.

a. Description of the Processes. All of the management processes are required to operate within the overall umbrella of the Army Planning, Programing, and Budgeting System (PPBS). Quantitative resource ceilings are established at the completion of one PPBS cycle which become the guidance for documentation to support prescribed actions in the next cycle. The PPBS cycle does not interface directly with TAADS, but it serves as the governing time constraint for scheduling and sequencing of the seventeen authorization processes. The following subparagraphs describe each process. Detailed descriptions of the workflows of the processes analyzed in this study are included in Appendix D.*

*The PBG, FAS, TAADS, and VTAADS processes are consolidated in Appendix D, Annex VIII, TAADS Documentation.

Table 2-1. Key Authorization Management Processes

Functional category	Process
Issuance of change	Program and Budget Guidance (PBG)
	Force Accounting System (FAS)
	Basis of Issue Plan (BOIP)
	Commercial Item Introduction
	Equipment Supply Bulletin
	MOS Update
	TOE Change Cycle
Documentation of change	TAADS (at DA level)
	VTAADS (at MACOM level)
	ITAADS (at Installation level)
Uses of documentation	Personnel Structure and Composition System (PERSACS)
	Logistics Structure and Composition System (LOGSACS)
	Army Program for Individual Training (ARPRINT)
	Initial Issue Quantity/Authorized Acquisition Objective (IIQ/AAO)
	Personnel Requisitions
	Equipment Requisitions
	POMCUS TAADS

(1) Issuance of Change Guidance. There are seven processes which provide guidance and direction to changes in authorization documents.

(a) Program and Budget Guidance (PBG). This is the process employed by the Army for providing resource constraint guidance to individual MACOMs. Three PBGs are issued: one in May based on the Program Objective Memorandum (POM), one in October based on the Army budget, and one in January based on the President's budget.

(b) Force Accounting System (FAS). This system provides monthly force structure and manpower guidance to the field. Formal monthly updates of the automated file by MACOMs keep the information current. The FAS information guidance, in the form of force structure changes, is used in revising the authorization documents.

(c) Basis of Issue Plan (BOIP). The BOIP serves as a plan for introducing new major items of equipment into the Army inventory. The guidance from the BOIP is reflected in TAADS directly as revisions to TDA authorization documents and indirectly through the Supply Bulletin and TOE change processes for MTOE.

(d) Commercial Item Introduction. Commercial items are approved, type classified, and introduced into the Army inventory through this process.

(e) Supply Bulletin Update (SB). Supply Bulletin 700-20 contains semiannual guidance for adding, deleting, or redesignating line item numbers (LINs) for major items of equipment. The SB process requires TAADS documents be updated twice a year.

(f) MOS Update. Military occupational specialty (MOS) information is issued twice yearly to revise or add new MOS job titles, allocations, descriptions, and grades to authorization documents.

(g) TOE Change Process. This guidance for structuring new TOEs and modifying existing ones is published semiannually. The Consolidated Change Table (CCT) documents provide doctrinal unit structuring guidance to accommodate equipment, personnel, and force structure changes to the TOE. The sum of all the TOE and TOE changes constitutes the TOE master file.

(2) Documentation of Change. All Army unit authorizations are documented in TAADS as MTOE or TDA. There are, however, three systems in which changes to these documents occur.

(a) TAADS. This is the automated system at HQDA.

(b) VTAADS. Vertical TAADS (VTAADS) is a term applied to automated systems at MACOMs which are counterparts to TAADS. VTAADS facilitates the development and submission of TAADS documents.

(c) ITAADS. Installation TAADS (ITAADS) is a term applied to the automated systems now being introduced at installation level which are counterparts to TAADS.

(3) Uses of Documentation. Seven key management processes use the documentation reported in TAADS to plan for and manage Army resources.

(a) PERSACS. The Personnel Structure and Composition System (PERSACS) process combines force structure guidance in the FAS with the detailed personnel information in TAADS (or by default, information in the TOE master file) for projecting current and future personnel requirements.

(b) LOGSACS. The force structure guidance in the FAS is combined with the detailed equipment information in TAADS (or by default, information in the TOE master file), BOIP, and other DA notes to generate the Logistics Structure and Composition System (LOGSACS). LOGSACS is used for projecting current and future materiel requirements.

(c) Training Program Development . The process previously called the White Book, now the Army Program for Individual Training (ARPRINT), generates the Army training program. Personnel authorization data in TAADS is a primary input to the development of the ARPRINT.

(d) IIQ/AAO. The determination of an initial issue quantity (IIQ) of materiel refers to the process of calculating the number of new items designated for distribution to units. The IIQ process is a subset of the Authorized Acquisition Objective (AAO) process which establishes the total quantitative requirement of materiel to be obtained by the Army. The nature of the interrelationship between the IIQ and the AAO processes makes it convenient to consider them together for analytic purposes.

(e) Personnel Requisition. The procedures for requisitioning, verifying, and filling personnel requests depend heavily on personnel authorization data in TAADS.

(f) Equipment Requisition. The procedures for requisitioning, verifying, and filling the Army equipment authorizations require TAADS as a primary data source.

(g) POMCUS TAADS. The POMCUS TAADS process identifies equipment authorized for forward deployment in Europe so that this materiel can be intensely managed. TAADS is the basic system from which POMCUS TAADS data is derived.

b. Interrelationship of Process. The three functional groupings employed in paragraph a. above and the seventeen key authorization management processes which comprise them are not separate and distinct but highly interactive. The processes which guide change activate the processes which document change; the resultant documentation is used by a process which leads to the promulgation of refined guidance. The seventeen processes span a number of functional management systems (such as personnel management), many of which are supported or facilitated by computer-based management information systems (MIS) and associated data banks. A continuum of functional processes may be represented, as in Figure 2-1, by a circular arrangement with each component dependent on the other two. To provide a broader appreciation of how the three functional processes contribute to the authorization change environment, each will be addressed separately.

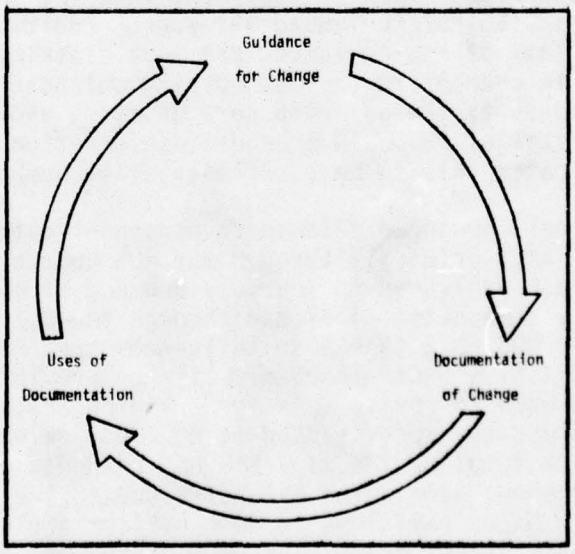

Figure 2-1. Authorization Management Continuum

2-4. PROCESSES WHICH GUIDE CHANGE. The frequency with which change guidance is received and documented at MACOM level contributes directly to an atmosphere of turbulence at the unit level. The average unit in the Army had 6 documents effective for FY 76. In addition to the seven key management processes for providing change guidance identified in paragraph 2-3a(1), informal processes impose authorization change guidance at MACOM level--adding to the documentation requirements of the formal change guidance and contributing to the turbulence of the unit. The turbulence is caused by the frequent and often counterproductive changes to the unit's authorization document. The following subparagraphs discuss the interrelationships between the processes and volume of change inherent in the various guidance; the impact in the field depends upon how many units are effected by each particular change (e.g. a new truck may be authorized to 10 or 100 different units).

a. Formal Change Processes. The key processes for guiding change relate to logistics, personnel, doctrine and force structure. The following comments address these topics separately.

(1) Logistics. Logistics related changes are directed through the equipment SB, BOIP, and commercial item processes. Both the BOIP and commercial items guidance update TAADS through the semiannual SB update. The SB updates TAADS directly two times a year and indirectly twice more through the Consolidated Change Table (CCT) updates. BOIP are developed as part of equipment life cycle management. The BOIP specifically describes what units, by type, will be authorized items of equipment entering the Army inventory. About 120 BOIPs are issued per year. Additionally, an average of 400 items of new equipment are type classified annually, resulting in changes to the SB. During calendar year 1975, 1345 LINs were added to the SB, 3065 were deleted, and 886 were modified for a total of 5296 LIN changes. Information sampled during 1976 indicates this to be a representative number.

(2) Personnel. Changes related to personnel guidance are introduced into TAADS primarily through the MOS update process. The MOS changes are published in February and August and enter TAADS directly (via magnetic tape) and through the CCT process (as did the SB). The MOS edit tape also influences the ARPRINT publications. The ARPRINT affects TAADS directly by providing training load information used to revise TDAs for training installations. In 1975, the MOS update process added 16 new MOS, deleted 35, and revised 137, for a total of 188 separate MOS changes. In calendar year 1976, MOS changes were quite extensive due to the implementation of one-time, major revisions in both officer and enlisted MOS designations (Revised Officer MOS System (ROMOSS) and Enlisted Personnel Management System (EPMS)).

(3) Doctrine. Doctrinal guidance is reflected in TAADS by publication of the CCT. The CCT is published semiannually to disseminate like and concurrent changes applicable to a multiple number of TOE; subsequently, MTOE must be revised to reflect the changes in the base TOE. There are approximately 1100 type TOE; and 5360 MTOE in VTAADS. In total, the March and September 1976 CCT provided change guidance for 1217 TOE (some TOE changed in March and again in September) and 49,000 lines within those TOE. The actual number of lines that changed in MTOEs would be a function of 49,000 TOE line changes and the appropriate mix of the 5,360 MTOE.

(4) Force Structure. Force structure guidance is implemented in the Army command plan or troop list which is maintained in an up-to-date status in the FAS. FAS is updated by the MACOMs on a monthly basis, resulting in changes to authorization documents.

b. Interrelationship of Change Processes. As indicated in the preceding discussion, the formal processes which provide guidance for changing authorization documents are interrelated. One process can have a direct and immediate influence on TAADS data and also impact other processes which interface TAADS. The relationships between the formal guidance processes are illustrated in Figure 2-2.

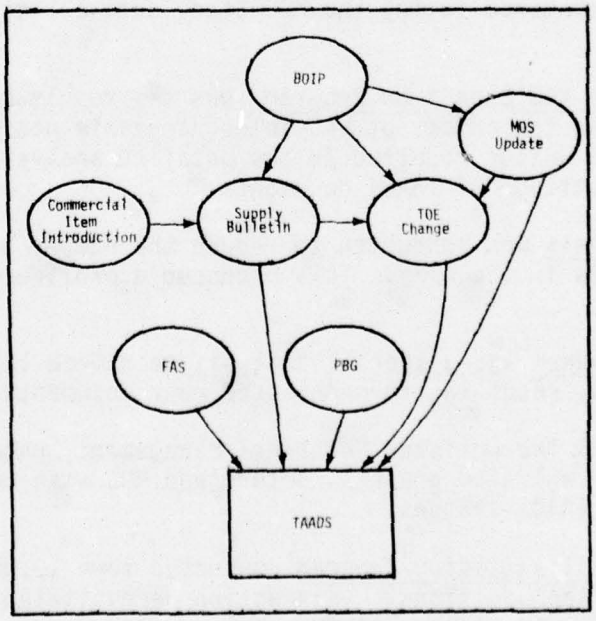

Figure 2-2. Formal Guidance Processes for Authorization Document Changes

c. Informal Change Processes. In addition to the impact at unit level in responding to the multitude of changes resulting from formal processes, turbulence is amplified by the existence of another more informal means of directing change. The informal channel for change guidance consists of the uncontrolled flow of messages, letters, and directives from HQDA with a "one-time" change to TAADS. Also considered informal in nature are the command and unit initiated changes that reflect the modification of personnel or equipment authorizations to meet the desires or needs of the MACOM or local commanders.

(1) Based on data collection activities in the study, it is estimated that the changes resulting from these informal processes amount to approximately 30% of all annual TAADS changes. Of this 30%, some 75 to 80% is directed from HQDA level. About 8% of the annual TAADS changes are command initiated. An additional source of turbulence occurs when an item of equipment is "force-issued," i.e., directed by a higher authority for use in a unit which had not requisitioned it. This action then takes place on an exception basis and does not allow the unit the normal preparation time to modify their authorization documents prior to receipt of the equipment.

(2) The informal requirements for authorization changes are frequently the result of Army management or policy changes. The following list reflects the examples of special requirements most frequently encountered during the MOC Study data collection activities.

(a) The WAC Expansion Program was the result of a decision to increase the number of WAC interchangeable positions in the Army. This action resulted in the detailed analysis and change of a multitude of TAADS documents.

(b) Wheels was conducted to reduce the number of tactical wheeled vehicles in the Army. This produced a proliferation of MTOE changes.

(c) SPANNER was a special analysis to reduce the number of tactical radios, resulting in changes to many documents.

(d) EPMS The Enlisted Personnel Management System, was a reevaluation of enlisted grade structure and MOS with corresponding widespread TAADS changes.

(e) Civilianization Program converted some 10,000 enlisted spaces to civilian positions. This action necessitated one-for-one TAADS changes for each revised space.

2-5. DOCUMENTATION OF CHANGE. TAADS is the central authorization management process for the Army. This automated system reflects how the field incorporates virtually every decision concerning personnel and equipment into the authorization documents, either MTOE or TDA. The TAADS data support the personnel and equipment asset managers, the budget program developers, and the force planners. As indicated in the earlier discussion of documentation, TAADS is known by a slightly different name at each command level. Only at DA is the automated system called TAADS. At MACOM level the operational counterpart is VTAADS, and at installation level the identifier is ITAADS. Figure 2-3 indicates the communicative and supportive relationships of the three levels of ADP systems for authorization management.

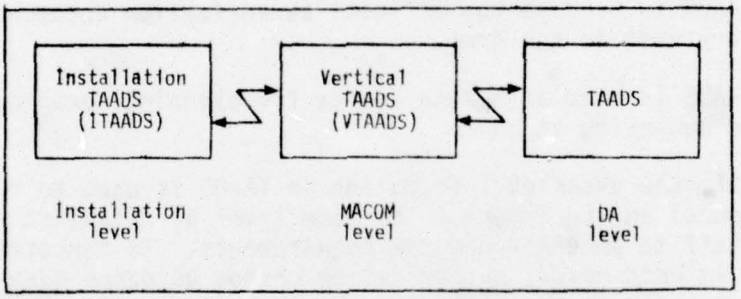

Figure 2-3. Authorization Documents ADP Systems

a. Frequency of Documentation. TAADS is an automated data system that contains the basic authorization document for every unit in the Army. The actual document is either an MTOE or TDA, depending on the mission of the organization. With the advent of VTAADS the MACOMs were provided with an automated information system which could be very responsive in transferring information to DA on the implementation of authorization changes and from DA on the approval of proposed changes. VTAADS is providing monthly updates to DA TAADS for the four MACOMs visited in the study (DARCOM, FORSCOM, TRADOC, and USAREUR).

(1) The very rapid data transfer capability, characteristic of the systems, contributed to two authorization management problems. First, the frequency of authorization changes translates to a documentation workload problem at the MACOM level where personnel may be unable to respond to the formal guidance processes. This is complicated by periodic bursts of one-time, special actions which routinely require the MACOM to forego working on the formal changes. Second, the frequency of the documentation of formal and informal changes translates into a workload problem at the implementation end of the TAADS spectrum--the unit--where

personnel may be unable to respond to the frequent authorization changes.

(2) Since the inception of TAADS, improvement efforts have been aimed at producing a system capable of recording and transmitting authorization changes on a rapid basis. However, it is now recognized that the very frequency and volume of change made possible through the use of TAADS has aggravated the turbulence at unit level. The frequency and proliferation of changes in TAADS indicated above made it difficult for the field to generate timely, quality documents to support the needs of DA.

b. Role of TAADS. The information in TAADS is used in two capacities:

(1) TAADS is used as the official authorization document for every unit in the Army.

(2) TAADS is used as a data source for planning, programing, and budgeting at HQDA.

At unit level, the detailed information in TAADS is used to requisition personnel and equipment. The same level of detail is used by the DA staff to generate program requirements. To function effectively in both roles, authorization change guidance must be promulgated rapidly to the field and the changes in unit documentation must be reported quickly to DA and MACOMs. In addition to providing individual units with the authority to submit personnel and equipment requisitions, TAADS information is also disseminated to the various organizations responsible for validating and filling requisitions. Therefore, TAADS serves the Army personnel and equipment managers as a data base for preparing authorization validation reports. TAADS is also used by HQDA as a management information system to assist in forecasting detailed manpower and equipment program requirements. This is accomplished by combining data in TAADS and FAS to produce the logistics and personnel Structure and Composition System (SACS) data files. The PERSACS is used to develop the Army's training and recruiting programs. The LOGSACS is used in the development of the equipment program by projecting the IIQ for new materiel; the IIQ is then analyzed and modified to provide input for the development of the AAO.

c. Management of Change. The observation on the dual role of TAADS highlights a problem with regard to how quickly authorization changes should be documented in TAADS. Changes should be documented rapidly in order to provide feedback on force, personnel, and equipment policy decisions; this can involve frequent changes to the documents. Yet, it is equally important that authorization

documents be sufficiently stable to permit the requisitioning processes to work. Thus, the management of change becomes an important consideration.

2-6. USE OF DOCUMENTATION. The detailed information in TAADS is essential for Army resource planning and management at all echelons. The TAADS data is used for planning, programing, budgeting, procuring, training, and distributing personnel and equipment, and is a basis for reporting MTOE unit readiness. These uses of TAADS are outlined in AR 310-49; this paragraph addresses the processes that use TAADS documentation. The processes using TAADS (see Table 2-1) are the PERSACS, LOGSACS, Training Program, IIQ/AAO, POMCUS TAADS, personnel requisition and equipment requisition processes. Figure 2-4 displays how the TAADS information supports each of these processes through the SACS. Note that several of the processes which provide change guidance also are input to the SACS processes; this is indicative of the interrelationships among processes within authorization management. The only additional input to SACS are short hand notes (SHN); SHN are a technique for entering adjustments without repeating the entire SACS process.

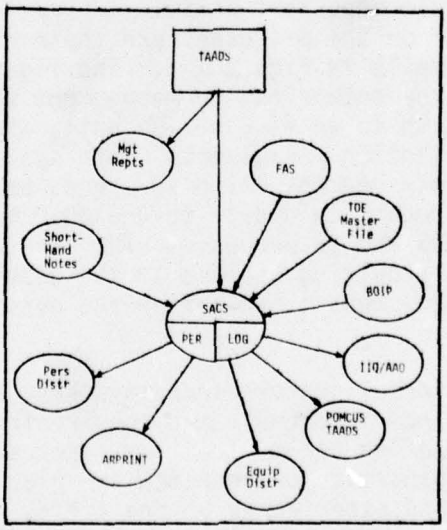

Figure 2-4. Use of TAADS

a. Primary TAADS Uses. Among the primary or direct uses of TAADS are the PERSACS and LOGSACS processes. The SACS is a series of computer programs to combine and manipulate force, requirement,

and authorization data to project equipment and personnel requirements. These requirements are then used to support budgetary, requisition, distribution, and training activities. These latter four activities can be considered secondary uses of TAADS.

b. Secondary TAADS Uses. The secondary uses for TAADS information are indicated in Figure 2-4 and emanate from the SACS processes. These indirect uses include the distribution of both personnel and equipment, the training program, IIQ/AAO, and POMCUS TAADS.

c. Other Uses. In addition to these primary and secondary uses of TAADS information, the documents in TAADS are used for management reports which assist in the review and analysis of Army organizations. Such management reviews insure that the personnel and equipment authorized will support the assigned mission; the information also supports review and analysis necessary during manpower and equipment surveys. TAADS documents may be compared for similar units to determine the degree of standardization between these units. The TAADS data also serve in developing mobilization and contingency plans.

2-7. AUTHORIZATION MANAGEMENT SUMMARY. The processes which provide change guidance, document the changes, and use the documents form a continuum of interdependent activity. The information presented in this Chapter on the processes and their relationships are summarized graphically in Figure 2-5. The figure presents the linkages between the key authorization management processes and ADP systems, in relation to an MTOE or TDA unit, and depicts the Army system of authorization management. This system creates the authorization change environment which surrounds each MTOE and TDA unit. In this environment, an update to the BOIP can generate updates in both the MOS and SB processes. The changes can impact a unit's authorization, requiring updates to its documents. These in turn, effect the equipment distribution and personnel distribution systems.

a. The number of formal processes and systems, and the frequency with which guidance is promulgated require frequent changes to the units' authorization documents. The issuance of change guidance by informal processes exacerbates the problem and adds to the turbulent conditions experienced in the field. The informal processes creating change and contributing to turbulence can possibly be controlled and disciplined through command procedures and DA discipline. The formal processes, however, transcend command lines and because of their interrelationships and prescribed schedules require a detailed systematic analysis.

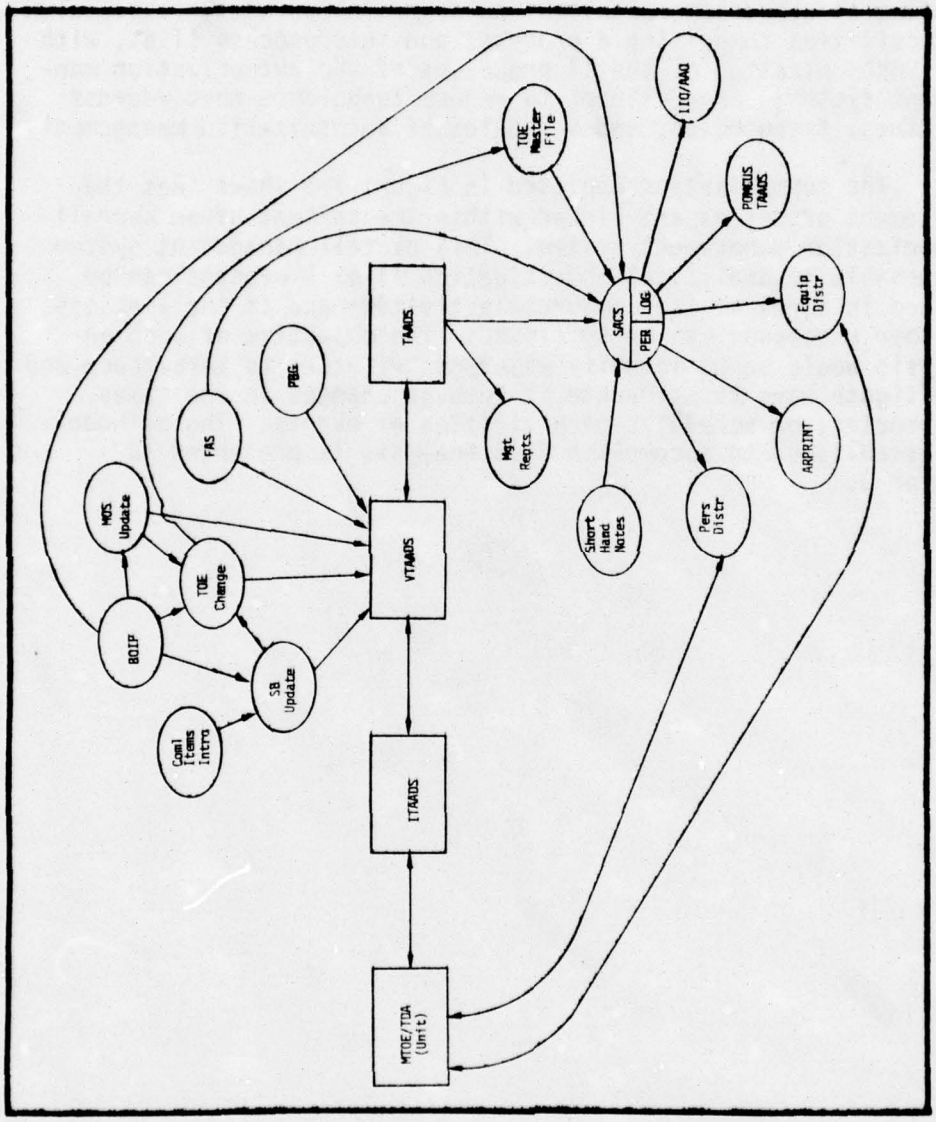

Figure 2-5. Authorization Management System

b. The conditions which contribute to turbulence associated with the 17 formal authorization management processes involve the time duration to complete each process, the frequency with which each process occurs, and the schedule of those occurrences. Sequencing or scheduling problems can occur intraprocess (i.e., with the activities comprising a process) and interprocess (i.e., with the synchronization of the 17 processes of the authorization management system). Any attempt to reduce turbulence must address the times, frequencies, and schedules of authorization management.

c. The summarization depicted in Figure 2-5 shows that the management processes are linked within the context of an overall authorization management system. This overall management system is amenable to analytical investigation if each process can be defined in terms of its component activities and if the linkages to other processes can be specified. The objective of such an analysis would be to identify major contributors to turbulence and investigate ways to attenuate it through changes in the times, frequencies, or schedules of activities or events. The methodology established to accomplish this analysis is presented in Chapter 3.

CHAPTER 3
METHODOLOGY

3-1. BACKGROUND AND PROBLEM ORIENTATION. Management of Army authorization change is supported by a complex of management systems. As indicated in Chapter 2, TAADS serves a multiple role in the authorization change environment as a communication medium, transaction change mechanism, documentation device and data bank. Importantly, the seventeen key management processes described in Chapter 2 span a number of formal, official Army management systems. Preliminary investigative work in the MOC study identified and illuminated these key management processes as appropriate objects for detailed analysis--with principal emphasis on reduction of turbulence caused by authorization changes. As a further consequence of preliminary analysis of the Army authorization change environment, quantitative variables such as: frequency of change, time and schedule factors in accomplishing change procedures, and volume of change transactions surfaced as important causal aspects of turbulence.

a. Building on results of the fundamental review work described in the previous Chapter, MOC methodology development was directed to the formulation of qualitative and quantitative analytic approaches to address management issues and key problem variables observed in the authorization change environment. Concomitantly, a specific methodological requirement was identified for a detailed logical structure in which to view, examine, and assess the seventeen key processes.

b. This chapter describes and traces the MOC study methodology through the investigative, development and application phases, highlighting the major analytic elements which led to prescriptive measures for dealing with turbulence caused by authorization change. Figure 3-1 diagrams in general form the principal analytic constituents and activities of that methodology; Chapter and/or Appendix references are annotated at each block of the diagram to facilitate correlation of report information with the methodology flow.

3-2. FUNCTIONAL AND QUALITATIVE CONSIDERATIONS OF METHODOLOGY DEVELOPMENT. Investigative and problem definition work constituted the initial methodological venture to explore the MOC problem space--the Army authorization management change environment. Investigative and definitional procedures included field visits, personal interviews, document reviews and data collection tasks incident to MOC study objectives. Concurrently, construction of a central data set was initiated to support subsequent methodology development and analysis. Management systems, related key management processes and specific procedural activities associated with authorization change Army-wide were reviewed in detail to identify important functional aspects of the Army's current change procedures. Symptoms of turbulence (e.g., late completion of TAADS updates) were identified along with certain qualitative causes (e.g., insufficient manpower resources to meet change schedule requirements). Chapter 4 details several problems and related qualitative prescriptions developed during this investigative/definitional portion of the study.

a. Pivotal in MOC methodology development was the selection of specific key management processes for detailed qualitative and quantitative analysis (see Chapter 2, Table 2-1). Investigative analysis revealed the criticality of these processes in the pattern of authorization change activity spanning Army hierarchical levels from HQDA to small units. Therefore, their selection provided an important foundation for further methodology development and analysis of Army-wide authorization change.

b. Structurally, each of the key management processes consists of a number of events and activities which interconnect to form procedural paths over which authorization change transactions transit to be acted upon and documented. TAADS is the means of communication of data related to authorization changes. Interfaces and common linkages exist between and among the seventeen processes, based on common events, schedules and/or types of activities. Multiple process interactions often occur in conjunction with PPBS milestones resulting in authorization changes (e.g., unit type conversions) across the Army. Therefore, synchronization of event schedules for individual or combined management processes is a paramount requirement for adherence to cyclic PPBS requirements.

c. The complexity of the individual processes and the richness with which they interact pose particular challenges in detecting, identifying and measuring quantitatively the causes and effects of change-driven turbulence (occurring as a consequence of the processes). In this regard, a critical methodological requirement

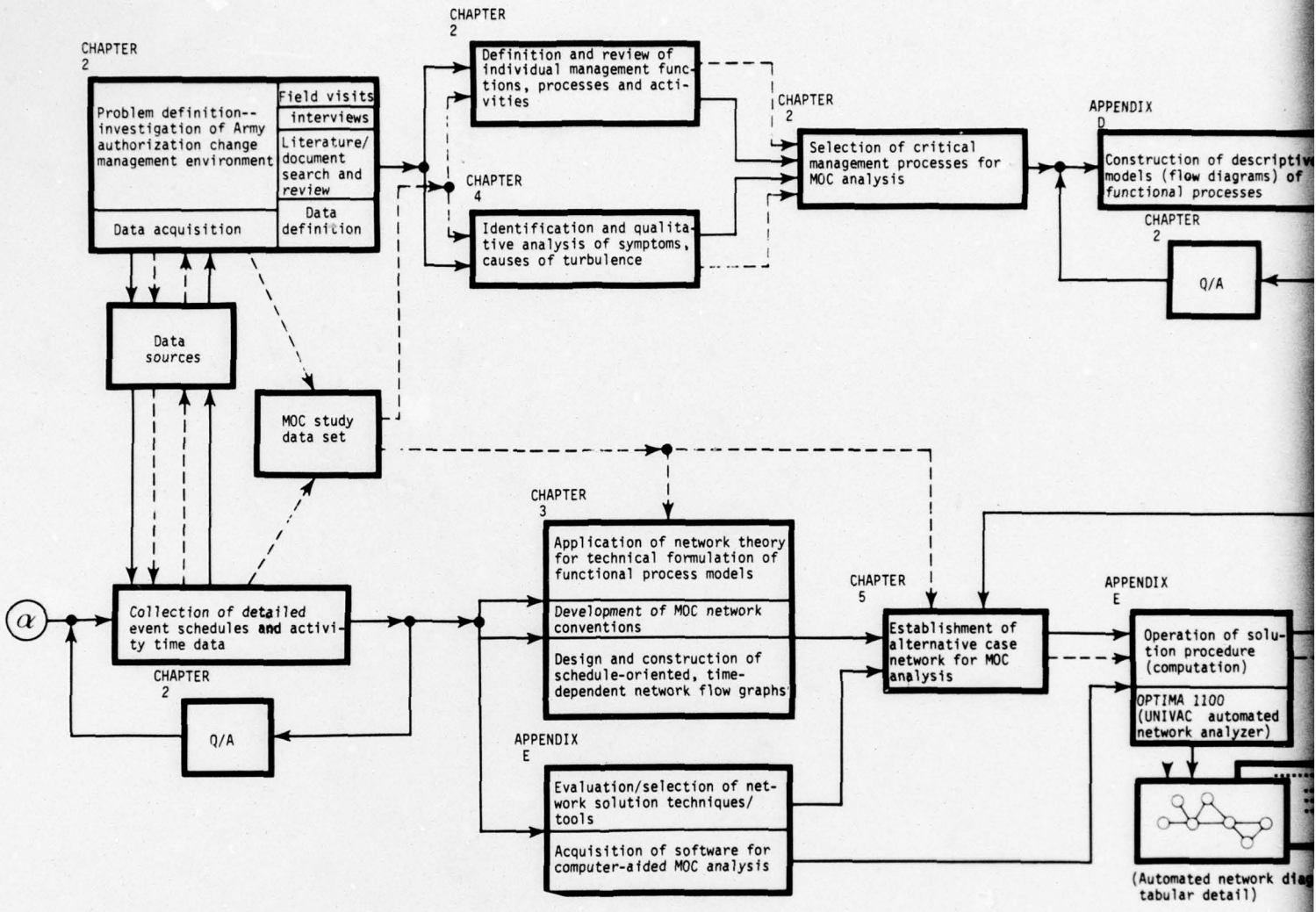

Figure 3-1. MOC Methodology

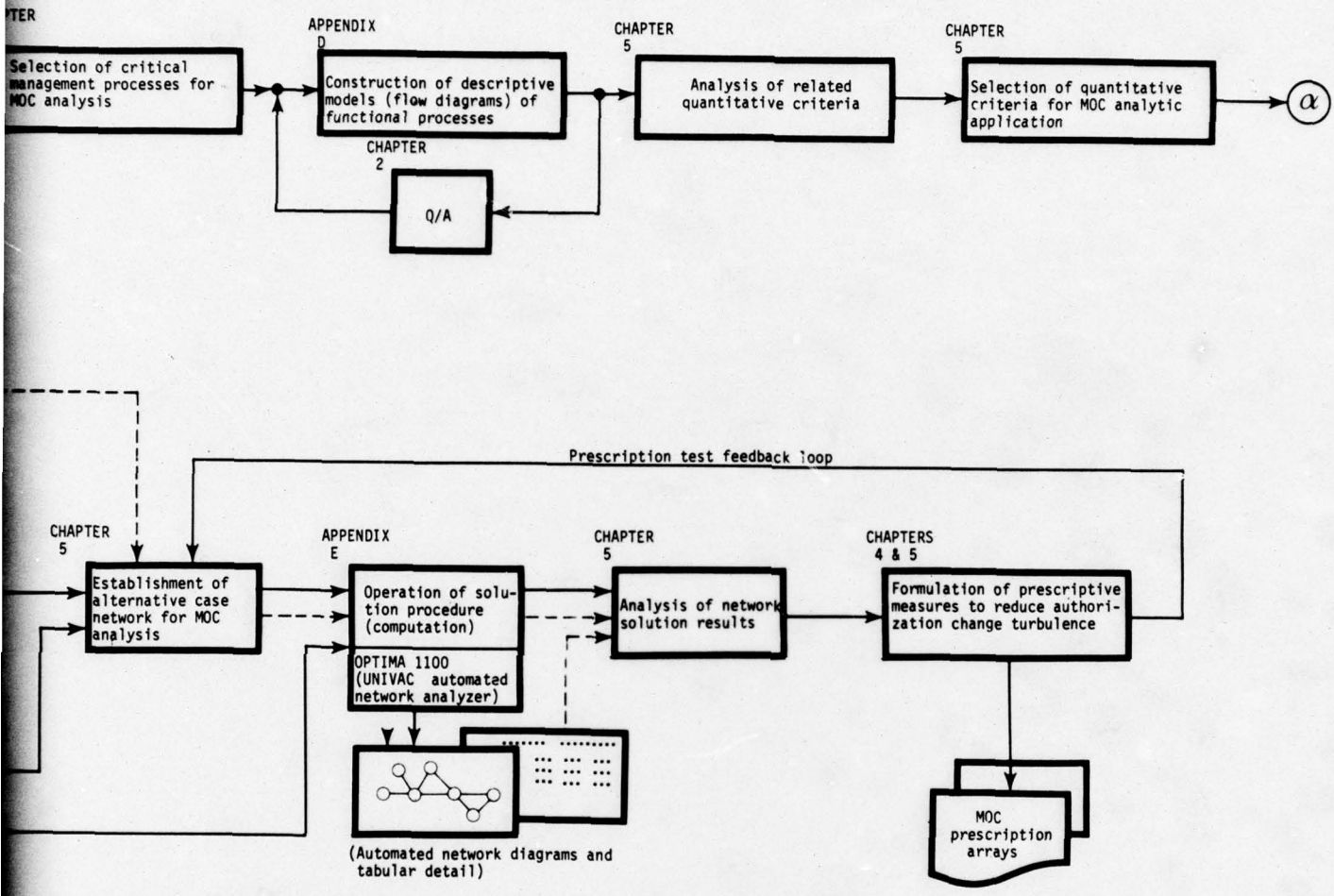

Figure 3-1. MOC Methodology

emerged for a systematic structure in which to analyze and evaluate in detail the selected processes, their constituents and their interactions. As an initial step in building such an analytic structure, the management processes were modeled descriptively through construction of flow diagrams depicting component events and activities. The resulting diagrams (models) established a baseline of functional and qualitative information (e.g., existence and interrelationships of process events, activities). Construction of the descriptive models involved an iterative quality assurance sequence resulting in progressive refinement of information for the flow diagrams. A complete display of the seventeen functional management process-descriptive models is presented in Appendix D.

3-3. METHODOLOGY CONSIDERATIONS FOR QUANTITATIVE ANALYSIS. In conjunction with the descriptive modeling work described above, a detailed investigation was required to define types of quantitative factors--frequency of events, activities; activity/event schedules; activity performance time (duration) requirements; number of interactions; transaction of volume workload--associated with the selected management processes. This analysis highlighted the importance and pervasiveness of time and schedule interdependencies among the critical components of all processes. Based upon these findings, time and schedule considerations became predominant as quantitative measurement criteria for MOC methodology. [Other change-related factors such as frequency and volume (workload) were treated in MOC analysis; however, time and schedule factors were selected as principal quantitative measurement and analysis criteria].

a. For methodological purposes in the MOC study, scheduling considerations center on frequency (e.g., times per year) of occurrence for events or activities and on calendar date (or process milestone date) of activity start or completion. Analytic focus on time criteria therefore involves determining the required time to perform a given activity within a selected process. The ability of Army organizations to meet activity or event schedules is largely dependent on the time allowed in the authorization change management processes. This is a particularly critical consideration since missed schedules contribute to the atmosphere of turbulence.

b. Consistent with time and schedule dependencies, findings concerning MOC study data activities involved collection of detailed event (schedule) data and activity performance (time) data. Data sources included functional organizations and personnel throughout the Army qualified to provide schedule and time estimates for activities within the management processes based upon

actual experience. Activity duration estimates represent expected (elapsed) time values in the current Army authorization management environment. Schedule data consist of a mix of officially regulated event dates and times associated with the management processes. Data acquisition procedures required quality assurance iterations for data refinement and verification.

3-4. USE OF NETWORK THEORY. Functionally, the selected key Army management processes discussed in Chapter 2 incorporate the time and schedule variables which are driving factors in authorization change-related turbulence. Technically, these processes exhibit specific activity or event orientations and time-dependent properties which render them amenable to rigorous analytical treatment based on principles of network theory. Building on functionally oriented flow diagram models of the seventeen selected management processes, technically oriented network formulations were derived. These network formulations provide a highly structured descriptive and quantitative means to analyze, illuminate and assess authorization change problem variables and interactions. Most importantly, for MOC analysis, an operational network methodology offers a capability to postulate and evaluate, quantitatively, the consequences of alternative activity and event schedules (e.g., earlier start of selected events), and differing activity performance times (e.g., reduced time to perform authorization management activities of a given type). The following subparagraphs discuss major methodology considerations in transforming the functional information developed in the investigative and definitional portions of the study into technical network constructs to support the quantitative analysis upon which principal results and findings are based.

a. Networks. A network (or linear graph) is a mathematical abstraction from the real world in which certain points (or nodes) are connected by lines (or arcs). (Generally, the network concept includes a flow of materiel through the nodes and arcs).* The functional management processes selected for MOC analysis exhibit properties which are generally relatable to a generic class of network models called activity networks.** As previously

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*Cooper, Leon, and D. Steinberg, Introduction to Methods of Optimization, W.B. Saunders Company, Philadelphia, 1970.

**Price, W.L., Graphs and Networks - An Introduction, Auerbach Publishers, Inc., Princeton, N.J., 1971.

indicated, authorization change schedules, time durations, and frequencies are contributory factors in turbulence. To provide specific insights into the causal relationships, temporal analysis* of activity networks for the selected management processes is a tractable method of providing direct quantitative information concerning time delays, intra- and inter-process synchronization problems, and sequencing or scheduling difficulties which lead to turbulence in Army organizations. Moreover, such analysis provides a basis for nominating and testing--in technical network form--alternative process times and schedules for ultimate functional application in reducing turbulence.

b. Terminology. Time/schedule activity network modeling of functional processes (such as those selected for MOC analysis) required terminology, symbology, and conventions which establish a basic discipline for network formulations.

(1) In targeting the MOC network formulation to Army authorization change management processes, several applicable terms and definitions are tabulated in Table 3-1.

(2) Fundamental requirements** for construction of time-dependent activity/event schedule networks include:

(a) Specification of activities and events which constitutes each network. [For MOC networks, the original functional flow diagrams (see Appendix D) provide a ready basis for satisfying this requirement].

(b) Definition of linkages of events and activities to reflect interdependencies among events.

(c) Estimation of time required for each activity (if feasible, includes statement of uncertainty).

To extend such fundamental requirements to MOC network construction, Table 3-2 contains a list of building blocks to accentuate the component elements and actions in network composition.

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*Baker, Kenneth R., Introduction to Sequencing and Scheduling, John Wiley & Sons, Inc., New York, 1974.

**Greene, James H., Operations Planning and Control, Richard D. Irvin, Inc., Homewood, IL, 1967.

Table 3-1. Terms and Definitions

Term	Symbol	Definition	Example in MOC Context
Activity	XX / (ARC)	Represents work being done. Has an associated time duration from start to finish.	3 — ODCSOPS prep force in SACS — 4 Activity 3-4 starts at event 3 and stops at event 4. (See PERSACS, Appendix D)
Event	(Node)	The beginning or end of one or more activities. An objective, an accomplishment or start point.	
Network	(Web)	An ordered sequence of activities and events which represent a functional process.	The diagrams in Appendix D illustrate completed networks as defined for the MOC study.
Time	(t_e)	The basic quantifier for measuring MOC activities. Refers to most likely time, i.e., most frequently occurring time to accomplish an activity.	3 — (4) ODCSOPS prep force in SACS — 4 The time estimate for activity 4-5 is 4 days. (See PERSACS, Appendix D)
Milestone	N/A	Network events of major importance with a specific date constraint.	17 — TRADOC Publishes CCT — 21 Event 21 must be completed 5 Mar & 5 Sep. (See MOS Update, Appendix D)
Process	N/A	A series of events and activities. MOC networks describe each specific process.	(See Chapter 2 and Appendix D)
Environment	N/A	The collection of processes in MOC which combine to form the authorization management environment.	The TAADS Documentation network, as described in Appendix D, forms the core for linking the other processes to form the total environment.

Table 3-2. Network Building Blocks

- Collection of existing information on current management processes (functional and temporal).
- Selection and identification of milestone events and activity designations.
- Sequencing of interim events and activities and establishment of interrelations so that a network is developed to depict a logical progression to completion of a process.
- Detailed refinement of time estimates required to complete the activities defined by starting and ending events.
- Correlation of information on processes in order to formulate interprocess linkages.

(3) In addition to the foregoing considerations of network building, the following specific composition rules* apply for the MOC study.

(a) All activity paths leading to an event must be completed before that event can occur.

(b) No activity can start until its originating event has occurred.

(c) Each event is unique and cannot supersede itself.

(4) Network diagram conventions for MOC include the following:

(a) Activities (in each management process) are represented by network arcs (line connections between events).

(b) Events are represented by networks nodes. (numbered circles)

(c) Network flow proceeds from left to right (no arrowheads required)

(d) Condensed descriptive narrative is annotated for each activity.

1. Organizational responsibilities are indicated.

2. Nature of activity is described.

(e) Numeric time entries define the number of days required to perform an indicated activity.

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*Trahan, Michael T., "The Completion Time of PERT Networks", Operations Research, Vol. 25, No. 1, pp. 15-29, 1977.

c. Computational Requirements. Construction of detailed activity networks in accordance with the rules and conventions described above provides a rigorous and disciplined set of models of the key authorization management processes. (See Appendix D). To apply these network models in analysis of the management processes which they represent, operational and computational capabilities are required to develop and provide quantitative data on the effects of current and alternative process sequences and schedules, activity time durations and frequencies. Information in Table 3-3 specifies the types of computational capabilities required to support MOC network analysis.

d. Network Analysis. The analytic requirements and corresponding operational and computational capabilities defined above indicate the specific methodological orientation, scope and complexity of quantitative approaches needed to address causal factors in change-driven turbulence. Of particular importance are responsive computational and operational techniques for use in formulating explicit, prescriptive alternatives to current Army authorization mangement processes. The activity or event orientation of MOC networks and the time-dependent scheduling and synchronization problems inherent in authorization change management, signal the need for the specific types of analysis prescribed in Table 3-3. A discussion of network analysis concepts and techniques which offer requisite capabilities for MOC analysis is offered below.

(1) Generally, developments in network theoretic problem solving concepts and associated computational methods have kept pace with the need for knowledge and application techniques in the implementation and use of network-based methodologies*. Relevant to the MOC study, many sequencing and scheduling investigations can be analyzed as problems in network (and graph) theory.** Further, problems of the nature, scope, and scale associated with Army authorization change processes are computationally tractable with currently available solution methods and operational tools.***

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*Price, Op.Cit.

**Price, Ibid.

***Price, Ibid.; Baker, Op.Cit.

Table 3-3. MOC Study Analytic Requirements and Capabilities

MOC Analytic Requirement	Operational/Computational Capability	Comments
• Detailed Activity Time Analysis •• Assessment of alternate activity durations to reduce turbulence. •• Determination of total (longest) time to completion of process (network). •• Identification of particular activities on which process duration depends.	• Responsive (e.g., once per day) facility to define, test and evaluate alternative networks with different time durations for selected activities. •• Ability to supply information on process duration time. •• Ability to provide data to identify and trace individual activities on longest completion path.	• Each activity in processes (networks) has common quantification base--time in days.
• Scheduling Analysis	• Facility to relate individual events to specific calendar dates. • Ability to define, test and evaluate alternative networks with set milestone dates for certain events. • Ability to set a single start date, finish date or interim event completion date and compute changes to entire schedule of events.	• Beginning or ending dates for authorization management activities and processes are often officially regulated.
• Analysis of Event Sequencing	• Ability to specify sequential dependencies within a process (network) to represent progression from network start to finish. • Responsive facility to modify event sequences and to test and evaluate results. • Ability to supply detailed information on alternative event sequencing effects on process accomplishment.	• Within and among functional processes, activity performance depends on completion of one or more prior ones.
• Synchronization and Timing Analysis	• Ability to identify synchronization requirements (e.g., simultaneous events; timing of critical completion dates) within and among processes (networks). • Responsive facility to define, test and evaluate alternative synchronization schemes through network modification and analysis.	• When events/activities occur simultaneously or are common to more than one authorization process, timing analysis is particularly important to assess interprocess event synchronization.
• Multiple Process Interaction Analysis (includes types of analysis listed above)	• Ability (and capacity) to combine all processes in network form with all associated time and relational properties treated explicitly and in individual detail. • Responsive facility to modify, test, compute results, and evaluate alternative network configurations representing interprocess linkages.	• Natural consequence of need for analysis of overall Authorization Management Environment (Chapter 2). • Involves assimilation and solution of large scale network problem which is manageable within computer applications state-of-the-art (Appendix E).
• Observation, Inspection of Process Structures, and Component Times in Graphical Form	• Rapid facility (e.g., one per day) to compose (draw) network diagram for each alternative derived from types of analyses and related operations and computations described above.	• Involves automatic plotting capability which can accomodate large scale network diagrams (Appendix E).

(2) Of significance in the MOC study is the ability of such tools to supply information about the length of time involved in a management process (network) and about the particular activities on which the process duration depends. Operational tools for complex, large-scale network problem solution are characteristically embodied in computer-based applications programs or utility software packages which are documented and readily available in the automatic data processing (ADP) marketplace.* Analytic requirements of the nature prescribed in Table 3-3 define the specific properties and capabilities of the operational tools needed for MOC network analysis. Appendix E presents a detailed discussion of the automated capability acquired to provide computer-aided support for MOC network analysis . In this regard, features of major significance in MOC methodology application are:

(a) Readily achieved operational status on the CAA computing system.

(b) User-oriented formats to facilitate digitization of the network data.

(c) Automated operational procedures and computational algorithms which satisfy specific MOC network analysis needs and provide detailed quantitative data on alternative problem approaches. (Reference Table 3-3).

(d) Computer-based graphics capabilities which produce network diagrams rapidly and automatically based on alternative solutions derived from MOC prescriptive analyses.

In these particular areas, the specific features of the UNIVAC OPTIMA 1100 network analyzer and related computer graphics capabilities are described in Appendix E.

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*Baker, Op.Cit.

3-5. APPLICATION OF THE METHODOLOGY. The preceding discussion covered major considerations, issues and approaches concerning MOC study methodology development. The resulting technical network models of selected key authorization management processes, along with related solution techniques and operational tools, form the analytic base for application of the methodology to develop prescriptive alternatives to the current authorization change environment. Blocks 13 through 17 of Figure 3-1 depict the major procedural and data flows attendant to methodology application. Central to MOC study methodology application and the derivation of study results is the combined use of manual quantitative analysis procedures in concert with the computer-based network solution tool acquired to aid the analytic effort. As shown in the Figure 3-1, the principal facets of application, network solution, and prescription are covered in Chapter 5 and Appendix D.

3-6. SUMMARY. To address Army-wide turbulence caused by authorization changes, a quantitative methodology was developed to deal with selected key management processes and related activities, events, and their time-dependent relationships. Fundamental to MOC study methodology development is the transformation of functional process structures related to authorization changes into technical network constructs which are analytically, computationally, and operationally tractable for diagnostic and prescriptive efforts to reduce turbulence in the authorization change environment. The network models developed in this study are building blocks for derivation of alternative authorization change activity and event schedules, sequences, and frequencies which are causal influences in turbulence. Methodologically, the MOC study performs a temporal analysis of deterministic networks with constant activity durations. Analytically and operationally, this method supports formulation and quantitative assessment of prescriptive alternatives by which to control the authorization management system.

CHAPTER 4
MANAGEMENT PRESCRIPTIONS

4-1. IDENTIFICATION OF REQUIREMENT. In developing and refining the network diagrams for each of the selected authorization management processes, a number of turbulence-causing factors were illuminated in the current procedures. These factors involved time delays, disconnects between related processes, or a lack of synchronization within the overall authorization management system. It also was observed that a lack of coordination when changing individual management processes contributed to the generation of these problems. That is, changes made to improve one process could have an adverse or counterproductive impact on one or more of the other processes. Most of the problem areas were discovered when attempts were made to model the linkage of one activity to another (within a process) or one process to another. Since inherent in the MOC study methodology was the ability to analyze authorization management processes in combination, prescriptive measures could be nominated to improve the management of one process without incurring a negative impact on other processes. The prescriptions transcend both processes and commands, and are intended to enhance the efficiency of the current authorization management system. The issues or problem areas may be characterized by the factors which contribute to the turbulence:

a. Time delays

b. Disconnects between related processes.

c. Lack of synchronization.

Individual problems for which prescriptions have been developed are discussed in this chapter. The format includes a problem statement, a discussion of the cause and effect of the problem, the nominated prescription, and the expected impact of fulfilling that prescription. The chapter concludes with a series of Tables summarizing the problems and their associated prescriptions.

4-2. TIME DELAY PROBLEMS. Three issues which may be characterized as time delay problems were illuminated.

a. <u>DESCOM Affects Valid Equipment Requisitions Rejected by NICP</u>. This problem and the two that follow are identical. The proposed solution to the problem requires actions by three different organizations. In this paragraph, the prescription focuses on DESCOM.

(1) Cause. The National Inventory Control Points (NICP)* use a report furnished by DESCOM** to validate whether a unit is authorized a particular item of equipment. If an NICP commodity manager cannot determine from the DESCOM H-530 validation report that the unit is authorized the equipment, then the Equipment Authorization Review Activity (EARA), a DARCOM component, must be queried. If EARA cannot substantiate the authorization, the requisition is rejected and returned to the installation.

(a) The problem occurs because the H-530 validation reports used by the NICP are not always current resulting in numerous queries being made to EARA.

(b) Contributing to this difficulty is the preparation time associated with the DESCOM validation reports. DESCOM takes approximately three weeks after receiving the LOGSACS from DA to produce an H-530 validation product in magnetic tape form. Tapes must then be sent to each of the NICPs and a number of other users of the information. The tapes then must be processed at the NICP and hardcopy printouts prepared for each of the individual item managers. All of this takes time and adversely affects the currency of the information in the equipment validation products.

(c) Even if the preparation and distribution time for the validation product can be reduced substantially, the report will only be as current as the LOGSACS from which DESCOM produces the H-530. In June 1976 the LOGSACS was not prepared and the next LOGSACS, in September, was not validated.

(2) Effect. NICPs have been required to coordinate extensively with EARA and with each MACOM in an effort to avoid rejecting the requisition. Such efforts are time consuming and not necessarily sufficient to validate a request.

(a) Some NICPs are reluctant to contact EARA continually with validation requests and have therefore rejected requisitions when authorization could not be established using an H-530 validation product.

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*The NICP are being reorganized into Materiel Readiness Commands (MRC).

**The DESCOM validation report, commonly referred to as the H-530, is a component of the Major Item Distribution Plan (MIDP) entitled "Detailed Authorizations with Totals and Factors".

(b) In some cases, the NICP item manager does attempt to contact the appropriate MACOM item manager to ascertain the authority for the requisition.

(c) Some requisitions are returned without contacting the MACOM simply because the NICP could not identify the requesting unit through the H-530. Ultimately, the effect is felt by the units who cannot understand how a requisition for an authorized item of equipment, approved by their headquarters, could be rejected by the activity responsible for supplying that equipment.

(3) Prescription. The preparation time of the DESCOM validation report should be reduced while its frequency is increased. These actions may improve the validation process. The H-530 validation product will reflect more accurately the current unit and its authorizations thus reducing the number of requisitions that must either be redone or referred to EARA.*

(4) Impact. There will be an increase in DESCOM workload associated with increasing the frequency of the H-530 validation product and a corresponding decrease in NICP and EARA workload associated with trying to validate requisitions.

(a) At DESCOM, updating the H-530 more often will require a commitment of more resources (both manpower and computer resources) to prepare and produce the required magnetic tapes. At the NICPs, additional computer time must be spent producing new printouts from which the NICP item managers can validate requisitions.

(b) Increasing the frequency of the H-530 product and reducing the preparation time should substantially reduce current NICP validation difficulties. Fewer requisitions will be rejected or referred to EARA.

(c) Equipment should flow more rapidly to units and readiness will be promoted.

b. DESCOM/FORSCOM Contribute to Valid Equipment Requisitions Rejected by NICP. This problem is identical to the previous one but the prescription here is directed toward DESCOM and FORSCOM.

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*A new report is being tested to replace the H-530, called the "Automation of Major Item Requisition Validation Report;" may help to alleviate this problem.

(1) Cause. DESCOM takes as much as three weeks to prepare the validation report (H-530 product) used by the NICPs to validate equipment requests. Some of that time is spent preparing a special report for FORSCOM.

(2) Effect. Whenever the validation report is updated, FORSCOM receives a special validation tape from DESCOM which is promptly copied and stored. However, no use is made of that tape or its contents. At DESCOM, considerable effort (in manhours) is spent preparing that FORSCOM tape. In addition, about 2 1/2 hours of computer processing time are required to produce the tape. The time spent preparing this special report delays the production and transmittal of the H-530.

(3) Prescription. Eliminate the special tape prepared for FORSCOM. (Note: This prescription was implemented prior to completion of the study.)

(4) Impact. The impact of this prescription will be felt at both DESCOM and FORSCOM.

(a) DESCOM computer processing time will be reduced by as much as 2 1/2 hours per quarter (assuming the H-530 will be prepared quarterly). In addition, manpower resources may be reassigned to other productive areas.

(b) FORSCOM will no longer have to copy and store the tape.

c. DA Staff Affects Valid Equipment Requisitions Rejected by NICP. The prescription is directed toward the DA staff and concerns the problem previously addressed.

(1) Cause. Currently, the LOGSACS serves both material program developers (ODCSRDA) and asset distributors (DESCOM). The ODCSRDA needs very detailed information from the LOGSACS covering the POM time frame, i.e., five years into the future. For equipment validation purposes, it appears that DESCOM requires LOGSACS information covering only the next 12 months. This is because few if any unit requisitions are submitted to NICPs with more than a 12 month lead time. Producing a LOGSACS in the detail ODCSRDA requires for the POM is not consistent with the informational needs of the NICPs for equipment validation. The time required to produce a LOGSACS is a function of the number of years addressed and multi-year LOGSACS mitigate against more frequent updates.

(2) Effect. The LOGSACS produced annually by DA is appropriate for POM purposes. However, that update is not frequent

enough to support the equipment validation process. Since the H-530, produced by DESCOM, is updated every time a LOGSACS is received, delays in producing a LOGSACS exacerbate the material validation process.

(3) Prescription. There is a requirement each year to produce a LOGSACS to support POM development. This requirement must be satisfied and, for this, the current POM LOGSACS is needed. During the rest of the year, modified LOGSACS should be produced covering only authorizations for the next 12 month period to support the equipment validation process.

(4) Impact. This prescription has several impacts associated with it that should be considered.

(a) Much more timely H-530 reports will be produced and that means fewer requisitions will be rejected. Along with fewer rejections will come improved readiness because requisitions can be validated sooner and the equipment can then start moving to the requesting unit.

(b) If DA produces more frequent LOGSACS, this may strain computer resources and manpower availability at DA. There is a cost (in dollars) associated with producing LOGSACS (a modified one will be less expensive). However, because production of a LOGSACS triggers data processing activities within DESCOM, computer availability at that command and the NICPs must also be considered.

4-3. DISCONNECTS BETWEEN RELATED PROCESSES. Problems and prescriptions which are related to the lack of appropriate linkages between authorization management processes are discussed in the following subparagraphs.

a. DESCOM/MACOMs/CONUS Installations Affect Valid Equipment Requisitions Rejected by NICP. The problem addressed here is the same as that of paragraph 4-2; i.e., rejection of valid requisitions. However, the prescription involves improved communications between related activities at DESCOM, MACOMs and CONUS installations.

(1) Cause. In CONUS, installations prepare technical edits of requisitions, but do not compare requisitions with the DESCOM validation product (H-530); the H-530 is not available at the installation level. The installation-level examination is the last point for review before a requisition flows to the NICP for validation and fill. Many requisitions result from MACOM actions that are in the DA TAADS but are not in the H-530 which commodity man-

agers must use to validate requisitions. This disconnect occurs because of the LOGSACS preparation problem discussed in 4-2c.

(2) Effect. Installation-level reviews are unable to substantiate a requisition because they do not have access to the same data used by the NICP commodity managers. A requisition which is authorized according to the VTAADS but which is not reflectd in the H-530 may be rejected.

(3) Prescription. The prescription for this problem is three-fold.

(a) Either the MACOM or DESCOM should provide copies of the H-530 product to the installations. A separate validation report could be prepared for each installation.

(b) CONUS installations should compare requisitions for major items of equipment to an H-530 product prior to submitting a requisition. Initially, this would be most likely a manual process or procedure at the installations. Later, the process could be automated thereby speeding the flow of requisitions to the NICPs.

(c) During the installation-level review, appropriate authorization information which is not reflected in the H-530 product should be added to the requisition. Doing this will assist the NICP to validate requisitions more rapidly.

(4) Impact. There will be fewer difficulties getting requisitions validated; equipment will be dispatched to the requesting unit sooner. This is a positive benefit of using the installation to review requisitions prior to sending them to the NICPs.

(a) There will be some increase in workload for the installation staffs who review major item requisitions. However, the coming of ITAADS offers an increased potential for automation that may help alleviate the additional workload.

(b) Either the MACOMs or DESCOM would have to reprogram their utility packages to generate distinct H-530 magnetic tapes for each installation.

b. USAREUR Theater MMC Affects Valid Equipment Requisitions Rejected by NICP. Again, this problem deals with the rejection of valid requisitions. The prescription in this case involves the USAREUR Theater Material Management Center (MMC).

(1) Cause. Currently, the Theater MMC uses the Availability Balance File (ABF)* and VTAADS to review requisitions prior to sending them to the CONUS NICPs. The USAREUR review has concentrated on making sure requisitions to the NICPs do not exceed the total theater authorization for the specific item of equipment. The DESCOM H-530 product is not used because it does not reflect the most current authorization data. The lack of a review by USAREUR using the H-530 product causes the command to wait until a requisition fails validation by the NICP, is rejected, and returned before any action is initiated to correct the H-530 deficiency and secure the item for the unit.

(2) Effect. Because the USAREUR Theater MMC compares requisitions with the ABF and VTAADS, they are not providing a comprehensive enough review of major item requisitions prior to submitting them to the CONUS NICPs. The ultimate effect of allowing requisitions to flow to the CONUS NICP without a comparison to the authorization information in the H-530 has resulted in rejected requisitions and associated turbulence.

(3) Prescription. The prescription for USAREUR is similar to the one for CONUS installations except that in Europe, the Theater MMC will be the only recipient of the equipment validation product (H-530).

(a) The Theater MMC should compare authorization information on the requisitions with the H-530 product and add the appropriate authorization information for those requisitions that cannot be validated using the DESCOM H-530 product.

(b) The H-530 product currently goes to Europe and no change to that procedure is envisioned. The H-530 improvements previously discussed in paragraph 4-2a(3) (providing a more timely report) should reduce the discrepancies between VTAADS and H-530 product authorization data.

(4) Impact. Validation of equipment requisitions will be facilitated at the NICP and the authorized equipment will be dispatched more quickly to its destination. This achievement is especially important for USAREUR because of the long lead times and great distances that must be considered. Requisition review workload for the Theater MMC will be increased somewhat; however, this increase should not be a limiting consideration because fewer requisitions will be rejected by the CONUS NICPs. Favorable impacts on readiness conditions will result.

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*The ABF is a large data file maintained by the Catalog Data Agency (CDA) and contains detailed information on the disposition of worldwide assets. Submissions from major commands are used to update the file each month.

c. FORSCOM Authorizes Unavailable Equipment

(1) Cause. Twice a year, TRADOC furnishes all MACOMs with the latest TOEs and TOE Consolidated Change Tables. This information reflects the latest DA approved TOE guidance and is furnished by TRADOC so that the MACOMs can revise their MTOEs. The guidance may reflect doctrinal changes to unit organizations, changes to the numbers of authorized and required personnel and equipment, or the introduction of new pieces of equipment or new MOSs. FORSCOM applies the new changes as rapidly as possible. AR 310-49 indicates that 6 months are allowed for MACOMs to enter the CCT changes in VTAADS and to notify the units of the new authorization document. FORSCOM attempts to comply with the AR so that the units can begin requisitioning new equipment and personnel at the earliest time. Frequently, however, this compliance with the AR results in considerable turbulence for the units because the newly authorized equipment is not always available on the effective date (EDATE) of the change.

(2) Effect. If FORSCOM changes an MTOE document by introducing a new weapons system and does not assign a realistic EDATE for that action, a serious readiness problem may ensue.

(a) Equipment distribution within the Army is determined by the availability of the equipment and the priority of the unit. FORSCOM knows the priority of their units but unless they know the availability of the new equipment, they cannot establish realistic EDATES.

(b) Not having realistic EDATES may result in either the substitution of another item of equipment, the shifting of equipment from other units, or the request for revised EDATES. These alternatives impact unfavorably in the Army's readiness reporting system. Substitute items are frequently difficult to determine, requisition, and maintain; the supply system is frequently unable to support the substitutions. Taking equipment from other units merely defers the problem by shifting it from one unit to another. Requesting a change in an EDATE surfaces a problem that could have been better managed if more information had been available when scheduling the original EDATE.

(c) Often personnel requirements also change as a result of equipment changes. Consequently a demand is placed on the personnel system to provide a new mix of skilled individuals. The personnel required to support the new equipment often arrive long before the equipment. Both the unit readiness and individual morale can suffer as a result of this mismatch.

(3) Prescription. FORSCOM should be provided an equipment availability schedule to use in conjunction with the CCT guidance. Such a schedule will permit the establishment of more accurate EDATES for equipment revisions in MTOEs. The schedule need only be detailed enough to reflect how soon the equipment will be available to FORSCOM. FORSCOM can then schedule EDATES around that availability information with some assurance that the equipment will be forthcoming.* (Note: This prescription would have universal application for all commands.)

(4) Impact. This prescription will impact both the users of the proposed availability schedule and those that must provide it.

(a) For FORSCOM and other MACOMs, an equipment availability schedule will greatly facilitate the establishment of realistic EDATEs.

(b) Another positive benefit of providing this schedule will be improved synchronization of people and equipment sent to units. Too often personnel relacements arrive well in advance of new pieces of equipment causing training and administrative problems for the units.

(c) The two positive impacts above must be weighted against the additional workload at ODCSLOG and DESCOM to generate the equipment availability data for each MACOM.

d. Differences in FORSCOM and USAREUR MTOEs Create Turbulence in POMCUS Units. Because FORSCOM and USAREUR MTOEs for the same type unit may be different, deploying FORSCOM units may find inappropriate equipment sets.

(1) Cause. POMCUS TAADS is a special authorization listing for equipment that is prepositioned at Combat Equipment Group, Europe (CEGE) sites in Germany. That equipment is presently identified with both a particular unit and a specific storage site. No other site will have the specific equipment a particular FORSCOM unit requires.

(2) Effect. Because units are not standardized, considerable turbulence is created at CEGE sites. If a unit's equipment authorization changes, then appropriate actions must be taken to adjust the unit's set of equipment at the CEGE site. Also a FORSCOM unit deploying to a CEGE site other than its specified site will find the wrong equipment set.

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*DA ODCSLOG is developing a system to support the distribution of major items of equipment for current and projected time periods. This new system is called Total Army Equipment Distribution Plan (TAEDP).

(3) Prescription. Like units should be able to obtain unit equipment from several sites. This can be achieved by developing standard POMCUS equipment sets. (Note: Action is being taken to standardize type unit sets.)

(4) Impact. The standardization of POMCUS equipment sets can have a positive impact on CEGE's workload. Perhaps, more importantly, the ability to issue standard equipment sets from several CEGE sites will provide greater flexibility in the tactical deployment of arriving FORSCOM units.

4-4. LACK OF SYNCHRONIZATION. Problems and prescriptions related to the lack of synchronization among authorization management processes, as revealed from the MOC study research and data collection activities, are discussed in the following subparagraphs.

a. The Latest Equipment Supply Bulletin (SB) Was Not Being Incorporated in the CCT. The Consolidated Change Table (CCT), a major input to the VTAADS, is promulgated without reflecting the latest equipment Supply Bulletin (SB) changes. This is a problem of timing which causes additional work in the field reconciling the contradictory authorization guidance.

(1) Cause. A magnetic tape of the SB which updates the Bulletin is forwarded simultaneously from DESCOM to both TRADOC for inclusion in the semiannual CCT and to all the MACOMs for incorporation in VTAADS. However, the lead time allotted for getting the SB tape from DESCOM to TRADOC (45 days) is not adequate. Receipt of the edit tape 45 days prior to the effective date of the new SB does not provide adequate lead-time for applying the changes prior to releasing the new CCT; there are insufficient personnel to review the many SB changes within 45 days. The tape from DESCOM often arrives late further reducing the time TRADOC has available to incorporate the SB changes.

(2) Effect. The most obvious effect of the SB omission is that MACOM analysts receive conflicting guidance which ultimately leads to implementation errors and redundant authorization document changes for individual units.

(a) If the latest changes to the SB are not included in the CCT going to the field then additional work and turbulence result. The SB edit tape that also is sent to each MACOM is entered into their VTAADS file and when subsequently matched with

the latest CCT numerous apparent discrepancies can result. MACOM VTAADS analysts then have to determine whether the discrepancies are the result of new guidance or merely the result of trying to compare old line item numbers (LIN) in the CCT with the current ones in VTAADS.

(b) A MACOM document manager using the CCT to review a unit's equipment requisition could discover an apparently incorrect LIN (if the unit's requisition was based upon VTAADS, i.e., latest SB data). All MTOEs with that kind of LIN would then be affected, resulting in numerous cancelled requisitions followed by new requisitions citing invalid LINs. There is the potential for some adverse impact on the personnel requisitioning process if, as a result of a perceived change in equipment authorizations, a substantive change is made to MTOE personnel requirements.

(3) Prescription. This is primarily a scheduling problem and the prescription is to get the SB update to TRADOC sooner. This will permit TRADOC adequate time to incorporate the SB into the CCT thus providing the field with compatible guidance. (Note: This prescription was implemented for the March 77 CCT.)

(4) Impact. Because of the way the SB is prepared and applied in the field, the adverse impact will be minimal.

(a) Changes to the SB work file are updated automatically at DESCOM making it possible to produce a new Supply Bulletin tape almost anytime. Whenever SB information is needed, a tape is released containing the latest Supply Bulletin information.

(b) No increase in workload will occur at TRADOC. The SB edit merely will be provided to that headquarters sooner.

(c) A positive impact is that the frequency of introducing errors into MTOEs will be substantially reduced. This will mean a corresponding reduction in the amount of turbulence associated with requisitioning an invalid LIN.

(d) Another positive impact of incorporating the latest SB into the CCT will be the decreased necessity for EARA to identify errors in unit documents.

b. TOE Changes Not Applied by USAREUR on Timely Basis. This problem involves the length of time required by USAREUR to document TOE changes.

(1) Cause. There are two principal reasons for this problem.

(a) While TRADOC staffs new TOEs and selected CCTs with FORSCOM, USAREUR is not consulted prior to publication. Without coordination between USAREUR and TRADOC on this important issue, USAREUR may not be prepared to accomodate the changes without delay.

(b) USAREUR staffs TOE changes through like units before implementation. This USAREUR-unique procedure can be very time consuming and frequently results in much delay in implementing CCTs and new TOEs.

(2) Effect. With FORSCOM rapidly implementing CCTs and new TOEs, and USAREUR proceeding slowly, MTOEs for both commands are frequently not aligned. This situation mitigates against the expressed desires of senior Army leaders to standardize units as much as possible. When the FORSCOM MTOE differs significantly from a like USAREUR MTOE and the equipment in POMCUS is configured for USAREUR, then FORSCOM units deployed to Europe will not find the equipment appropriate to their organizational structure.

(3) Prescription. TRADOC should include USAREUR, along with FORSCOM, in the coordination and review of new TOEs and selected CCT actions.

(4) Impact. A primary impact of this prescription would be to reduce the turbulence associated with POMCUS authorizations and units. This reduction would be accomplished by more closely aligning USAREUR and FORSCOM MTOEs and adopting standard unit sets. Some increased workload may result from having USAREUR participate in the preliminary staffing of CCTs and TOEs prior to their publication. This additional staffing may delay TOE development and changes; however, the overall effect should be to reduce the implementation time of that guidance when it is published.

c. Medical Officer Authorization Guidance Causes Changes to FORSCOM MTOEs. A problem of timing causes additional work within FORSCOM because medical officer authorizations are promulgated at a different time than other personnel authorizations.

(1) Cause. The MEDO letter* is published out of sequence with other authorization guidance. Instead of being issued at the same time as most of the other major change guidance, the letter was published on an independent schedule.

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*MEDO is the short title for the Surgeon General's letter: "Staffing Authorization and Utilization of Army Medical Department Commissioned Personnel in TOE Units of US Army Forces Command Active Component TOE Units".

(2) Effect. Not publishing the MEDO letter in conjunction with the major change guidance issued to the field requires FORSCOM to repeat documentation for medical officer spaces after documenting other personnel-related changes. Repeating documentation places an unnecessary, additional burden on FORSCOM resources.

(3) Prescription. To solve this problem, a change to the publication date of the MEDO leter should be accomplished. The guidance contained in the MEDO letter should be forwarded concurrent with Program Budget Guidance (PBG) in May.

(4) Impact. FORSCOM will be able to make personnel-related documentation changes at one time, rather than requiring two iterations.

d. TRADOC Required to Increase TDA Documentation. By doubling the number of times training load data is provided, TRADOC has encountered TDA update documentation problems.

(1) Cause. In December 1976, the White Book* was replaced by the ARPRINT.**

(2) Effect. The White Book process called for TDA documentation to be done twice a year. The replacement process, ARPRINT, will occur twice as often (4 times a year) and its introduction will double the amount of TDA documentation. The effect of this change is a significant (double) increase in the TDA revision workload performed each year.

(3) Prescription. Require documentation of TDA units based on ARPRINT data only twice a year. (Note: TRADOC has implemented this prescription.)

(4) Impact. Adoption of this prescription will preclude a serious increase in TDA documentation workload without impairing authorization management.

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*The White Book is the former name of the DA Training Program.

**The Army Program for Individual Training (ARPRINT) is the name of the current DA Training Program.

4-5. SUMMARY. The appropriateness and utility of the management prescriptions contained in this chapter were verified through coordination with points of contact in authorization management at all levels of command. During the period of coordination, several prescriptions were implemented in the management process; others are being considered for implementation. As an aid in assimilating the problems and associated prescriptions described above, summaries of each are provided in Tables 4-1 through 4-11. The tables, arranged in the same sequence as the discussion, indicate in abbreviated form the problem, its cause and effect, the prescription, and the probable impact of the prescription. In addition, the status of the prescription is added to indicate whether it has been implemented as of the date of this report. The management prescriptions are complimented by the schedule alternatives in the following chapter. The results of analyses expressed in Chapters 4 and 5, used in conjunction, can significantly enhance the current Army authorization management environment.

Table 4-1, Time Delay Problem Involving DESCOM

Problem: Valid equipment requisitions rejected by NICP Prescription directed to: DESCOM			Impact of prescription
Cause	Effect	Prescription	
• NICPs lack equipment validation reports (H-530 products) reflecting current TAADS authorizations • DESCOM takes 3 weeks to prepare H-530 products from LOGSACS • Authorization information in H-530 products only as current as latest LOGSACS	• NICPs attempt to coordinate with MACOM or must coordinate with EARA to establish validity of requisitions	• Increase frequency of H-530 products • Reduce preparation and distribution time of H-530	• Increased workload associated with increased frequency of H-530 products • Equipment requisition validation eased and chance of rejections reduced • Improved readiness because requisitions validated and filled sooner

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-2a.

Table 4-2. Time Delay Problem Involving DESCOM and FORSCOM

Problem: Valid equipment requisitions rejected by NICP Prescription directed to: DESCOM/FORSCOM			Impact of prescription
Cause	Effect..	Prescription	
• DESCOM preparation time of H-530 products for NICP increased by unnecessary H-530 tape for FORSCOM	• DESCOM/FORSCOM expend effort on unnecessary H-530 tape	• Eliminate H-530 tape prepared for FORSCOM	• DESCOM computer processing time reduced by 2½ hours per cycle • FORSCOM requirement to copy and store H-530 tape eliminated

Notes: (1) Status - implemented

(2) For narrative description see paragraph 4-2b.

Table 4-3. Time Delay Problem Involving the DA Staff

Problem: Valid equipment requisitions rejected by NICP Prescription directed to: DA Staff			
Cause	*Effect*	*Prescription*	Impact of prescription
• DA does not develop LOGSACS specifically for equipment validation purposes • LOGSACS developed for IIQ and takes 7 weeks preparation time	• DA LOGSACS not responsive to equipment validation requirements for current authorization information	• Produce modified LOGSACS for 12 month equipment validation purposes • Produce full LOGSACS for IIQ multi-year equipment program	• DA will have to produce LOGSACS more frequently • A timely H-530 report can be made available to NICP • Improved readiness *because requisitions* can be validated and filled sooner

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-2c.

Table 4-4. Disconnect Problem Involving DESCOM, MACOMs and CONUS Installations

Problem: Valid equipment requisitions rejected by NICP Prescription directed to: DESCOM/MACOMs, CONUS Installation			
Cause	Effect	Prescription	Impact of prescription
• Installation compares requisition authorization data with VTAADS • Installation does not have H-530 product used by NICP to validate requisition authorization	• Installation unable to provide comprehensive review of requisitions prior to submission to NICP	• Require MACOMs or DESCOM provide copies of H-530 product to installations • Require CONUS installations compare requisitions for major items of equipment with H-530 product prior to submission • Require installations add current authorization information not found in H-530 product.	• Equipment requisition validation facilitated and authorized equipment moved more rapidly to units • Some increase in requisition review workload for installations • Some increase workload for MACOMs or DESCOM in preparing copies of H-530 product

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-3a.

Table 4-5. Disconnect Problem Involving USAREUR

Problem: Valid equipment requisitions rejected by NICP Prescription directed to: USAREUR Theater MMC			Impact of prescription
Cause	Effect	Prescription	
• USAREUR Theater MMC compares requisitions with availability balance file (ABF) only • USAREUR Theater MMC does not use H-530 product to validate requisition authorizations	• USAREUR Theater MMC does not provide comprehensive review of requisition prior to submission to NICP	• Require theater MMC compare requisitions for major items of equipment with H-530 product prior to submission • Require theater MMC add current authorization information to requisitions not found in H-530 product	• Equipment requisition validation eased and authorized equipment moved more rapidly • Some increase in requisition review workload for theater MMC

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-3b.

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Table 4-6. Disconnect Problem Involving FORSCOM

Problem: FORSCOM authorizes unavailable equipment			Impact of prescription
Cause	Effect	Prescription	
• FORSCOM applies CCT to MTOE/VTAADS to reflect latest doctrine and permit unit requisitions • FORSCOM lacks equipment availability data on which to base EDATES	• Units requisition authorized equipment which will not be available • Authorized personnel may be changed to reflect new equipment requirements	• Provide FORSCOM with an equipment availability schedule to be used with CCT guidance in establishing EDATES for MTOE revisions	• Facilitate establishment of realistic EDATES • Require additional work at DCSLOG/DARCOM to provide equipment availability data

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-3c.

Table 4-7. Disconnect Problem Involving FORSCOM and USAREUR

Problem: Differences in FORSCOM and USAREUR MTOEs create turbulence in POMCUS units			
Cause	Effect	Prescription	Impact of prescription
• POMCUS TAADS presently identifies particular unit equipment with specific storage sites	• Lack of standardization for like units in POMCUS creates turbulence at CEGE storage sites	• Develop standard POMCUS sets for like units permitting issue from several sites	• Reduces CEGE workload • Facilitates issue of equipment sets on deployment

Notes: (1) Status - implemented

(2) *For narrative description see paragraph 4-3d.*

Table 4-8. Synchronization Problem Involving the Supply Bulletin and the Consolidated Change Table

Problem: The latest SB 700-20 was not being incorporated in CCT			
Cause	Effect	Prescription	Impact of prescription
• SB 700-20 EDIT tape did not reach TRADOC in time for the CCT update	• Conflicting guidance issued to MACOM and resulted in implementation errors	• Require semiannual SB 700-20 EDIT tapes reach TRADOC in time for includion in the CCT	• No increase in workload • Insures SB 700-20 arrives in time for incorporation in latest CCT

Notes: (1) Implemented on exception basis for Mar 77

(2) For narrative description see paragraph 4-4a.

Table 4-9. Synchronization Problem Involving USAREUR and FORSCOM

Problem: TOE changes not applied by USAREUR on timely basis			
Cause	Effect	Prescription	Impact of prescription
• TRADOC staffs new TOEs and selected CCT with FORSCOM and DARCOM prior to publication but not with USAREUR • USAREUR staffs TOE changes through like units before implementation	• USAREUR and FORSCOM MTOEs are not aligned • Turbulence created in POMCUS units due to mismatch in equipment and personnel	• Require TRADOC include USAREUR in coordination and review of new TOEs and selected CCT similar to FORSCOM and DARCOM	• Reduce turbulence for POMCUS units by more closely aligning USAREUR and FORSCOM MTOEs • Possible increased workload for USAREUR • Possible delay to TOE development and changes

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-4b.

Table 4-10. Synchronization Problem Involving Medical Officer Authorizations in FORSCOM

Problem: Medical officer authorization guidance causes changes to FORSCOM MTOEs			
Cause	Effect	Prescription	Impact of prescription
• MEDO letter published out of sequence with other TAADS guidance	• FORSCOM required to repeat documentation og medical officer spaces	• Change publication date of MEDO letter to coincide with May PBG	• Eliminates out of phase MTOE authorization changes

Notes: (1) Status - proposed

(2) For narrative description see paragraph 4-4c.

Table 4-11. Synchronization Problem Involving TDA Documentation

Problem: TRADOC required to increase TDA documentation			Impact of prescription
• Semiannual White Book replaced by quarterly ARPRINT	• TRADOC required to submit revised TDAs more frequently based on quarterly ARPRINT	• Require TRADOC to submit TDAs only two times a year	• Prevents significant increase in TRADOC's TDA submission requirement

Notes: (1) Status - Implemented on trial basis in Jan 77

(2) For narrative description see paragraph 4-4d.

CHAPTER 5
SCHEDULE ALTERNATIVES

5-1. IDENTIFICATION OF REQUIREMENT. As discussed in Chapter 2, the Army authorization management environment is affected by a number of functional processes in association with The Army Authorization Documents System (TAADS). A significant portion of the MOC study effort was spent identifying, analyzing and preparing the network diagrams which model the activities and interactions of these processes (see Appendix D). The thorough analysis of the authorization processes resulted in the management prescriptions discussed in Chapter 4; these prescriptions treat the symptoms of time delays, disconnects, and synchronization. Turbulence also was evident in the authorization management environment; this turbulence was caused by the frequency of change guidance, the distribution of change documentation workload, and the lack of synchronization between a number of component processes. In order to formulate alternatives to remedy these latter causes of turbulence, an analysis of the current authorization management schedule was performed.

a. Analysis Technique. In the MOC study, scheduling analysis is the name given to the technique used to analyze the sequence and schedule of component processes within the overall authorization management system. The scheduling analysis was accomplished by identifying the transition activities which link the component processes together into the overall authorization management system. Then, using network theory (see Chapter 3), the individual models for the processes were connected to form a larger network model of the entire authorization management system. This network model simulated the interaction among the component processes over a twelve-month period of time. Twelve months was selected because it was the lowest common denominator, that is, all of the processes occurred at least once a year; to model more than twelve months would be unnecessarily redundant. The 17 network diagrams (see Appendix D) contain some 300 distinct activities; given the repetitive nature of certain processes, there are approximately 2000 activities in the overall network of the entire authorization management system. The large number of activities and the complexity of the overall network exceeded manual analysis capabilities. An automated program was required to analyze efficiently the myriad of yearly interactions between processes. OPTIMA 1100 was the computer-based software package selected to support the scheduling analysis (see Appendix E).

b. Scope of the Schedules Analyzed. A series of nine overall network schedules were analyzed with the aid of OPTIMA 1100. The

analysis involved sequence and schedule changes which provided insight into the potential benefits of different alternative linkages of the 17 authorization management processes comprising the authorization management system.

(1) The alternatives bracketed a range of process occurrences from the current, frequent situation to a minimal occurrence situation. Table 5-1 summarizes the nine alternatives analyzed.

Table 5-1. Authorization Management Schedule Alternatives

Case	Title	Description
1	DA Directed Case	Uses policy/directive schedule and elapsed times for all processes
2	MOC Base Case	Uses real-world occurrences and elapsed times for all processes
3	Annualized Change	Limits all processes to a once-a-year schedule
4	Synchronized Program	Synchronizes budget year documentation and program development processes
5	Rescheduled Technical Change	Defers release of technical change guidance by one month
6	Controlled Technical Change Documentation	Limits documentation of technical change guidance to semiannual cycle
7	Controlled All Change Documentation	Limits all documentation to semi-annual cycle
8	Directed January PBG Documentation	Modifies documentation using January PBG
9	Modified January PBG Documentation	Extends TRADOC Spring documentation schedule by one month

(2) Case 1 models a management system which adheres to prescribed guidance and schedules; Case 2 represents the situation which actually exists. Since Case 2 models the current conditions; it was selected as the MOC Base Case for comparison with other alternatives. Case 3 limits the activities of all

authorization change and documentation processes to once a year; it is an extreme case. In between the frequency boundaries of Case 2 and Case 3 are 6 alternatives which were developed to investigate systematically means of reducing the turbulence in the authorization management environment.

(3) Cases 4 through 9 reflect progressively increasing controls on change guidance and documentation processes with a goal of improving synchronization among the processes; each case builds on the preceding adjustments to the schedule formulated in Case 4. The guidance processes identified which required conflicting or concurrent documentation action were rescheduled; the frequency of VTAADS updates was reduced thus reducing the frequency of new documents for the units; and the flow of information from the issue of change guidance, to documentation, to the uses of the documentation were synchronized to reduce turbulence.

c. Limitations of the Analysis. Several limitations on the interpretation of the MOC scheduling analysis are discussed below.

(1) Milestone Variance. Due to the variance associated with the individual time estimates for activity durations, the milestone dates listed in this chapter should be treated as approximations. Although OPTIMA 1100 assigns specific start and finish dates to each activity, the dates should be considered representative. Exogenous factors influencing each process will affect the actual dates of attainment.

(2) Process Dynamics. The network diagrams model the current processes in the authorization management environment. Since the processes are dynamic and subject to change, it was necessary to freeze each process to conduct the analysis. Due to the dynamics of the processes, the diagrams should be reexamined periodically to assure accurate representations.

(3) Informal Changes. Earlier discussion (Chapter 2) indicated the existence of "other", one time TAADS changes that flow outside the formal change processes. In each of the scheduling alternatives presented in this chapter, the problem created by resources diverted from the formal processes to work on "other" changes is discussed. However, the automated schedule analysis can not assess the impact of these "other" changes, since there is no regular or predictable set of activities which can be quantitatively modeled.

d. Assumptions Used in the Analysis. The following assumptions were necessary to the MOC scheduling analysis.

(1) Activities within the MOC network diagrams do not change as a result of rescheduling the processes.

(2) Time estimates for activity duration are assumed constant.

(3) Documenting quantitative changes (e.g., guidance from the PBG and FAS processes) are assumed of higher priority than technical changes (e.g., MOS update and equipment Supply Bulletin). The term "quantitative" refers to the number of units, personnel or equipment; and "technical" refers to such changes as MOS title, equipment LIN or equipment nonmenclature.

5-2. THE BASE CASE. The Base Case schedule for analysis in the MOC study is the current authorization management system. The model of the Base Case reflects the interrelationships between all the component authorization management processes during a consecutive twelve month period (see Appendix F). In order to model the system accurately, the current schedule for each of the component processes was identified along with the appropriate transition activities between processes. The quantitative variable used in the model for each of the processes or activities was the elapsed time--how long the process or activity takes to complete. The core of the model is the monthly TAADS documentation process (see Appendix D, Annex VIII). Some processes which input to the TAADS documentation process during the one year period begin prior to that twelve month interval (because of long lead times). Likewise, certain processes which use the authorization information begin around the end of the twelve month period and consequently complete outside of the twelve months.

a. Base Case Preparation. In constructing a Base Case, the observed times for documentation of some change guidance processes varied substantially from the times specified in Army regulations and directives. Because of these documentation time differences, two initial models were developed: Case 1, reflecting DA directed documentation times; and Case 2, the MOC Base Case, using observed (actual) documentation times. Analysis of Case 1 (DA Directed Case) provides a means for assessing the synchronization of the DA directed schedule. Case 2 (MOC Base Case) affords an analysis of the current schedule against which the subsequent alternative schedules were compared. The next three paragraphs discuss when change guidance is issued, how long it takes to document the change, and when the documentation is used to support DA and the asset managers. This is followed by a comparison of milestone dates for the key processes associated with the schedule. The final paragraph provides an assessment of the impact of adopting each case.

b. Issuance of Change Guidance. Figure 5-1, indicates when guidance is currently dispatched to the field. The MOS update and the equipment Supply Bulletin (SB) changes are forwarded in February and August. The TOE change process provides unit level doctrinal guidance in March and September. The Army Program for Individual Training (ARPRINT) provides training load estimates to TRADOC in December, March, June and September. Even more frequent than ARPRINT, the Force Accounting System (FAS) furnishes monthly force structure and authorization guidance to the field. The Program and Budget Guidance (PBG) provides manpower and resource guidance in October, January and May. The "Other" changes listed, illustrate all the changes that continually occur without a formal schedule or process as a result of DA messages, letters, directives, and command initiatives.

c. Documentation of Change. Differences were found between the time actually taken to document change guidance and the time DA specified for documenting change guidance. The variations occurred in the amount of time associated with documenting the TOE change, FAS and PBG. The specific time variations are indicated in Table 5-2.

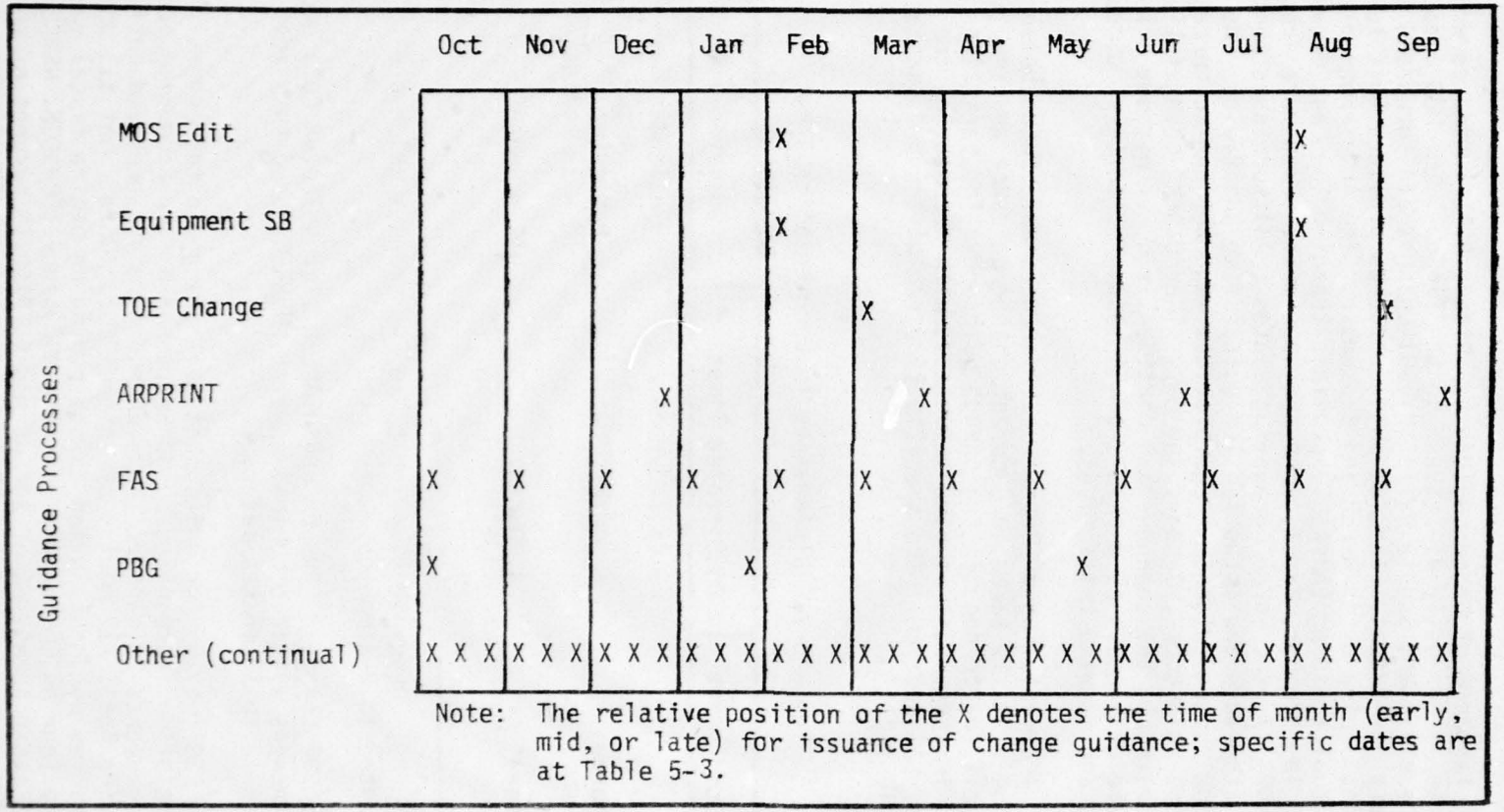
Table 5-2. Differences in Documentation Times

Issue of Change	DA Directed Times	Observed Times
FAS	45 calendar days	65 calendar days[a/]
TOE Change	6 months	6 months; 12 - 18 months[b/]
PBG (May)	4 months	12 months[c/]

[a/] FAS. Observed time for those FAS changes which are documented is 2-3 months.

[b/] TOE Change. FORSCOM and USAREUR (for selected CCT) document changes within 6 months; however, USAREUR documents most CCT changes 12 to 18 months later.

[c/] PBG (May). For units that will change in the budget year, documentation is required by 30 September of the preceding year. Most documents to support those changes are not received until the following April (12 months after the PBG). Note: Not all units require new documents prior to the beginning of the fiscal year. For the four MACOMs surveyed in the MOC study (FORSCOM, USAREUR, TRADOC and DARCOM), as of 29 September 1976, 18 percent of the MTOE and 85 percent of the TDA were changed for FY 77.

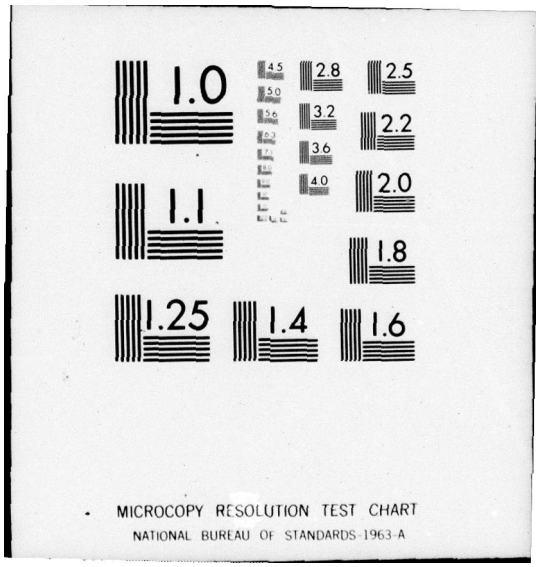


Note: The relative position of the X denotes the time of month (early, mid, or late) for issuance of change guidance; specific dates are at Table 5-3.

Figure 5-1. Cases 1 and 2: Issuance of Change Guidance

AD-A041 637 ARMY CONCEPTS ANALYSIS AGENCY BETHESDA MD F/G 5/1
MANAGEMENT OF CHANGE (MOC).(U)
JUN 77 F A DISTASIO, M E BONNETT, F E HARTMAN
UNCLASSIFIED CAA-SR-77-7 NL

2 OF 3
ADA041637


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
7.1
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

This dissimilarity in documentation times between the two cases is graphically illustrated by comparing Figure 5-2 (DA Directed Case) and Figure 5-3 (MOC Base Case). Both figures list the major processes for issuing change guidance and then show by means of a series of bars and triangles when each process begins, how long it takes, and when it ends. Each figure provides a means for quickly comparing the alternatives during a 12 month cycle.

(1) For the DA Directed Case and the Base Case, the semiannual MOS and SB updates are documented in the September and March VTAADS submissions.

(2) For both cases, TOE change guidance issued in September is documented in VTAADS during the following December-January-February time frame; however, the Base Case includes an additional USAREUR documentation entry the next August (12 months after the receipt of the guidance). This difference between the two cases is important because while USAREUR documents selected changes in the near time frame, the broader application of the TOE change may not occur until 12 months (or more) later. The March TOE changes are treated similarly. (See Chapter 4, paragraph 4-4b for a prescription on this difference).

(3) ARPRINT differs from the other documentation procedures in that the length of time to document changes has not been officially prescribed. Because the documentation time has been left unspecified, the observed time was used for both the DA Directed and Base Case. Current policy and practice requires documentation of the December and June ARPRINTs; the March and September ARPRINTs are not documented by TRADOC.

(4) The field was directed to document FAS changes in VTAADS within 45 days after receipt of FAS (Case 1). Not all FAS actions are documented; those actions which are documented enter VTAADS two and a half months after the FAS (Case 2).

(5) DA directs documentation of only the May PBG, particularly for the budget year, to support program development processes. The DA Directed Case includes documentation of the May PBG (current and budget years) by the end of September. The Base Case was constructed with that documentation entering VTAADS in the following April. April was selected because that is when most of the budget year changes have reached DA (more than 50 percent).

d. Use of Documentation. The principal direct uses of TAADS information are the preparation of PERSACS, LOGSACS, and Pass Record tape; the IIQ/AAO, equipment validation reports, ARPRINT and POMCUS/TAADS process all use SACS information. In both Case 1, DA

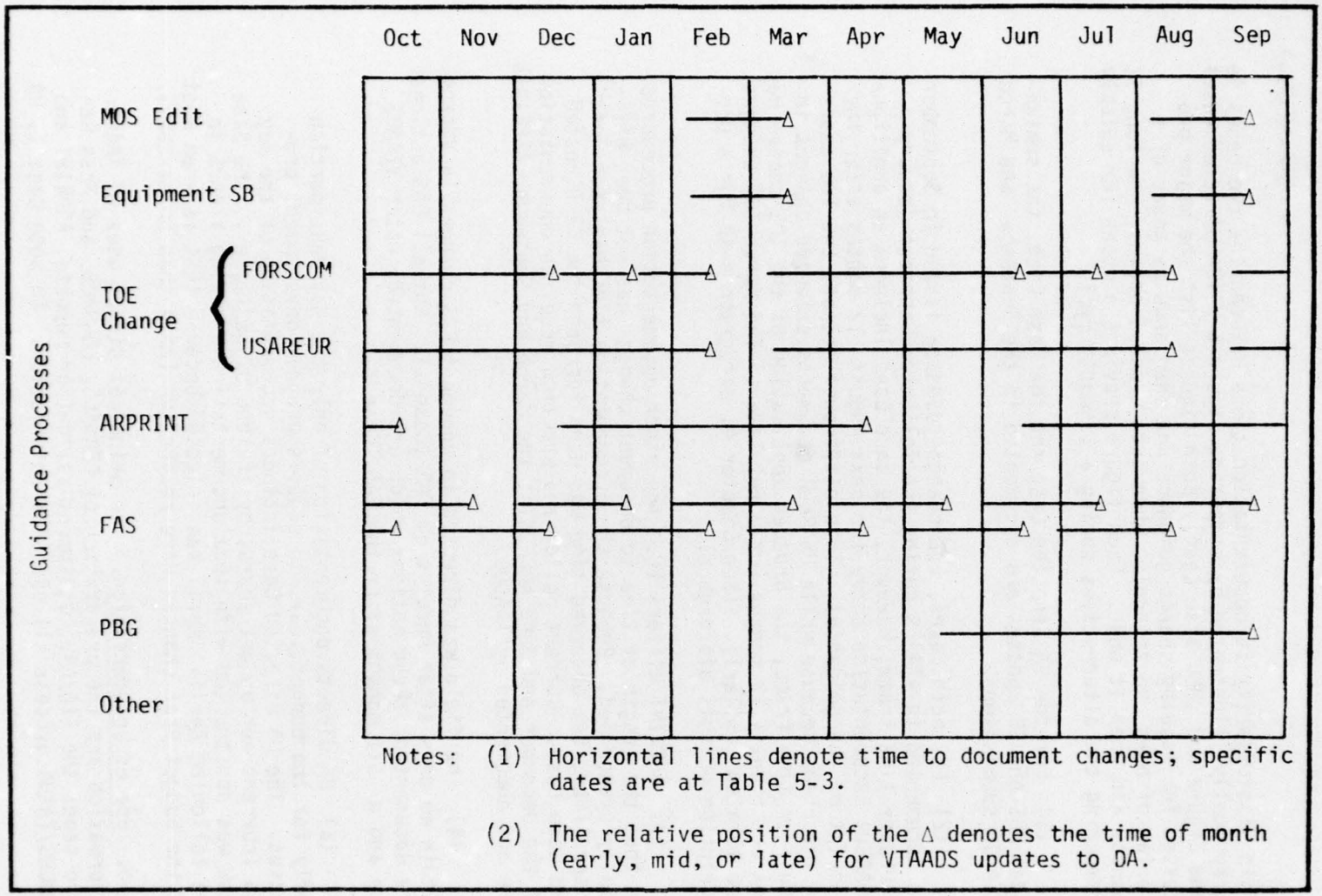
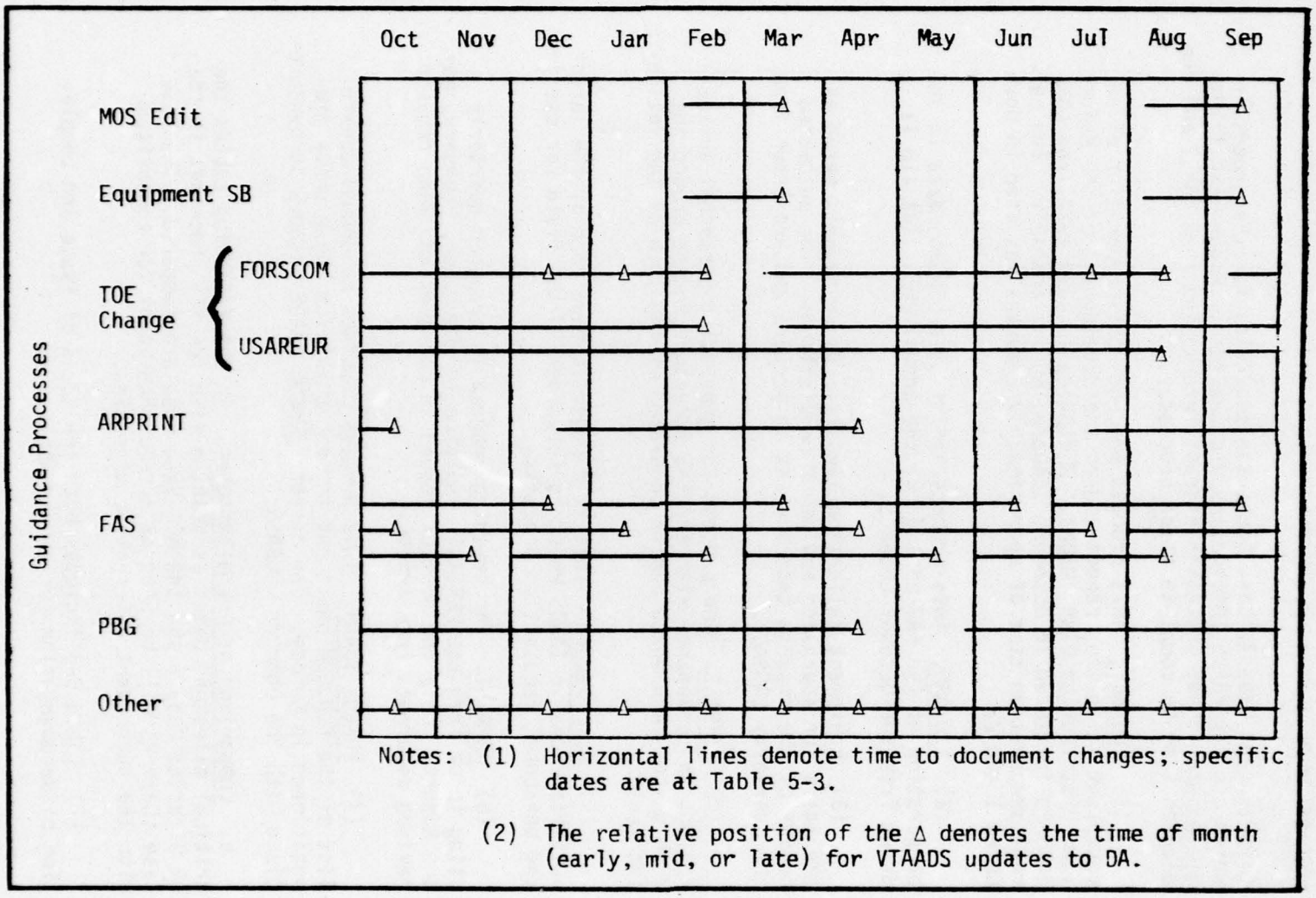


Figure 5-2. Case 1: Documentation of Changes



Notes: (1) Horizontal lines denote time to document changes; specific dates are at Table 5-3.

(2) The relative position of the Δ denotes the time of month (early, mid, or late) for VTAADS updates to DA.

Figure 5-3. Case 2: Documentation of Changes

Directed and Case 2, Base Case, the schedules for the processes which use the TAADS information are the same. Figure 5-4 illustrated when these processes extract information from TAADS and the elapsed time to complete these processes.

(1) LOGSACS: This process precedes the preparation of an equipment validation report and/or the development of the Major Item Distribution Plan (MIDP). Beginning in July 1977, the LOGSACS is initiated in October, January, April, and July. The current preparation time of approximately 2 months was used in both Cases 1 and 2.

(2) IIQ/AAO. This process assimilates LOGSACS data in the preparation of the AAO portion of the annual POM. The IIQ is drawn from the October LOGSACS.

(3) Equipment Validation Reports. These reports serve as the basis for approving equipment requisitions. The automated copies of the reports take 3 weeks to prepare and are drawn from the quarterly LOGSACS.

(4) PERSACS. The process for generating personnel authorizations in consonance with the FAS structure begins around the 20th day of each month and is completed by the 10th of the following month.

(5) Pass Record. This is a magnetic tape copy of the latest authorizations in TAADS which is forwarded to the field for use in the personnel requisition processes.

(6) ARPRINT. The training program is prepared quarterly using input from the PERSACS completed in November, February, May and August. Only the ARPRINT issued in December and June require revised documents from TRADOC.

(7) POMCUS TAADS. This process provides an annual update list of the FORSCOM units and the equipment for those units prepositioned in Europe. The current POMCUS TAADS network is synchronized with the October LOGSACS.

e. Comparison of Key Milestones. In the following tables the critical milestone dates associated with the key processes in the DA Directed Case 1 and the MOC Base Case are compared. The Base Case (Case 2) will be used as a reference point for comparison with the subsequent alternative schedules.

(1) Table 5-3 includes both the dates of issue and completion of documentation for each process.

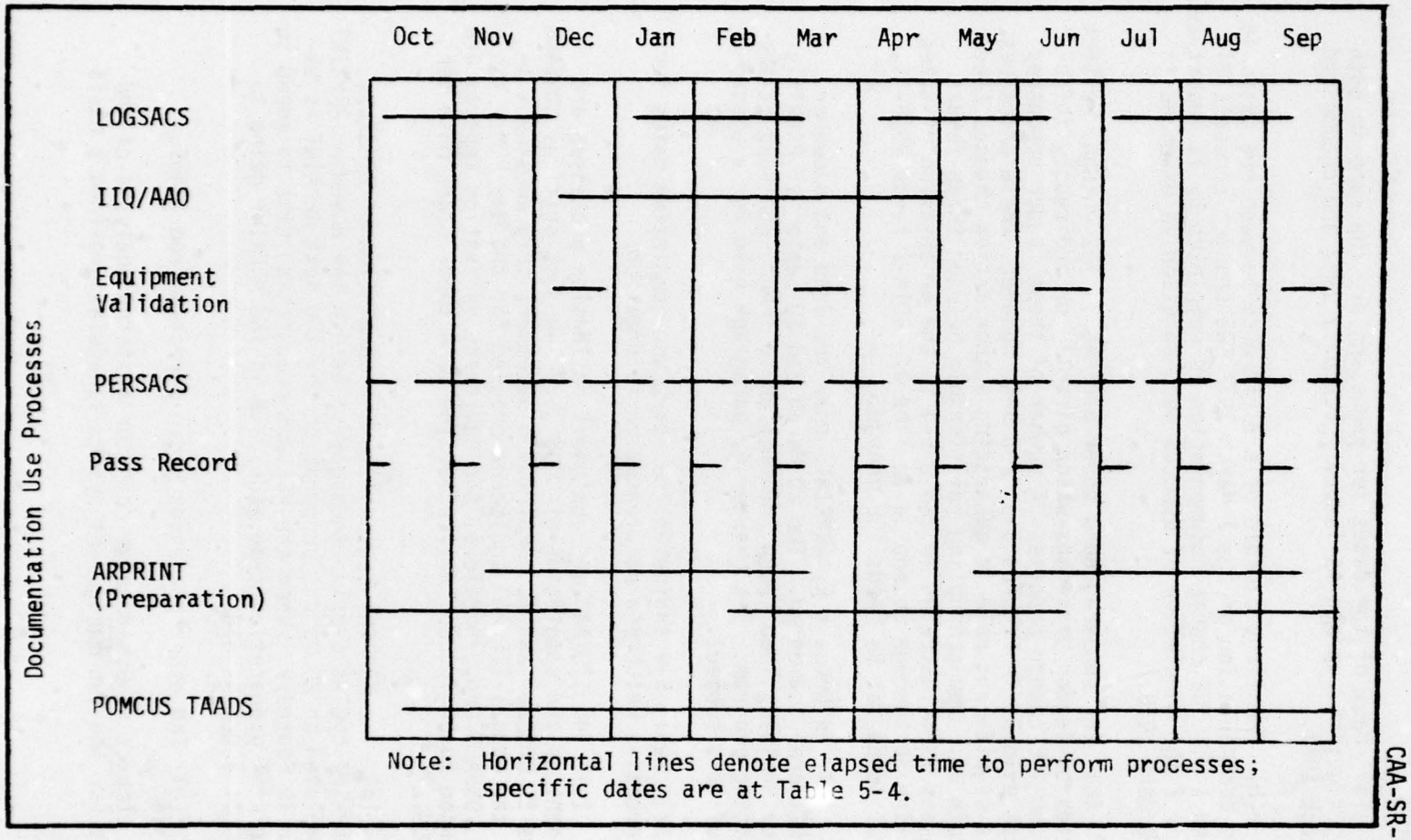


Figure 5-4. Cases 1 and 2. Processes That Use Documentation

(a) Many of the dates for processes are the same in both cases; e.g., MOS update is issued 7 February 1977 and documented 15 March 1977.

(b) The first example of a difference between the cases is in the documentation of the 7 March 1977 TOE changes (process 3). In Case 1 all TOE change documentation is completed by 11 August 1977; in Case 2 the completion of USAREUR documentation is extended to 16 February 1978.

(c) The subparagraphs under process 3, TOE change, reflect a series of feeder processes which directly or indirectly influence the TOE change process. A number of these feeder processes are not evident in Figures 5-3 and 5-4; however, these processes have a significant role in generating authorization changes (see Appendix D). The scheduling relationship between these feeder processes is illustrated in Table 5-3 in the progression of dates from line 3c through 3b and 3a to line 3: BOIP-I feeds BOIP-II; BOIP-II feeds SB; SB feeds TOE change.

(d) In process 5, ARPRINT, only the June and December ARPRINTs are documented. The 20 March and 20 September ARPRINTs provide training load trend information to TRADOC and support the recruiting program. See Chapter 4, paragraph 4-4d for a discussion of this subject.

(2) Table 5-4 indicates the start and completion dates for the processes which use documentation information.

(a) The IIQ/AAO and equipment validation processes are dependent on the completion of LOGSACS. The most critical LOGSACS begins 11 October and is completed 5 December; this LOGSACS supports the annual IIQ/AAO equipment program for the May POM. The other LOGSACS and, therefore, the equipment validation reports are sequenced to begin quarterly after the 11 October start date for LOGSACS.

(b) The ARPRINT begins with the completion of PERSACS. The ARPRINT cycles overlap themselves; before the November ARPRINT is completed on 20 March, preparation for the next ARPRINT is begun on 10 February. When the PERSACS preparation time is added to the ARPRINT preparation time, the data in the ARPRINT going to TRADOC is 6 months old.

(c) The other processes begin directly from TAADS.

f. Impact of Schedules. Computer assisted analysis of the models for the two management system schedules provided a basis

Table 5-3. Case 1/Base Case (Case 2): Comparison of Change Guidance and Documentation Process Milestones

Processes	Case 1		Case 2	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77	15 Mar 77	7 Feb 77	15 Mar 77
	8 Aug 77	15 Sep 77	8 Aug 77	15 Sep 77
2. Equipment SB (Army-wide)	7 Feb 77	15 Mar 77	7 Feb 77	15 Mar 77
	8 Aug 77	15 Sep 77	8 Aug 77	15 Sep 77
3. TOE change	7 Mar 77	13 Jun 77	7 Mar 77	13 Jun 77
Army-wide		14 Jul 77		14 Jul 77
		11 Aug 77		11 Aug 77
USAREUR only				16 Feb 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	7 Feb 77	N/A
Equipment SB	7 Feb 77	N/A	7 Feb 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	9 Nov 76	N/A
BOIP II	9 Sep 76	N/A	11 Aug 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	13 Feb 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	5 Sep 77	14 Dec 77
		12 Jan 78		12 Jan 78
Army-wide		16 Feb 78		16 Feb 78
				20 Aug 78
USAREUR only				
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	8 Aug 77	N/A
Equipment SB	8 Aug 77	N/A	8 Aug 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	10 May 77	N/A
BOIP II	9 Feb 77	N/A	9 Feb 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	14 Aug 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	20 Mar 77	N/A
	20 Jun 77	15 Oct 77	20 Jun 77	15 Oct 77
	20 Sep 77	N/A	20 Sep 77	N/A
	20 Dec 77	15 Apr 78	20 Dec 77	15 Apr 78
6. FAS[a/]	1st ea mo	30 days	1st ea mo	45 days
7. PBG	17 May 77	15 Sep 77	17 May 77	12 Apr 78
	4 Oct 77	N/A	4 Oct 77	12 Apr 78
	24 Jan 78	N/A	23 Jan 78	12 Apr 78

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-4. Base Case/Case 1: Comparison of Milestones in the Documentation Use Processes

Processes	Case 1		Case 2	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	3 Jun 77
	1 Jul 77	2 Sep 77	1 Jul 77	2 Sep 77
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78	3 Jan 78	7 Mar 78
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		3 Jun 77	
	2 Sep 77		2 Sep 77	
	5 Dec 77		5 Dec 77	
	7 Mar 78		7 Mar 78	
PERSACS[a/]	20th curr	10th next	20th curr	10th next
Pass Record[a/]	1st curr		1st curr	
ARPRINT	10 Nov 76	20 Mar 77	10 Nov 76	20 Mar 77
	10 Feb 77	20 Jun 77	10 Feb 77	20 Jun 77
	10 May 77	20 Sep 77	10 May 77	20 Sep 77
	10 Aug 77	20 Dec 77	10 Aug 77	20 Dec 77
POMCUS/TAADS	16 Aug 77		16 Aug 77	

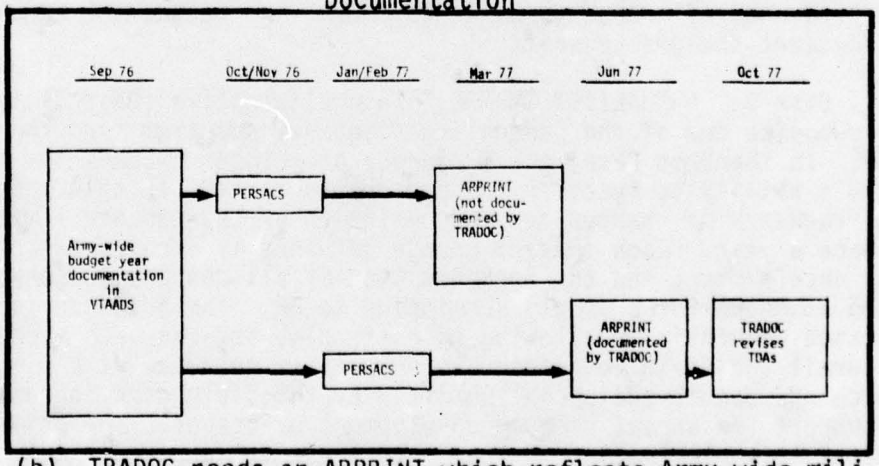
[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

for investigating the sequencing of the processes and the differences between DA directed process times and the observed process times.

(1) Analysis of the OPTIMA 1100 generated schedule for the DA directed documentation times (Case 1), assuming documentation is possible within those times, uncovered a synchronization problem regarding the training programs.

(a) Army-wide budget year changes would be documented at DA in September, twelve months before the beginning of the next fiscal year. However, the first DA-produced ARPRINT to include that budget year documentation would be issued in March; this ARPRINT does not require TRADOC documentation. The next ARPRINT, issued in June, would require TRADOC documentation. Using the estimated 3+ months for ARPRINT documentation, the first time TRADOC training TDAs would be revised based on September field input is October of the following year. TRADOC documentation in October does not provide any lead time for requisitioning personnel or equipment (unless the TDA effective dates are for the latter part of the fiscal year). Figure 5-5 illustrates the combination of processes and sequencing which results in this ARPRINT schedule problem. (See Chapter 4, paragraph 4-4d for detailed discussion of documentation of ARPRINT).

Figure 5-5. Budget Year Training Program Development and Documentation



(b) TRADOC needs an ARPRINT which reflects Army-wide military personnel training requirements at least six months prior to the beginning of the next fiscal year in order to adjust the training TDAs and requisition personnel and equipment. However, because of the sequencing of processes illustrated in Figure 5-5,

Case 1 would not fulfill that requirement; the first ARPRINT produced which includes budget year documentation and requires TRADOC TDA revisions is issued in June (only 3 months prior to the next fiscal year). The Base Case retains this same ARPRINT production schedule problem. This is one of the first problems addressed in the MOC alternative schedules, paragraph 5-4.

(2) The Base Case reflects the current authorization management schedule. It evolved because of the MACOMs inability to respond to all the change guidance in the times prescribed. The MACOMs apparently establish their own priorities for documentation of changes; the frequent result is that documentation for the budget year is deferred. Based on MOC study research and data collection, it appears that the MACOMs first document technical changes (MOS, SB, TOE changes) and the informal "other" changes for the current year. Most of the budget year documentation is in TAADS by April instead of the preceding September (the DA directed date). However, budget year documentation 12 months before the next fiscal year begins is essential to the Army for generating accurate program requirements. Specifically, September documentation is the primary input to the IIQ/AAO processes supporting POM development and the ARPRINT supporting the following year's training and recruiting programs.

(3) The remainder of this chapter analyzes alternative cases addressing synchronization actions to: remedy the ARPRINT and IIQ/AAO problems discussed in the preceding subparagraph; reduce the frequency of change guidance to MACOM; and reduce the number of document changes to units.

5-3. Case 3: ANNUALIZED CHANGE. This alternative (Case 3) is at the opposite end of the scheduling frequency spectrum from the Base Case. In the Base Case, the frequency of changes exceeds the field's ability to react in the prescribed times. In this case, the frequency of changes and documentation of changes are limited to once a year. Each type of change guidance is assumed issued only once a year; and the documentation of all changes is consolidated at MACOM for a single submission to DA. The guidance is released sequentially allowing adequate time between each process to permit the field to respond to one set of guidance at a time. The change documentation is submitted by the field each September to support the annual program development processes. The primary goal of this alternative is to minimize the frequency of revised TAADS documents going to the MTOE and TDA units. The units receive revised documents based on VTAADS updates. If DA would or could accept and approve changes only once a year, then the annual frequency of revised documents to the units would be minimized and the goal of Case 3 could be achieved. Revising documents only once

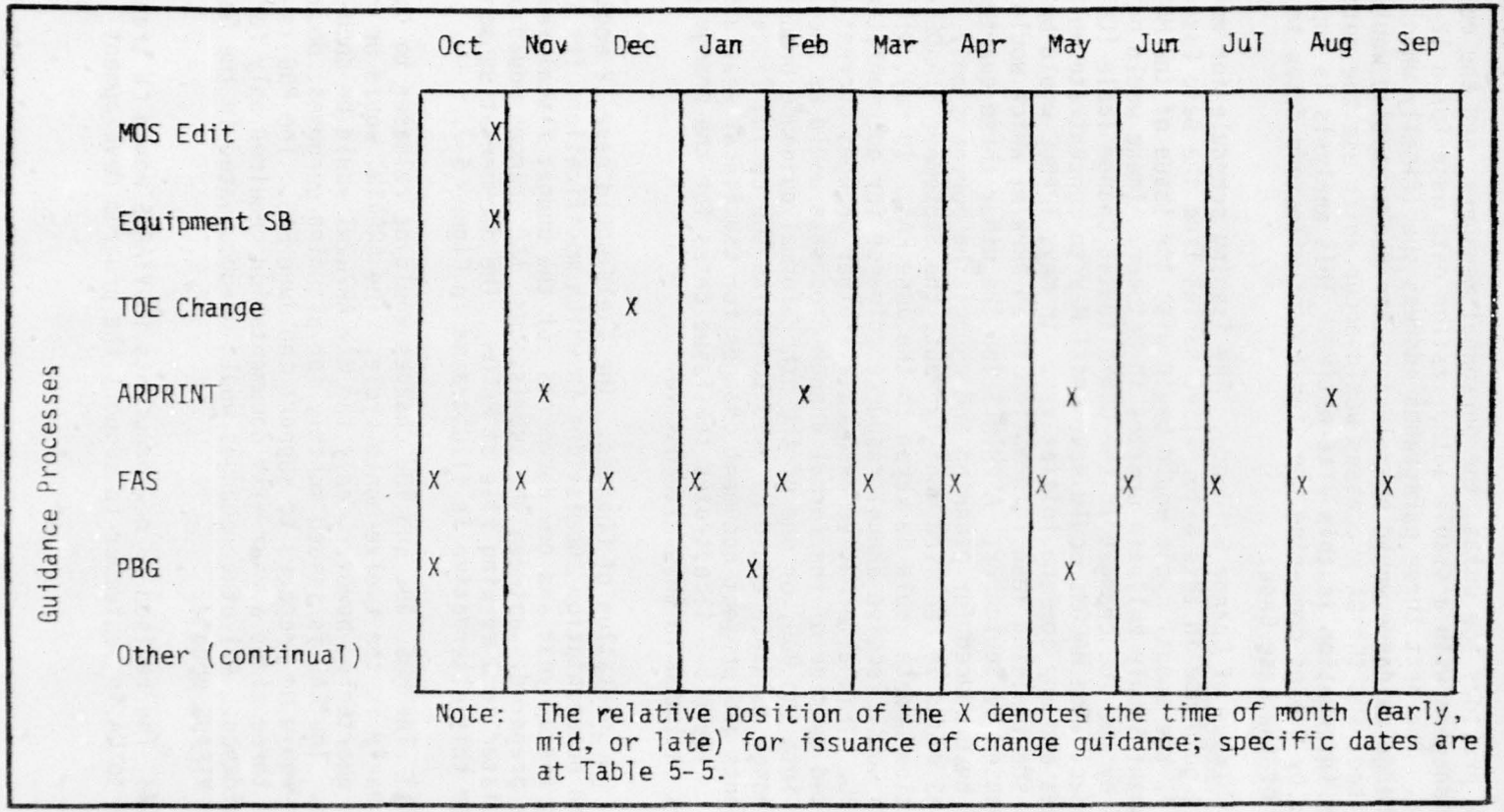
a year provides the units, the personnel managers, and the equipment managers with a stable authorization data base for a 12-month period. The next three paragraphs address specifically when: the change guidance would be released, the documentation would be submitted, and the DA processes would occur which use the authorization information in this alternative. This analysis is supported by tables comparing the significant milestone dates to those of the Base Case.

a. Issue of Change Guidance. The issuing schedule for most change guidance in this alternative varies from the Base Case. In Case 3, the annual cycle would begin with the issue of the MOS and equipment Supply Bulletin updates in October. These would be followed by the TOE changes in the Consolidated Change Table (CCT) in December. The MACOMs would have until May to concentrate on these changes and any command initiatives. In May, TRADOC would be provided the training load information in an ARPRINT which would be documented by September. ARPRINTS for the other three quarters would be produced for planning and recruiting purposes only. The FAS would be received monthly; but, the September VTAADS documentation update would be keyed to the June FAS. In May, all the MACOMs would receive annual resource guidance for documentation in the PBG. This alternative assumes all other changes currently directed outside of the formal change processes would be incorporated into the PBG, or one of the other formal guidance processes. The change guidance would be used to revise the coming fiscal year documents and project document changes for the fiscal year after that. Figure 5-6 illustrates the issue dates for the change processes included in this alternative.

b. Documentation of Changes. The field would have 12 months between documentation submissions in which modifications for the coming fiscal year and new documents for the budget fiscal year can be prepared. Between the submissions, the changes would be accumulated in a working file at MACOM. The documentation schedule for this alternative is illustrated in Figure 5-7.

(1) The MOS, SB, and TOE changes would be released to the field early in the twelve-month cycle. The ARPRINT would be released quarterly; however, only the May ARPRINT would be documented. The FAS is issued monthly for planning purposes; documentation would be prepared to support the June FAS. The PBG is issued three times a year with documentation required only for the May guidance. All other changes would be documented in the September VTAADS update.

(2) The revised or new documents in VTAADS would be transmitted to DA in September to support the program development



Note: The relative position of the X denotes the time of month (early, mid, or late) for issuance of change guidance; specific dates are at Table 5-5.

Figure 5-6. Case 3: Issuance of Change Guidance

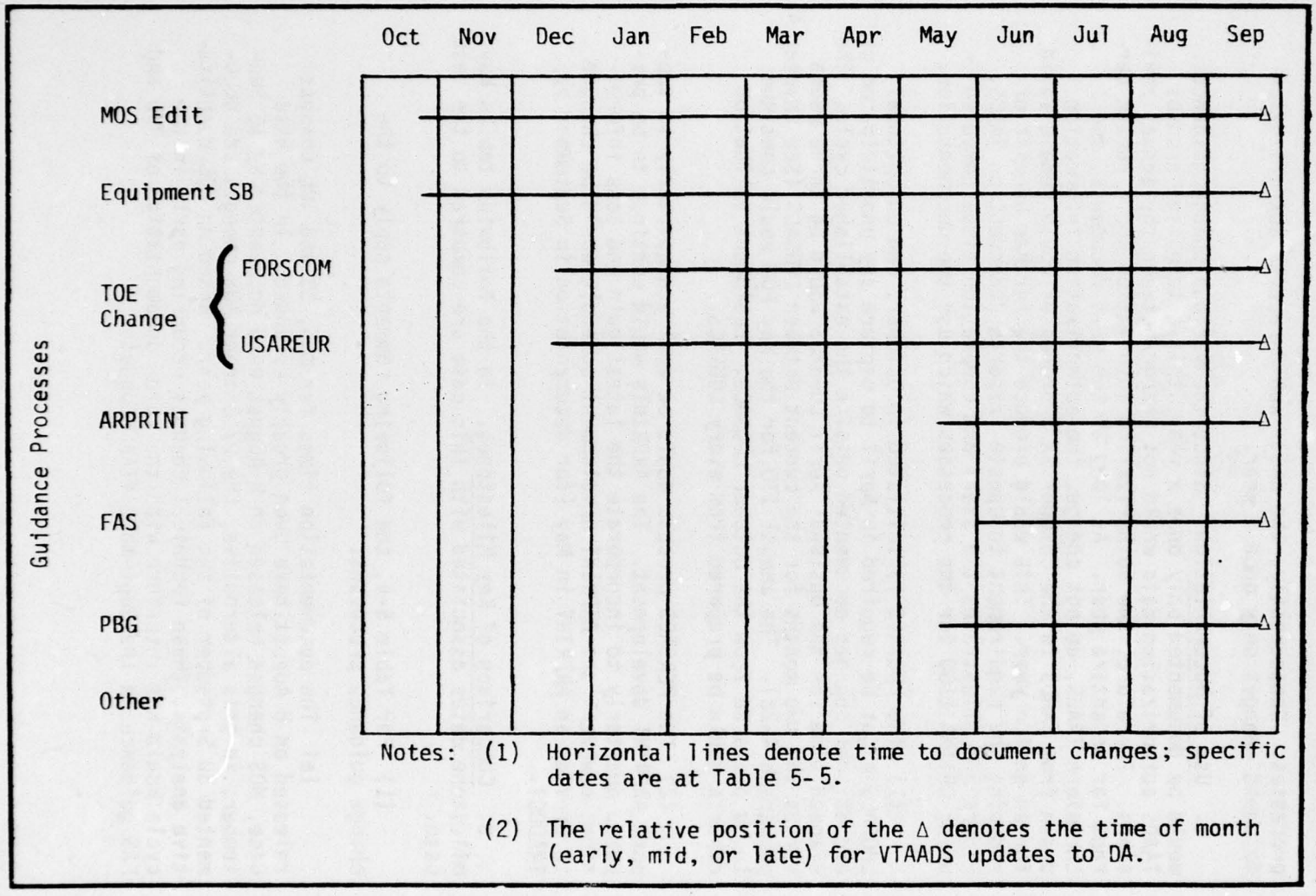


Figure 5-7. Case 3: Documentation of Changes

processes. Consequently, the units would receive authorization document changes only once a year.

c. Use of Documentation. Since the various change guidance would be documented only once a year, this alternative assumes TAADS authorization data would not change between the annual revisions. Therefore, the authorization information would remain current for an entire year. As long as the unit documents, and therefore TAADS, do not change, the authorization information drawn from TAADS in the October SACS processes would remain valid for an entire year. This would produce the further benefit of reducing the requirement to update reports dependent on TAADS. Figure 5-8 illustrates the start and completion times computed using OPTIMA 1100 for the processes which use the documentation.

(1) The LOGSACS is initiated in October; and an optional LOGSACS might be required in April to capture any unanticipated or exceptional changes documented outside the established cycle. The elapsed time for the optional April LOGSACS would be three weeks versus the two months for the current October LOGSACS (See Chapter 4, paragraph 4-2c). The annual IIQ for the May POM would continue to be prepared from the October LOGSACS. Equipment validation reports would be prepared from every LOGSACS.

(2) The PERSACS process would be employed quarterly to support ARPRINT development. The ARPRINTs would continue to be prepared quarterly to incorporate the latest gain and loss information; however, the ARPRINT development schedule would be changed to provide an ARPRINT in May (for documentation in September by TRADOC).

d. Comparison of Key Milestones. In the following tables key milestone dates associated with this case are compared to the Base Case.

(1) For Table 5-5, the following comments apply to the change guidance processes:

(a) The documentation times for MOS, SB and TOE changes released on 8 August have been greatly extended. In the Base Case, MOS changes released on 8 August were documented by 15 September; in this alternative, the 27 October MOS changes are documented 30 September of the following year. Based on MOC quantitative analysis, these technical changes occurring early in the cycle would not interfere with the later documentation of PBG and FAS guidance in the September VTAADS update.

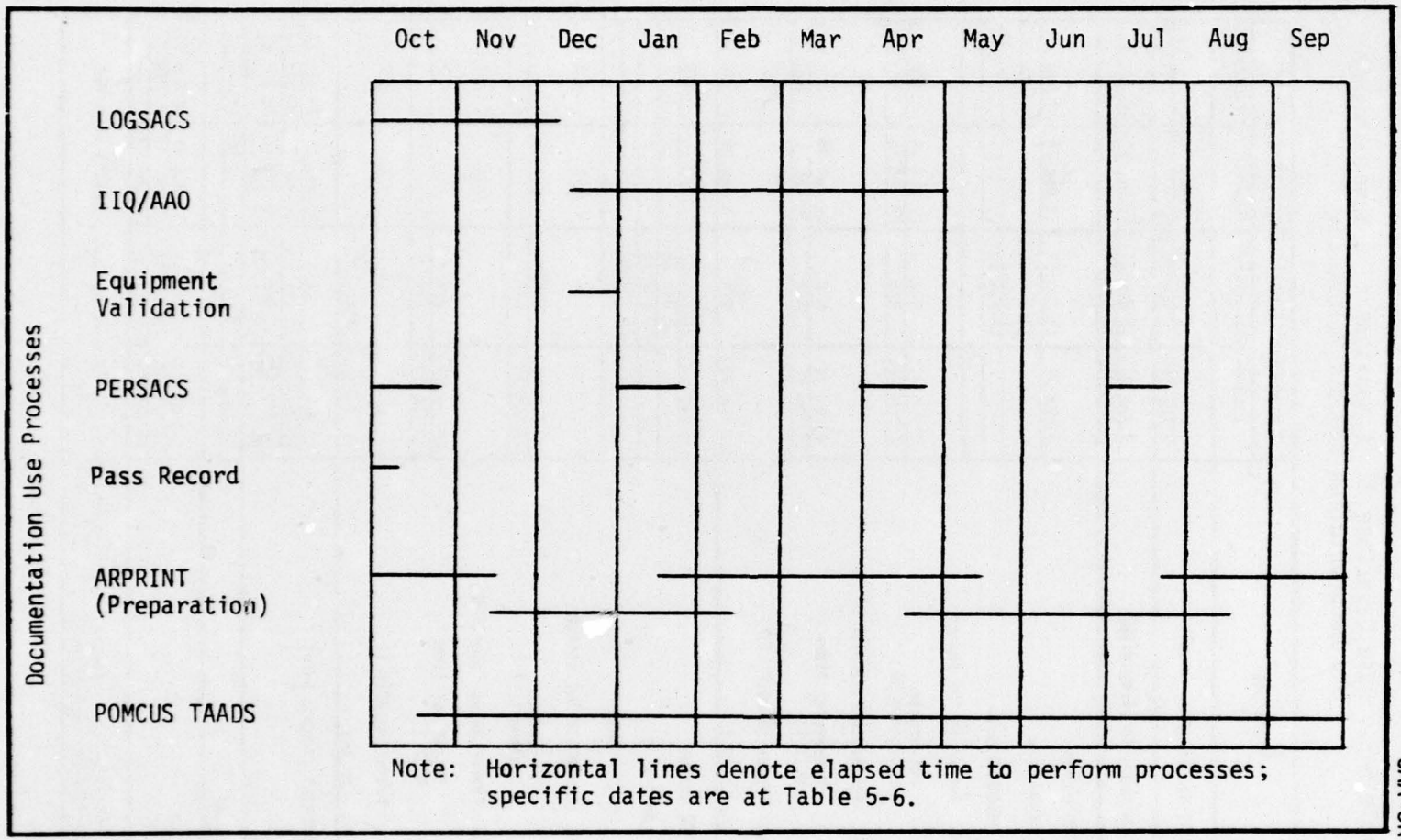


Figure 5-8. Case 3: Processes That Use Documentation

Table 5-5. Base Case/Case 3: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 3	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77 8 Aug 77	15 Mar 77 15 Sep 77	27 Oct 76	30 Sep 77
2. Equipment SB (Army-wide)	7 Feb 77 8 Aug 77	15 Mar 77 15 Sep 77	27 Oct 76	30 Sep 77
3. TOE change	7 Mar 77	13 Jun 77	14 Dec 76	30 Sep 77
Army-wide		14 Jul 77		
		15 Aug 77		
USAREUR only		16 Feb 78		
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	27 Oct 76	N/A
Equipment SB	7 Feb 77	N/A	27 Oct 76	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	29 Jul 76	N/A
BOIP II	11 Aug 76	N/A	30 Apr 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	4 Nov 74	N/A
4. TOE change	5 Sep 77	14 Dec 77	N/A	N/A
		12 Jan 78		
Army-wide		16 Feb 78		
		20 Aug 78		
USAREUR only				
a. Feeder to TOE change			N/A	N/A
MOS update	8 Aug 77	N/A		
Equipment SB	8 Aug 77	N/A		
b. Feeder to Equipment SB			N/A	N/A
Commercial items	10 May 77	N/A		
BOIP II	9 Feb 77	N/A		
c. Feeder to BOIP II			N/A	N/A
BOIP I	14 Aug 75	N/A		
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	20 May 77	30 Sep 77
	20 Jun 77	15 Oct 77	20 Aug 77	30 Sep 78
	20 Sep 77	N/A	20 Nov 77	30 Sep 78
	20 Dec 77	15 Apr 78	18 Feb 78	30 Sep 78
6. FAS[a/]	1st ea mo	45 days	1st ea mo	30 Sep 77
7. PBG	17 May 77	12 Apr 78	17 May 77	30 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	N/A
	23 Jan 78	12 Apr 78	23 Jan 78	N/A

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

(b) The publication of ARPRINT has been rescheduled to 20 May to coincide with the May manpower and resource guidance and still ensure adequate working time for documentation in the September VTAADS.

(2) Table 5-6 provides an outline of the key dates associated with the processes which use authorization documentation.

(a) The frequency for updates to the LOGSACS, equipment validation report and Pass Record tape has been reduced from that of the Base Case due to the once a year schedule for TAADS update and the subsequent authorization document stability for the units.

(b) The PERSACS production, in this alternative, occurs quarterly to support a quarterly ARPRINT; it begins around the first of each month as opposed to the 20th of the month in the Base Case. The first of the month starting date was computed by the OPTIMA model since no workload requirement was identified to delay PERSACS initiation until the 20th of each month.

(c) The start date for the ARPRINT was computed by OPTIMA based on a requirement for a 20 May completion date. This ARPRINT completion date was also computed by OPTIMA to permit completion of documentation by 30 September. The milestones were calculated using the current documentation time estimates.

e. Impact of Schedule. Authorization changes in Case 3 would be systematically released to the field, allowing adequate documentation preparation time between each set of changes. The actual revision of unit documents in TAADS would be limited to once a year.

(1) The unit commanders could anticipate a 12-month period of stability between changes. If adequate effective date (EDATE) lead time is provided for changes, analysis of this alternative indicates that the unit is able to requisition, receive and train with a force structure stable for up to 12 months. Since authorizations would not change during the year, the personnel and equipment authorization information for approving requisitions would be valid for a year. Equally important, the documentation for the budget year would be submitted twelve months before the fiscal year begins. This would enhance the quality of the program development processes.

(2) It should be noted that DA and the MACOMs would be limited to one time during the year to introduce changes. The current dynamic process permitting changes to be entered every month would be curtailed. Exceptions to the annual documentation policy would have to be rare if the goals and benefits of the Case 3 schedule are to be achieved.

Table 5-6. Base Case/Case 3: Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 3	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	3 Jun 77
	1 Jul 77	2 Sep 77		
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78		
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		22 Apr 77	
	2 Sep 77			
	5 Dec 77		5 Dec 77	
	7 Mar 78			
PERSACS[a/]	20th curr	10th next	1 Apr 77	25 Apr 77
			1 Jul 77	25 Jul 77
			30 Oct 77	28 Nov 77
			3 Jan 78	28 Jan 78
Pass Record[a/]	1st curr		3 Oct 77	
ARPRINT	10 Nov 76	20 Mar 77	28 Jan 77	20 May 77
	10 Feb 77	20 Jun 77	25 Apr 77	20 Aug 77
	10 May 77	20 Sep 77	25 Jul 77	20 Nov 77
	10 Aug 77	20 Dec 77	28 Nov 77	18 Feb 78
POMCUS/TAADS	16 Aug 77		17 Oct 77	

[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

(3) The following six alternatives are designed to control systematically the various processes between the extremes of Case 3 and the frequent occurrence of the processes in the Base Case.

5-4. CASE 4: SYNCHRONIZED PROGRAM. Case 4 is the first in a series of alternatives which progressively incorporate controls and better synchronization within the Army authorization management system. The goals of this alternative are to synchronize budget year documentation to support the LOGSACS/IIQ processes and to synchronize the PERSACS/ARPRINT with that budget documentation.

a. Overview. The DA directed date for documentation of the budget year (the end of September) was analyzed to determine if a more appropriate date could be computed. The study found the September date the most advantageous for the following reasons:

(1) DA requires 7 months after the receipt of documentation to prepare the LOGSACS, IIQ, and AAO for the POM. The May suspense for the POM submission is an immovable date; therefore, if details of field implementation are to influence the equipment program, the documentation is required by the end of September.

(2) In order for TRADOC to adjust the training TDAs, requisition, and receive additional personnel before the beginning of a fiscal year, an ARPRINT is required by the end of January. In order to produce an ARPRINT for documentation purposes by the end of January, OPTIMA 1100 projected that budget year documentation would be required by the end of August. Through the use of the OPTIMA 1100 network analysis package and subsequent discussions with ODCSPER, it was possible to identify adjustments to reduce the ARPRINT production time, thus permitting a January ARPRINT based on end of September documentation.

(3) Another potential benefit of the September documentation of the budget year is that authorization documents would be based on the May PBG and therefore complement the Command Operating Budget Estimates (COBE). Authorization documents and COBE resource requirements would support each other.

(4) The next three paragraphs address the specific months for the release of the change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These paragraphs are supported by tables comparing significant milestones of this alternative to the Base Case.

b. Issuance of Change Guidance. In this alternative (Case 4), the change guidance would be released to the field at the same

time as in the Base Case except for the ARPRINT. Figure 5-9 illustrates the change guidance release dates.

(1) The MOS update and the SB would be forwarded semiannually (in February and August). The Consolidated Change Table (CCT) would provide unit level TOE change guidance during the months of March and September.

(2) The ARPRINT would provide TRADOC with quarterly training load projections; however, the release dates would be changed to January, April, July, and October. The January ARPRINT then provides the key training load information on budget year requirements; TRADOC would revise TDAs based on this data. The July ARPRINT would be the basis for revising the earlier documentation just before the beginning of the new fiscal year.

(3) The FAS provides monthly force structure and authorization guidance. The PBG is provided to the field in October, January and May; DA places priority on and directs the documentation of the May PBG. Any other change guidance such as DA directives, messages, letters, and command initiatives must be strongly discouraged (if it interferes with the September documentation effort) to assure the success of this alternative.

c. Documentation of Change. The analysis of dates for documentation of the changes was accomplished assuming the same time durations as the Base Case. The documentation schedule for this alternative (Case 4) is illustrated at Figure 5-10.

(1) The semiannual MOS and SB changes would be documented in the September and March VTAADS submissions. The September TOE changes would enter VTAADS between December and the following February or as late as the following August for USAREUR. USAREUR would document selected TOE change guidance by February. However, complete USAREUR consideration of the TOE changes does not occur until 12 months later. The March TOE changes would be documented in VTAADS in June, July, August and as late as the following February for USAREUR.

(2) The January and July ARPRINTs would be documented in the estimated 3 months elapsed time (by 20 April and 20 October, respectively).

(3) The monthly FAS changes that are documented, would enter VTAADS two and a half months after receipt of the FAS. The June FAS should be complementary to the May PBG and documented in September. This alternative assumes DA will direct the field to place a very high priority on documenting the budget year changes

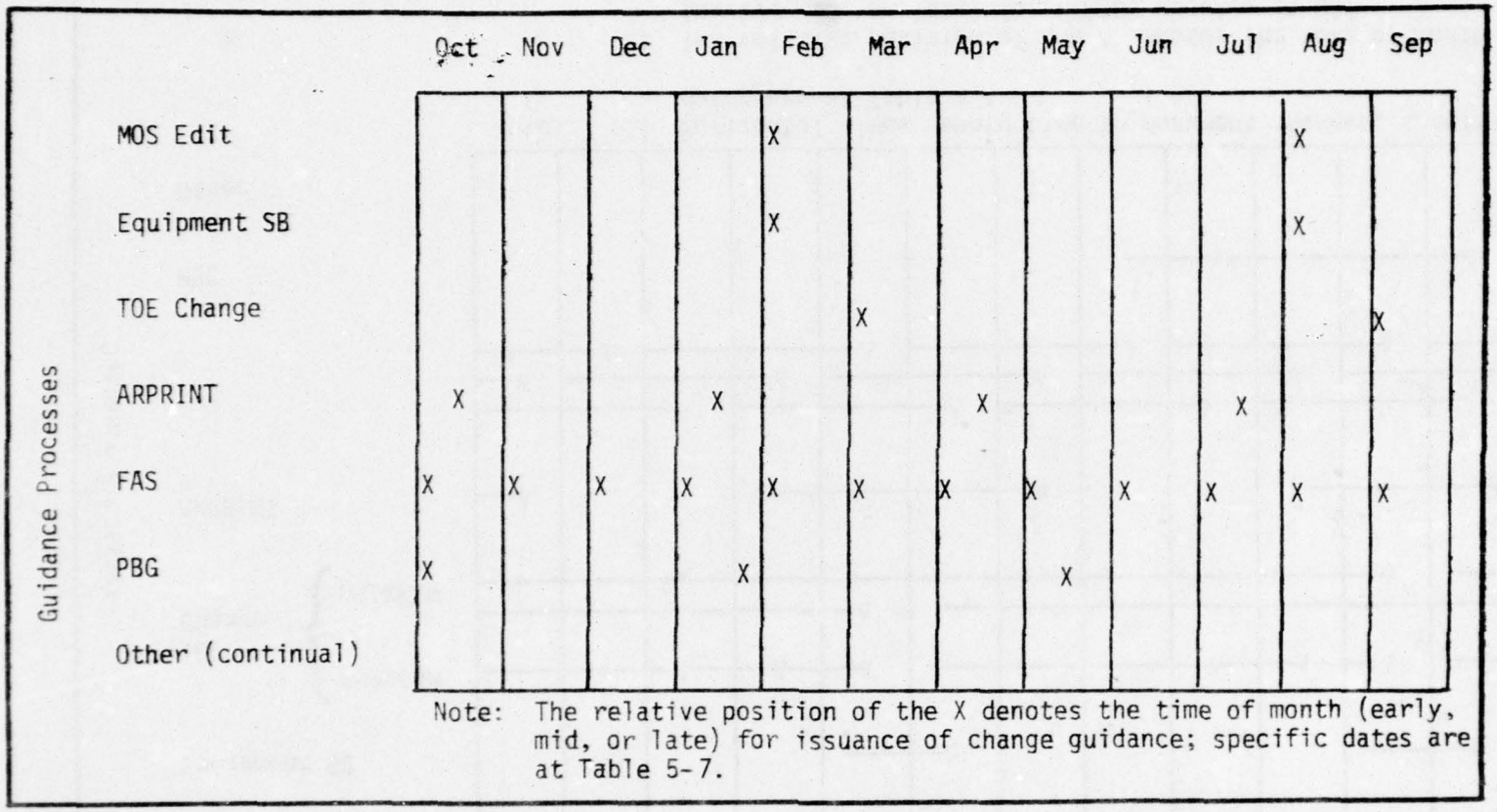


Figure 5-9. Case 4: Issuance of Change Guidance

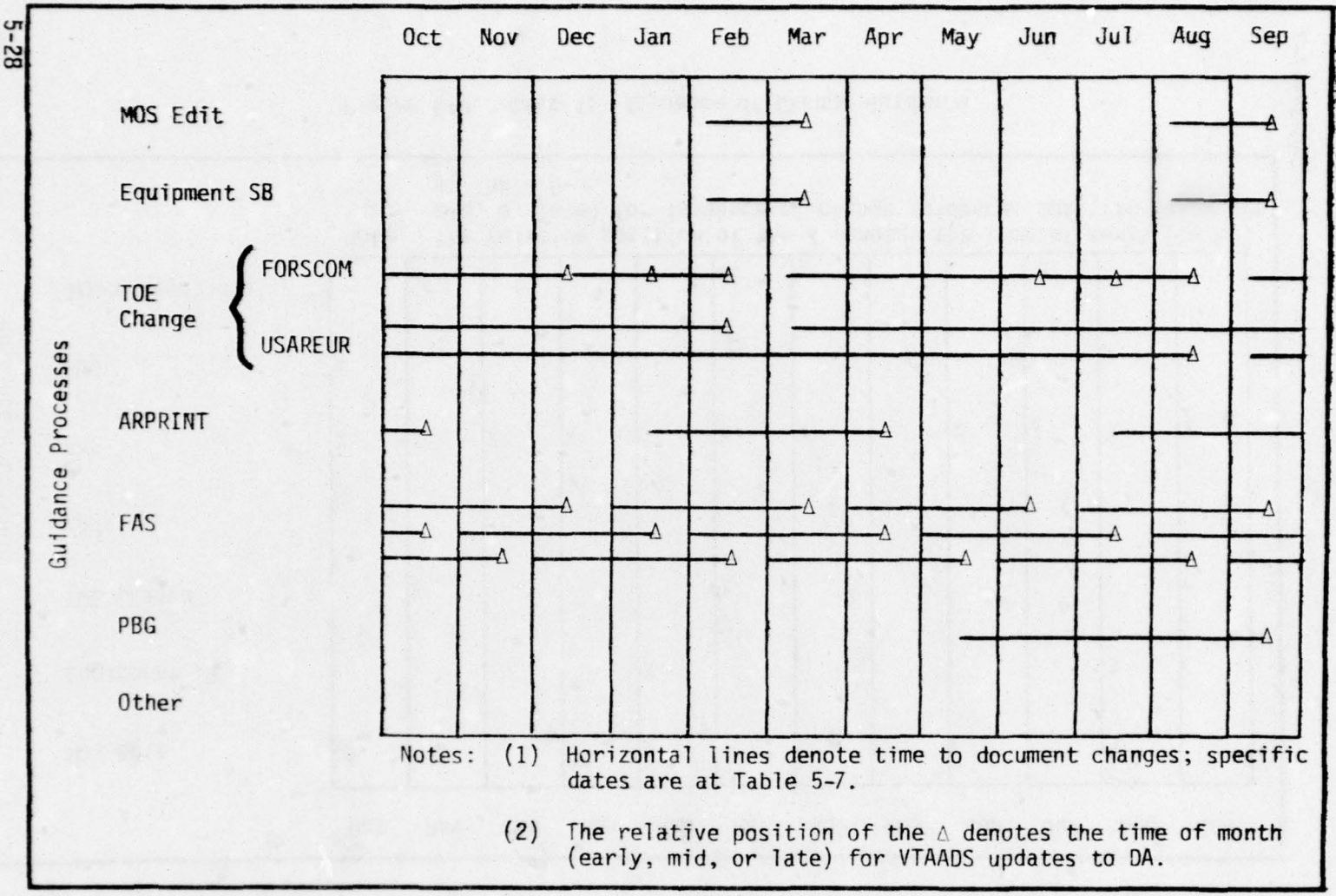


Figure 5-10. Case 4: Documentation of Changes

in the May PBG by the end of September. To make this alternative viable, the field should be informed that equipment data input to VTAADS after September may not be reflected in the IIQ/AAO for another year and, that budget year personnel changes not documented by September will impair TRADOC's ability to respond.

d. Use of Documentation. In Case 4, the cycle for most of the processes which use documentation would be adjusted from that of the Base Case. Specifically adjusted are the non-POM LOGSACS preparation times and the subsequent equipment validation schedules; the PERSACS and ARPRINT schedules; and the ARPRINT preparation times. Figure 5-11 illustrates the processes which use the documentation.

(1) The LOGSACS would continue to be prepared quarterly. The October LOGSACS supports the IIQ for the POM and the equipment validation processes and their preparation times differ from the Base Case. The LOGSACS prepared in January, April and July are abridged versions used to support the equipment validation processes. (See Chapter 4, paragraph 4-2c for a discussion of LOGSACS). The equipment validation processes are scheduled based on the LOGSACS completion dates.

(2) The PERSACS preparation would shift from the latter part of the month (as in the Base Case) to early in the month. The PERSACS completed in October would incorporate the budget year documentation and would feed the development of the January ARPRINT. The ARPRINT preparation time is assumed reduced from 79 to 59 working days. Based on discussions with ODCSPER, this time reduction appears achievable. The training load information in the January ARPRINT would then be used by TRADOC to revise TDA documentation and requisition appropriate personnel and/or equipment. The next ARPRINT which requires a documentation update would occur in July; the April and October ARPRINTs would be for TRADOC planning purposes and to support recruiting efforts.

(3) The preparation and release times for the Pass Record and POMCUS TAADS tapes remain unchanged.

e. Comparison of Key Milestones. In the following material, the critical milestone dates associated with Case 4 are compared to the Base Case. The significant changes are highlighted below:

(1) In Table 5-7, the ARPRINTs for documentation are released to TRADOC on 18 July and 17 January in Case 4 vs 20 June and 20 December for the Base Case. The documentation of the January ARPRINT in Case 4 is completed at virtually the same time as the Base Case December ARPRINT; Case 4 incorporates the September Army-wide budget year documentation while the Base Case does not.

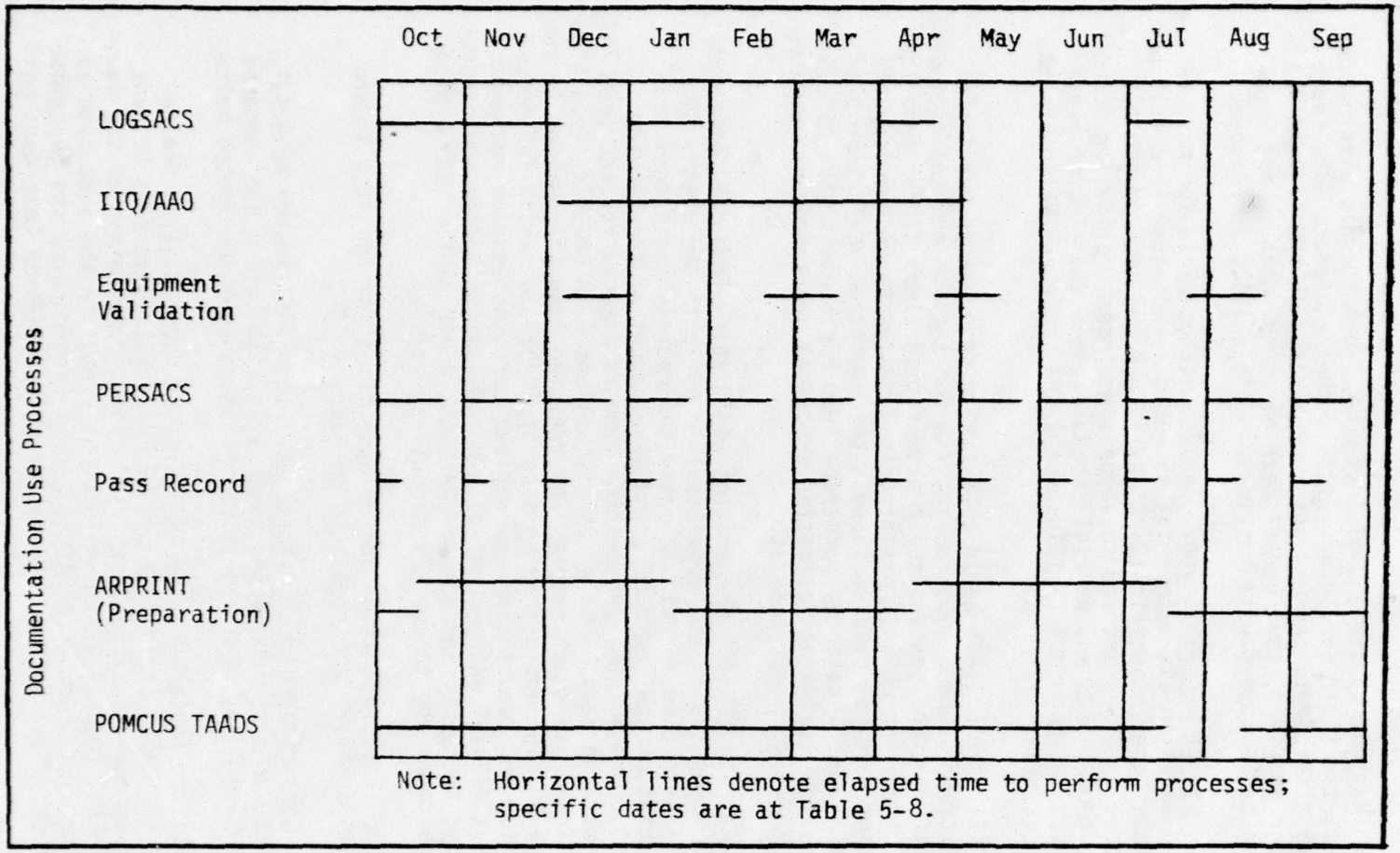


Figure 5-11. Case 4: Processes That Use Documentation

Table 5-7. Base Case/Case 4: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 4	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77	15 Mar 77	7 Feb 77	15 Mar 77
	8 Aug 77	15 Sep 77	8 Aug 77	15 Sep 77
2. Equipment SB (Army-wide)	7 Feb 77	15 Mar 77	7 Feb 77	15 Mar 77
	8 Aug 77	15 Sep 77	8 Aug 77	15 Sep 77
3. TOE change	7 Mar 77	13 Jun 77	7 Mar 77	13 Jun 77
Army-wide		14 Jul 77		14 Jul 77
		15 Aug 77		11 Aug 77
USAREUR only		16 Feb 78		18 Feb 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	7 Feb 77	N/A
Equipment SB	7 Feb 77	N/A	7 Feb 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	9 Nov 76	N/A
BOIP II	11 Aug 76	N/A	11 Aug 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	13 Feb 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	5 Sep 77	14 Dec 77
		12 Jan 78		12 Jan 78
Army-wide		16 Feb 78		16 Feb 78
		20 Aug 78		20 Aug 78
USAREUR only				
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	8 Aug 77	N/A
Equipment SB	8 Aug 77	N/A	8 Aug 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	10 May 77	N/A
BOIP II	9 Feb 77	N/A	9 Feb 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	14 Aug 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	18 Jul 77	20 Oct 77
	20 Jun 77	15 Oct 77	18 Oct 77	N/A
	20 Sep 77	N/A	17 Jan 78	20 Apr 78
	20 Dec 77	15 Apr 78	17 Apr 77	N/A
6. FAS[a/]	1st ea mo	45 days	1st ea mo	45 days
7. PBG	17 May 77	12 Apr 78	17 May 77	15 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	N/A
	23 Jan 78	12 Apr 78	23 Jan 78	N/A

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

(2) In Table 5-8, the Case 4 PERSACS process starts at the beginning of each month to capitalize on the VTAADS documentation received the previous month. This permits the ARPRINT development process to start approximately 20 days earlier then in the Base Case.

f. Impact of Schedule. By requiring the receipt of budget year documentation 12 months prior to execution and then synchronizing the personnel processes, both the equipment and training programs will benefit.

(1) Early receipt of documentation pertaining to the budget year will provide a more accurate foundation on which to develop the Army's program. For example, in Case 4, TRADOC would have budget year training load information reflecting documented unit changes 5 months earlier than in the current Base Case (January vs June ARPRINT).

(2) This alternative creates additional workload for all the MACOMs to document the budget year by the end of September. Compared to the Base Case, no processes for providing guidance are reduced or rescheduled. Informal change guidance such as telephone calls, messages, letters, and command initiatives during the peak workload period associated with the September VTAADS should be strongly discouraged to assure the success of this alternative.

(3) The next Case proposes a rescheduling action to relieve the MACOMs of selected workload until after the budget year documentation is completed.

5-5. CASE 5: RESCHEDULED TECHNICAL CHANGE. The goal of this alternative (Case 5) is to provide the field more time to revise their authorization documents pertaining to the budget year. In order to accomplish this goal, three processes for providing change guidance would be rescheduled to minimize conflict with preparation of the budget year documentation in the September VTAADS update. The change processes rescheduled are the MOS update, the equipment Supply Bulletin (SB), and the TOE change (Consolidated Change Table). The number of working days required to document these changes is assumed to be the same as the Base Case; the receipt of the VTAADS documentation by TAADS has been shifted to reflect the later release of guidance. All other authorization management actions remain the same as in Case 4. The next three subparagraphs address the specific months for the release of the change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These paragraphs are followed by tables of significant milestones.

Table 5-8. Base Case/Case 4: Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 4	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	3 Jun 77
	1 Jul 77	2 Sep 77	1 Jul 77	2 Sep 77
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78	3 Jan 78	7 Mar 78
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		3 Jun 77	
	2 Sep 77		2 Sep 77	
	5 Dec 77		5 Dec 77	
	7 Mar 78		7 Mar 78	
PERSACS[a/]	20th curr	10th next	1st curr	20th curr
Pass Record[a/]	1st curr		1st curr	
ARPRINT	20 Nov 76	20 Mar 77	20 Apr 77	18 Jul 77
	26 Feb 77	20 Jun 77	20 Jul 77	18 Oct 77
	26 May 77	20 Sep 77	20 Oct 77	17 Jan 78
	20 Aug 77	20 Dec 77	20 Jan 78	17 Apr 78
POMCUS/TAADS	16 Aug 77		16 Aug 77	

[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

a. Issuance of Change Guidance. In Case 5, the release dates for the MOS update, the SB, and the TOE change would be adjusted to occur after the completion of the budget year VTAADS submission. Figure 5-12 illustrates the release dates for Case 5.

(1) The MOS update and SB release dates would be shifted from August to September (and from February to March); the Base Case release dates conflict with field preparation of the documentation for the budget year. The MOS and SB semiannual guidance reflect the respective personnel and equipment changes which have been accumulated since the previous updates. In this revised schedule, adjusting the release date of the MOS and SB guidance would entail primarily adjusting their respective cut-off dates to conform to the new cycle. The volume and type of workload for preparation of the MOS and SB updates would remain unchanged from the Base Case; the publication preparation events would be rescheduled to occur one month later than the Base Case.

(2) The release of the TOE changes in Case 5 has been adjusted from September to October (and from March to April). The TOE change guidance, like the MOS and SB updates, provides a consolidated accumulation of six months of technical guidance. In addition to newly developed doctrinal changes, the TOE change guidance would include the latest MOS and SB changes. That semiannual guidance (CCT) is currently released early in September, the same month the initial budget year documentation is due at DA. The proposed adjustment to the release date would have no anticipated impact on volume and type workload at TRADOC in preparing the CCT; the publication preparation events would be rescheduled to occur a month later than the Base Case.

(3) The release of the FAS, ARPRINT and PBG for documentation would remain the same as in Case 4. The FAS provides monthly force structure and authorization guidance; the ARPRINT would provide TRADOC with quarterly training projections in January, April July and October. As proposed in Case 4, the January and July ARPRINTS would be the two which require documentation. The PBG would be provided to the field in October, January and May; documentation of guidance for the budget year, to incorporate the May PBG, would be mandatory. Issue of all other change guidance should be discouraged during times when it conflicts with the field's efforts at updating the budget year documentation.

b. Documentation of Change. As a result of the adjustments to the change guidance release schedule, corresponding adjustments were computed for the schedule. The elapsed time (working days) for the documentation of changes in the various processes is assumed to remain the same as in Case 4. The documentation calendar

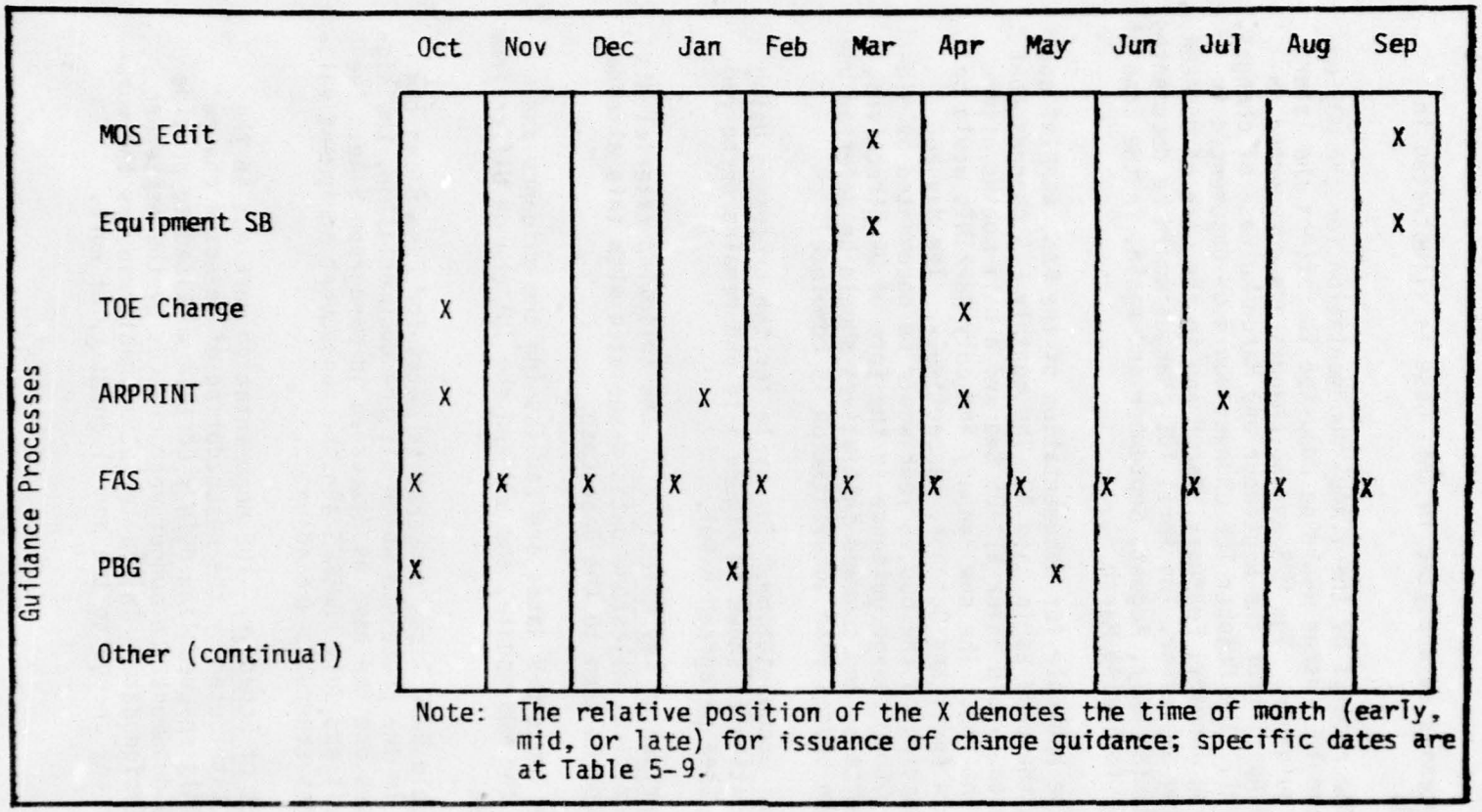


Figure 5-12. Case 5: Issuance of Change Guidance

for the processes as analyzed in this Case is illustrated in Figure 5-13.

(1) The receipt of the VTAADS documentation for the MOS update, SB, and TOE change would be adjusted to reflect the later receipt of guidance. The MOS and SB changes are documented in October and April (for the September and March release of changes, respectively). The October TOE changes would be documented in VTAADS during January, February, March and in the case of USAREUR, the following September. The April TOE changes would be documented in VTAADS during July, August, September and again, in the case of USAREUR, the following March.

(2) The schedule for documentation of the FAS, ARPRINT and PBG remains the same as in Case 4. The monthly FAS changes that are documented, would enter VTAADS two and a half months after receipt of the FAS. The new January and July ARPRINTs would be documented in April and October, respectively. The May PBG changes impacting on the budget year would be documented by mid-September. Other change guidance in the form of DA directives, messages, letters, and command initiatives should be deferred until after the budget year documentation is completed.

c. Use of Documentation. The cycle for the processes using the documentation is shown in Figure 5-14 and remains unchanged from Case 4 (see paragraph 5-4d).

d. Comparison of Key Milestones. The following materiel discusses the critical milestone dates associated with this alternative and compares them to the Base Case.

(1) In Table 5-9 dates are for issuing the guidance and documenting the MOS update, the SB, and the TOE change differ from the Base Case.

(2) Table 5-10 lists comparative dates for Case 5 and the Base Case. In the processes which use the documentation, the significant dates are the same as discussed in paragraph 5-4e. The January, April and July LOGSACS and the subsequent equipment validation process schedules are adjusted.

e. Impact of Schedule. The documentation workload in the field is redistributed by the rescheduling of selected change guidance. This rescheduling defers certain workload to provide more time to document the budget year changes by the September VTAADS submission date. This alternative redistributes the workload without any change to the annual quantity of work.

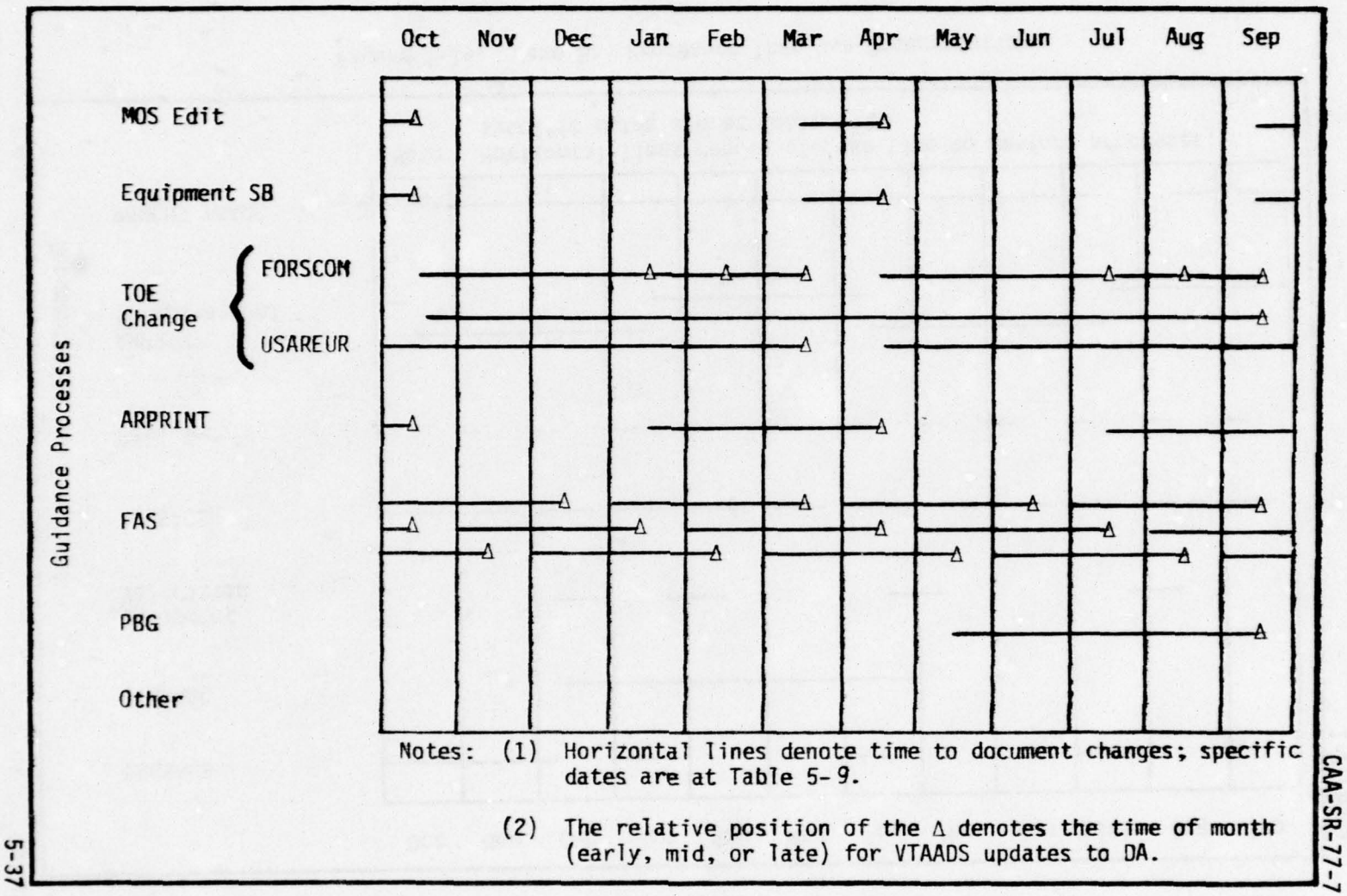


Figure 5-13. Case 5: Documentation of Changes

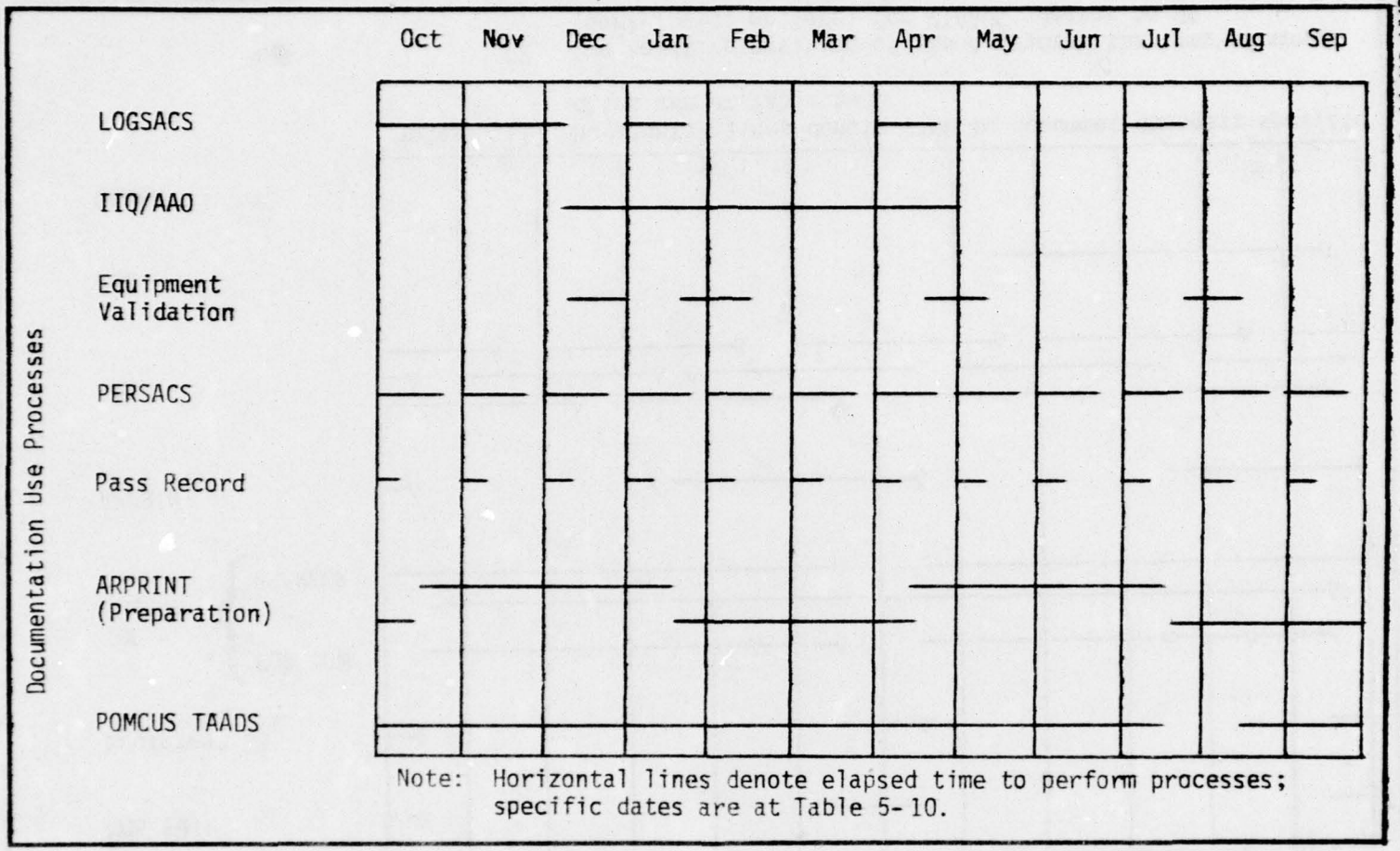


Figure 5-14. Case 5: Processes That Use Documentation

Table 5-9. Base Case/Case 5: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 5	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77	15 Mar 77	14 Mar 77	15 Apr 77
	8 Aug 77	15 Sep 77	21 Sep 77	15 Oct 77
2. Equipment SB (Army-wide)	7 Feb 77	15 Mar 77	14 Mar 77	15 Apr 77
	8 Aug 77	15 Sep 77	21 Sep 77	15 Oct 77
3. TOE change	7 Mar 77	13 Jun 77	11 Apr 77	13 Jul 77
Army-wide		14 Jul 77		14 Aug 77
		15 Aug 77		15 Sep 77
USAREUR only		16 Feb 78		15 Mar 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	14 Mar 77	N/A
Equipment SB	7 Feb 77	N/A	14 Mar 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	14 Dec 76	N/A
BOIP II	11 Aug 76	N/A	15 Sep 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	20 Mar 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	19 Oct 77	14 Jan 78
		12 Jan 78		12 Feb 78
Army-wide		16 Feb 78		16 Mar 78
		20 Aug 78		20 Sep 78
USAREUR only				
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	21 Sep 77	N/A
Equipment SB	8 Aug 77	N/A	21 Sep 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	23 Jun 77	N/A
BOIP II	9 Feb 77	N/A	25 Mar 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	29 Sep 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	18 Jul 77	20 Oct 77
	20 Jun 77	15 Oct 77	18 Oct 77	N/A
	20 Sep 77	N/A	17 Jan 78	20 Apr 78
	20 Dec 77	15 Apr 78	17 Apr 77	N/A
6. FAS[a/]	1st ea mo	45 days	1st ea mo	45 days
7. PBG	17 May 77	12 Apr 78	17 May 77	15 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	N/A
	23 Jan 78	12 Apr 78	23 Jan 78	N/A

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-10. Base Case/Case 5: Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 5	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	18 Apr 77
	1 Jul 77	2 Sep 77	1 Jul 77	18 Jul 77
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78	3 Jan 78	20 Jan 78
IIQ/AAQ	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		18 Apr 77	
	2 Sep 77		18 Jul 77	
	5 Dec 77		5 Dec 77	
	7 Mar 78		20 Jan 78	
PERSACS[a/]	20th curr	10th next	1st curr	20th curr
Pass Record[a/]	1st curr			
ARPRINT	20 Nov 76	20 Mar 77	20 Apr 77	18 Jul 77
	26 Feb 77	20 Jun 77	20 Jul 77	18 Oct 77
	26 May 77	20 Sep 77	20 Oct 77	17 Jan 78
	20 Aug 77	20 Dec 77	20 Jan 78	17 Apr 78
POMCUS/TAADS	16 Aug 77		16 Aug 77	

[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

(1) Based on the analysis of this alternative, revisions to issue dates for three processes occur: the MOS update at MILPERCEN, the SB at DESCOM, and the TOE change (CCT) at TRADOC. However, the impact would be adjusting to a new calendar only; no adjustment to the procedures are anticipated for any of the processes.

(2) The next case proposes rescheduling the VTAADS documentation of the MOS, SB and TOE change guidance to reduce the frequency of document changes for MTOE and TDA units.

5-6. CASE 6: CONTROLLED TECHNICAL CHANGE DOCUMENTATION. This alternative (Case 6) incorporates all of the scheduling modifications analyzed in the preceding two Cases. The prior Cases synchronized budget year documentation processes and then rescheduled change guidance conflicting with the field's effort to prepare that budget year documentation. The goal of Case 6 is to reduce the frequency of revised authorization documents for MTOE and TDA units.

a. Overview. The frequency of changes to unit documents is a direct function of the VTAADS update cycle. Currently VTAADS is updated at least monthly because of the schedule for receipt of change guidance requiring documentation. With the monthly update, units are vulnerable to change every month.

(1) A first step in reducing how often the units are actually subject to document changes is the accumulation of the documentation guidance. Currently, an affected unit's authorization document must be changed within a month after the MOS update and SB are issued and within 6 months after TOE changes (CCT issuance); as indicated in Chapter 2, the TOE changes are supposed to reflect the MOS and SB updates. Therefore, redundant requirements for documentation can occur. In addition, the unit is vulnerable to FAS changes, the informal change guidance from DA directives, messages, letters, and MACOM or unit initiatives which occur every month.

(2) To achieve the goal of reducing the frequency of revised authorization documents, the documentation associated with the March MOS and SB updates, and the April TOE changes would be submitted in a single, September VTAADS update. September was selected for the following reasons:

(a) A September update provides the same elapsed time for completion of documentation of the TOE changes as currently observed (Base Case).

(b) A September update permits the submission of these 3

types of change in conjunction with the PBG documentation. The schedule for all other processes in this alternative would be the same as in Case 5.

(3) The next three paragraphs address the specific months for the release of the change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These paragraphs are supported by tables of significant milestone dates and an assessment of the impact of Case 6.

b. Issuance of Change Guidance. The release of the various change guidance would be the same as in Case 5 (see paragraph 5-5a) and illustrated in Figure 5-15.

c. Documentation of Change. The elapsed time (working days) for the documentation of change in individual processes remains the same as in Case 5 (see paragraph 5-5b). However, the documentation schedule of the MOS, SB, and TOE change processes have been altered to that illustrated in Figure 5-16. In this alternative the documentation of the MOS update, SB, and TOE change would be limited to the September and March VTAADS updates. In the Base Case and the preceding alternatives, the documentation of the March MOS and SB were scheduled for completion in April and the September changes are documented in October. In this alternative (Case 6), the submission dates for documentation would shift to September and March. The documentation of ARPRINT, FAS, and PBG remains the same as in Cases 4 and 5.

d. Use of Documentation. Figure 5-17 indicates the cycle for the processes which use documentation. The cycle remains the same as in Cases 4 and 5 (see paragraph 5-4d).

e. Comparison of Key Milestone. A comparison of the key milestones of Case 6 with the Base Case indicates that the only significant changes are associated with MOS, SB, and TOE change processes (see Table 5-11). The MOS and SB would be issued approximately a month later than in the Base Case, and documentation would be received six months later. Documentation of the TOE changes arrive only twice a year, on a fixed semiannual schedule. In Table 5-12, Comparison of Milestones in the Documenatation Use Processes, shows the same dates as in the preceding two Cases.

f. Impact of Schedule. The analysis of this alternative (Case 6) indicates a reduction in how often units (battalion and other level) are vulnerable to specific change guidance. Accumulating the SB, MOS, and TOE Changes for the VTAADS updates semiannually, the units would receive revised authorization documents.

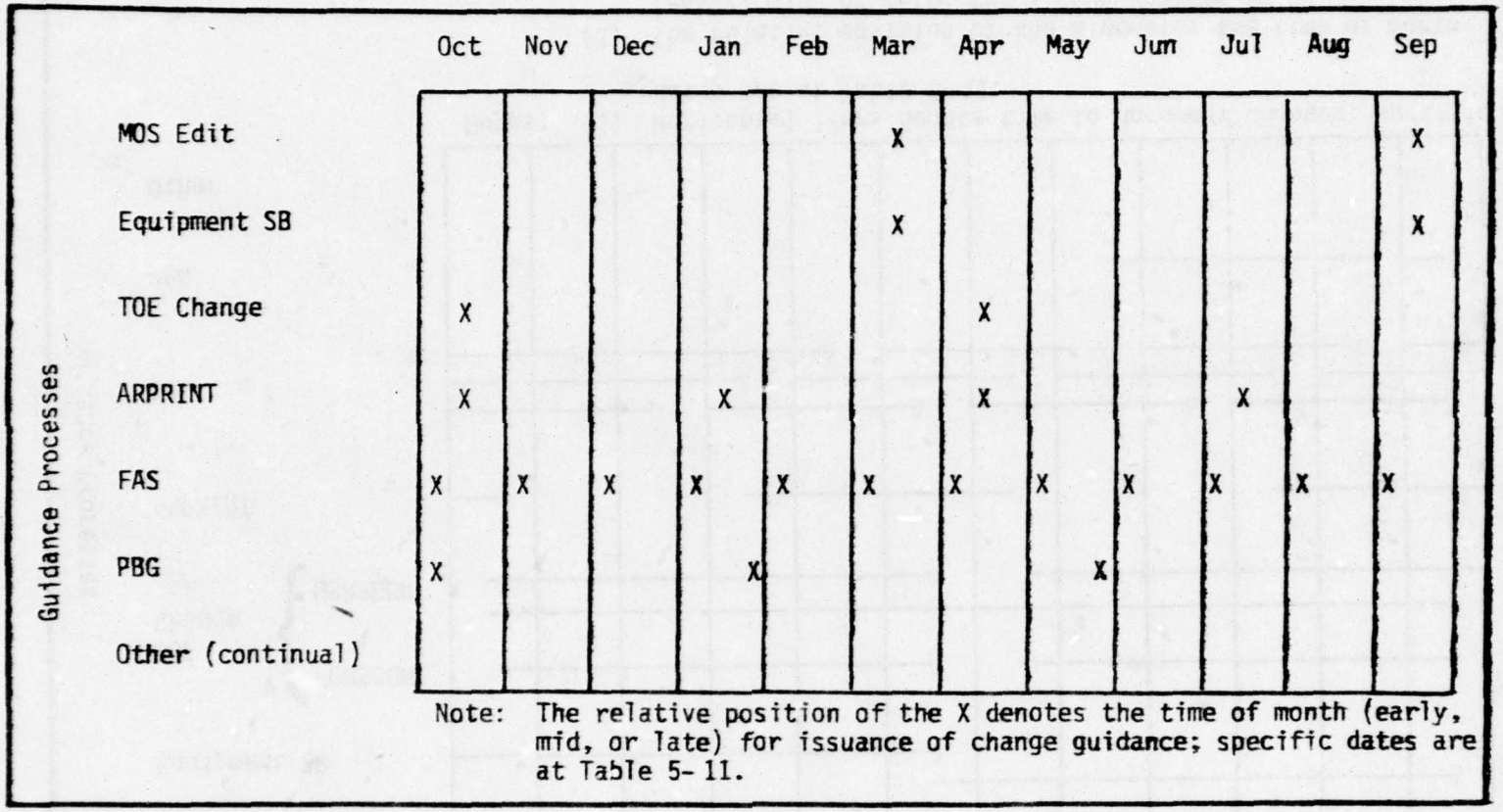


Figure 5-15. Case 6: Issuance of Change Guidance

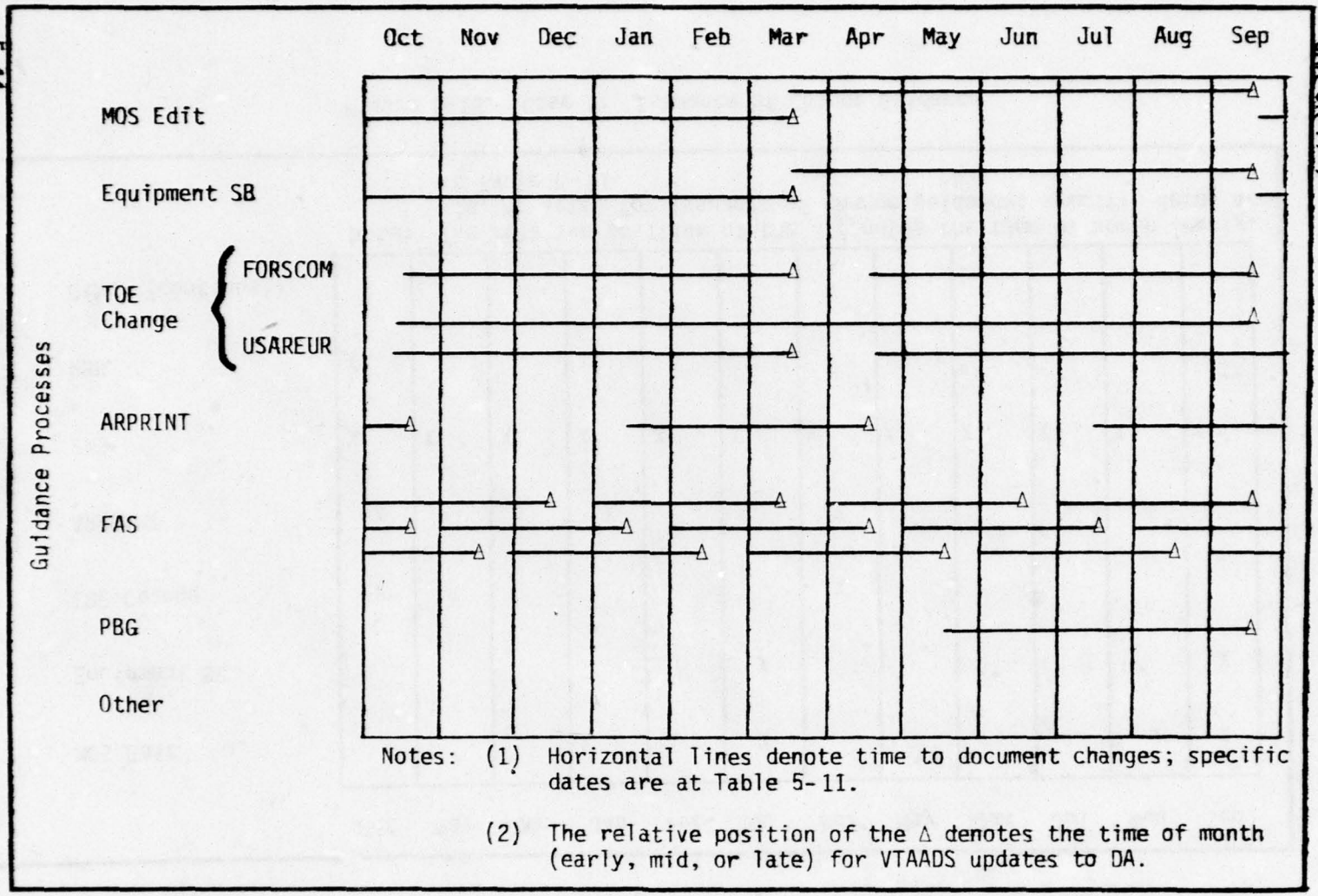


Figure 5-16. Case 6: Documentation of Changes

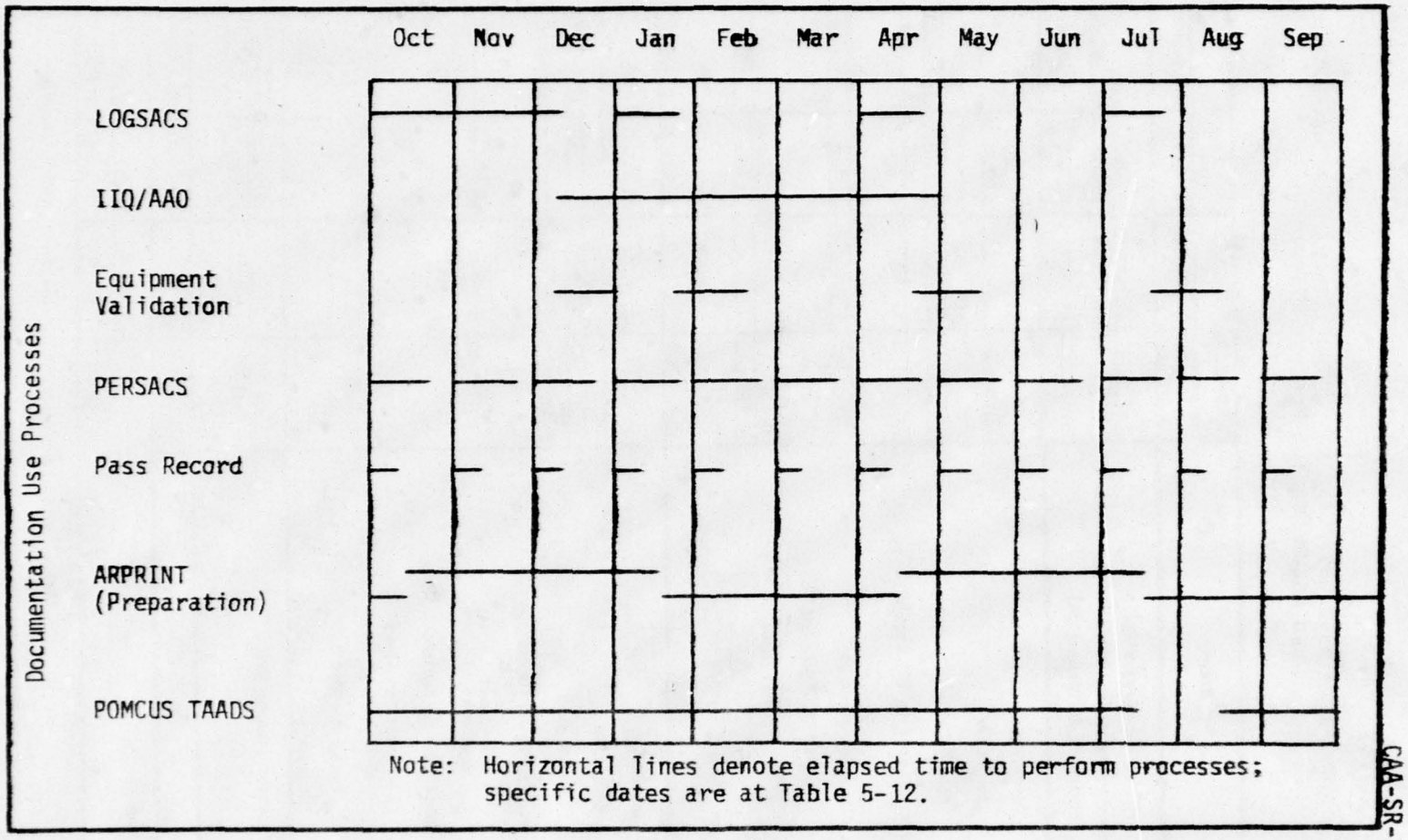


Figure 5-17. Case 6: Processes That Use Documentation

Table 5-11. Base Case/Case 6: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 6	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77	15 Mar 77	15 Mar 77	13 Sep 77
	8 Aug 77	15 Sep 77	15 Sep 77	17 Mar 78
2. Equipment SB (Army-wide)	7 Feb 77	15 Mar 77	15 Mar 77	13 Sep 77
	8 Aug 77	15 Sep 77	15 Sep 77	17 Mar 78
3. TOE change	7 Mar 77	13 Jun 77	11 Apr 77	
Army-wide		14 Jul 77		
		15 Aug 77		
USAREUR only		16 Feb 77		17 Mar 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	15 Mar 77	N/A
Equipment SB	7 Feb 77	N/A	15 Mar 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 77	N/A	15 Dec 76	N/A
BOIP II	11 Aug 76	N/A	16 Sep 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	21 Mar 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	14 Oct 77	17 Mar 78
Army-wide		12 Jan 78		
		16 Feb 78		
USAREUR only		20 Aug 78		15 Sep 78
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	15 Sep 77	N/A
Equipment SB	8 Aug 77	N/A	15 Sep 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	20 Jun 77	N/A
BOIP II	9 Feb 77	N/A	22 Mar 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	24 Sep 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	18 Jul 77	20 Oct 77
	20 Jun 77	15 Oct 77	18 Oct 77	N/A
	20 Sep 77	N/A	17 Jan 78	20 Apr 78
	20 Dec 77	15 Apr 78	17 Apr 77	N/A
6. FAS[a/]	1st ea mo	45 days	1st ea mo	45 days
7. PBG	17 May 77	12 Apr 78	17 May 77	13 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	N/A
	23 Jan 78	12 Apr 78	23 Jan 78	N/A

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-12. Base Case/Case 6 : Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 6	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	18 Apr 77
	1 Jul 77	2 Sep 77	1 Jul 77	18 Jul 77
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78	3 Jan 78	20 Jan 78
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		18 Apr 77	
	2 Sep 77		18 Jul 77	
	5 Dec 77		5 Dec 77	
	7 Mar 78		20 Jan 78	
PERSACS[a]	20th curr	10th next	1st curr	20th curr
Pass Record[a]	1st curr			
ARPRINT	20 Nov 76	20 Mar 77	20 Apr 77	18 Jul 77
	26 Feb 77	20 Jun 77	20 Jul 77	18 Oct 77
	26 May 77	20 Sep 77	20 Oct 77	17 Jan 78
	20 Aug 77	20 Dec 77	20 Jan 78	17 Apr 78
POMCUS/TAADS	16 Aug 77		16 Aug 77	

[a] Entries indicate day of the month (current or next), unless specific dates are shown.

only twice a year from these processes instead of four times a year as in the Base Case.

(1) Implementation of this alternative would result in greater stability of the authorization documents then in the Base Case. This is a specific example of how to reduce the frequency and turbulence of continuing changes to unit authorization documents. At the same time, DA receipt of SB, MOS, and TOE documentation in the September VTAADS update will support the IIQ/AAO and ARPRINT program development processes (see paragraph 5-4d for a detailed discussion).

(2) This alternative (Case 6) would result in the documentation of the MOS and SB changes occurring less quickly then at present. The field will be responding to the MOS and SB change guidance 5 months later than in the current system (Base Case) or the preceding alternatives. The personnel and equipment asset managers would have to accommodate the five month delay in receiving the feedback on the implementation of the guidance. Effective dates for compliance with the SB and MOS guidance would have to be specified by DESCOM and MILPERCEN, respectively.

(3) The delay of the TOE change documentation will not have the same impact since, TOE change documentation already takes up to 6 months.

(4) The next case extends control of VTAADS submissions and the corresponding changes in unit documents to twice a year.

5-7. CASE 7: CONTROLLED ALL CHANGE DOCUMENTATION. This alternative (Case 7) extends the controls on VTAADS documentation and the corresponding frequency of unit document changes postulated in Case 6. The goal of Case 7 is to reduce the number of times during the year when a unit's authorization document can be revised while providing adequate implementation feedback to DA.

a. Overview. This case is built on the analysis of schedule sequencing reported in the preceding Case. In addition to the schedule arrangement of Case 6, Case 7 limits all VTAADS updates to only twice a year. As a result, only two sets of changes to unit documents would occur during the course of the year.

(1) The MACOM would be able to plan better documentation revision schedules based on the synchronized flow of change guidnace. To affect this improvement, all change guidance would be applied to units and accumulated in a VTAADS work file at MACOM.

(2) This VTAADS work file would be transmitted to DA twice a

year to update TAADS; the Fall submission would be in support of the DA programing requirements. A Spring submission would update the unit documents six months prior to fiscal year execution.

(3) The unit commander would be provided document stability for a six-month period; workload for administrative documentation requirements, requisitions for new people and equipment, and establishment of training plans could be scheduled to a twice-yearly receipt of authorization documents.

(4) The next three paragraphs address the specific months for the release of the change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These subparagraphs are accompanied by tables of significant milestone dates and followed by an assessment of the impact of this alternative.

b. Issuance of Change Guidance. The release of the various change guidance shown in Figure 5-18 would be the same as in Cases 5 and 6 (see paragraph 5-5a).

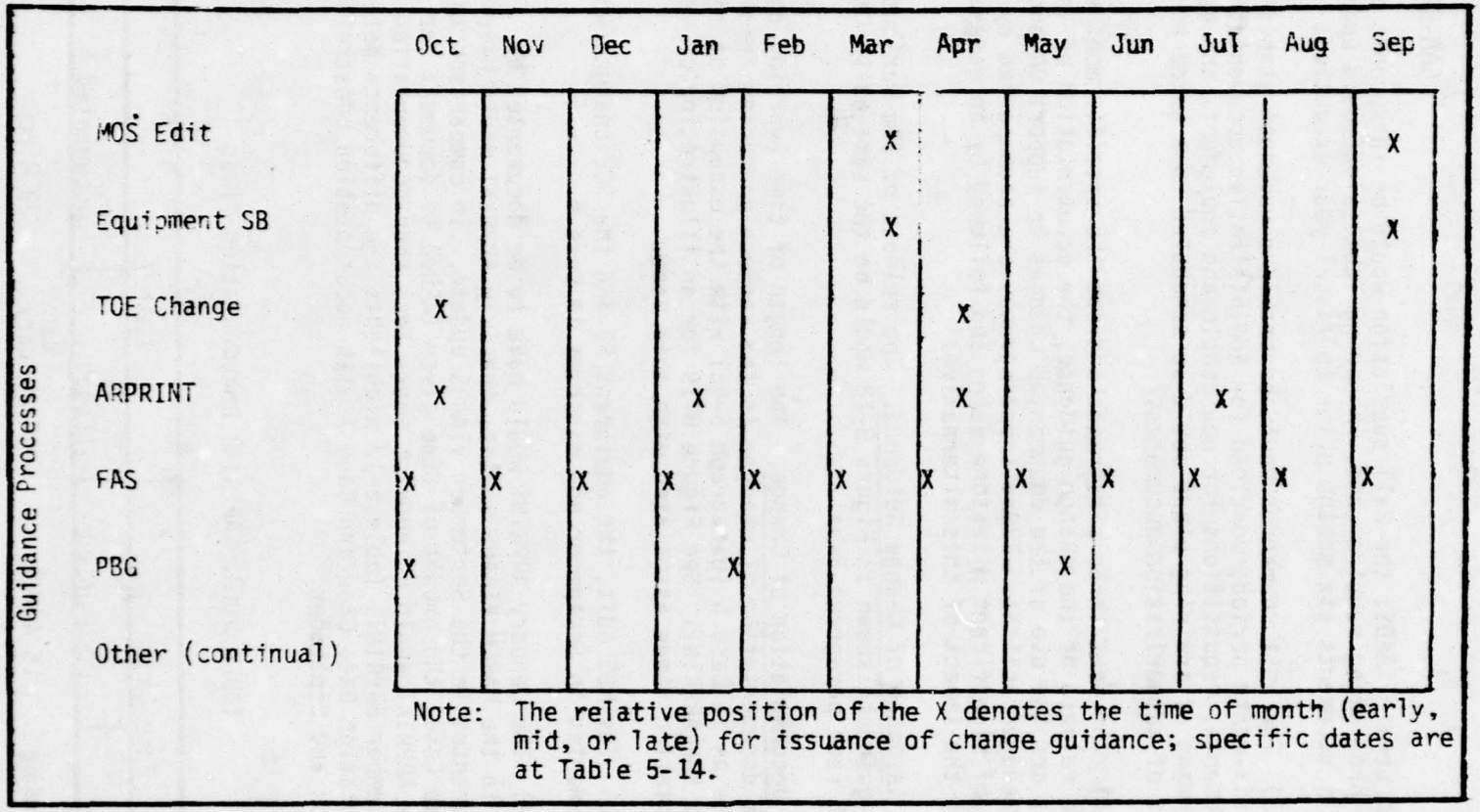
c. Documentation of Change. The length of time (working days) for the documentation of changes in the various processes remains the same as in Case 6 (paragraph 5-6c) with the exception of the FAS and the ARPRINT. See Figure 5-19 for an illustration of the documentation times associated with this case.

(1) The MOS edit, the equipment SB and the TOE changes would be documented in September and March as in Case 6.

(2) The January ARPRINT would have to be documented by TRADOC in the MARCH VTAADS update; the July ARPRINT would have to be documented in the September VTAADS update. In comparison to the Base Case, the amount of time given TRADOC to document the January ARPRINT would be about 6 weeks less then documentation of the December ARPRINT. Table 5-13 highlights the difference between documentation Base Case and Case 7 with documentation constrained to March and September.

TABLE 5-13. ARPRINT Documentation Times

Base Case		Case 7	
Issued	Documented	Issued	Documented
20 December	15 April	17 January	29 March
24 July	15 October	18 July	30 September



Note: The relative position of the X denotes the time of month (early, mid, or late) for issuance of change guidance; specific dates are at Table 5-14.

Figure 5-18. Case 7: Issuance of Change Guidance

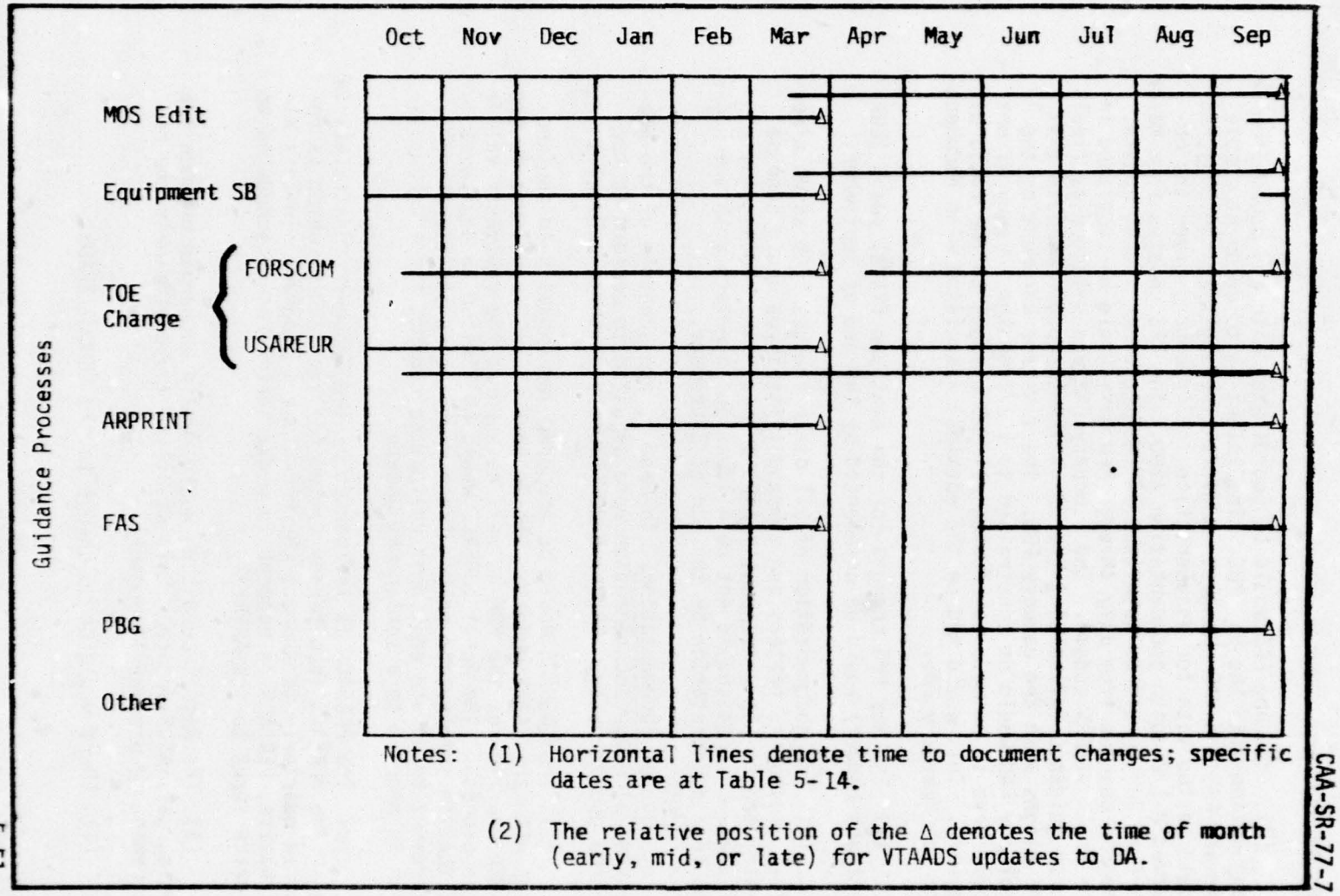


Figure 5-19. Case 7: Documentation of Changes

(3) The June FAS would be coordinated with and documented in conjunction with the May PBG. The intent is to document complementary FAS and PBG changes. Additional changes in the July FAS would be too late for documentation in September, given the observed 2 1/2 month documentation time. The FAS changes from March through June would be submitted in the September VTAADS update. The FAS changes from July through February would be submitted in the March VTAADS update. The February FAS was selected as final force guidance influencing the March VTAADS update because that FAS aligns with the January PBG. The time for documenting the February FAS would be constrained to 1 1/2 months. Every effort would have to be made to provide all FAS changes to the field by January. This would reduce the workload associated with documenting the February FAS.

(4) The May PBG changes for the next two fiscal years (current and budget) would be documented by the end of September.

(5) The documentation of all other changes such as DA directives, messages, letters and command initiatives would also be restricted to the semiannual VTAADS submissions. Documentation of these changes should not be allowed to interfere with the budget year documentation by the end of September.

d. Use of Documentation. In Case 7, the schedule of the processes which use documentation were adjusted to conform to the VTAADS update cycle. Figure 5-20 illustrates these schedules.

(1) The LOGSACS would be prepared semiannually in conjunction with the TAADS update. The October LOGSACS continues to generate the IIQ for the POM as well as support the equipment validation process. The April LOGSACS would be limited to equipment validation information only. There would be no additional requirement to update equipment validation reports since documentation is reduced to a semiannual update.

(2) The PERSACS is influenced by the manpower constraints in FAS. The PERSACS is a feeder system for the ARPRINT which is required quarterly to support the recruitment program. In this alternative, PERSACS is reduced to a quarterly process scheduled to provide input to the ARPRINT.

(3) The Pass Record tape would remain unchanged between the semiannual TAADS update. This stability would eliminate the requirement to prepare it monthly.

(4) There would be no change to the POMCUS TAADS.

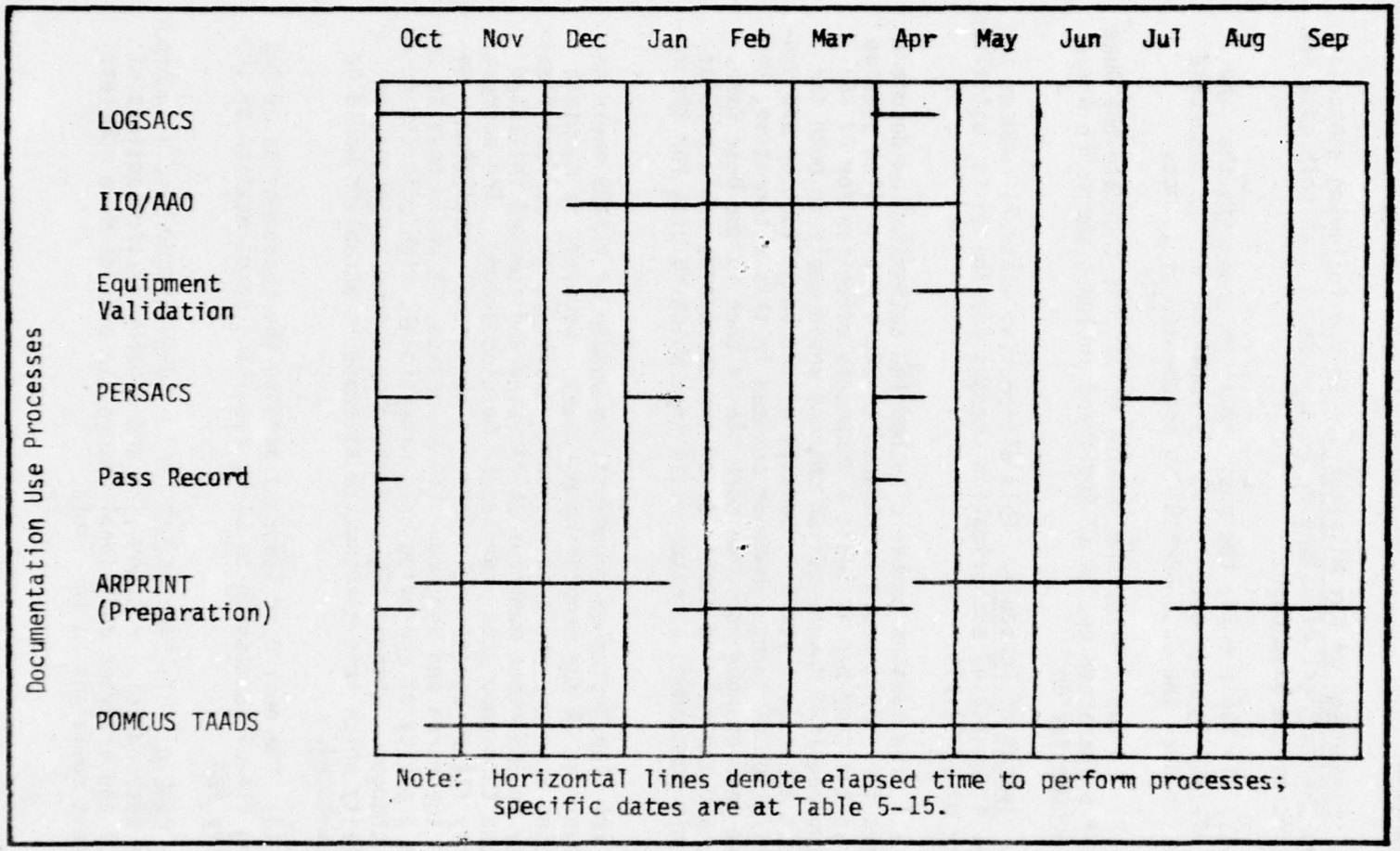


Figure 5-20. Case 7: Processes That Use Documentation

e. Comparison of Key Milestones. In the following subparagraphs the critical milestone dates associated with this case are compared to the Base Case.

(1) In Table 5-14, the most prominent change is that the July ARPRINT is documented by 30 September versus the Base Case situation when the June ARPRINT is documented by 15 Oct.

(2) In Table 5-15, the ARPRINT milestones indicate the June ARPRINT preparation begins 17 April and includes the March Army-wide documentation.

f. Impact of Schedule. This alternative (Case 7) reduces the annual frequency of authorization changes for the units (battalion or any other level).

(1) The maximum number of scheduled authorization document changes for a unit would be reduced to two a year. (The average unit in the Army had at least 6 documents effective for FY 76). The two required documentation changes would apply to both the current and budget years. Because of the consolidation and synchronization of change guidance assumed in this alternative, the budget year changes would be more timely then in the Base Case. This, and the related stability of the documents, would provide the unit commanders a better basis from which to plan for the future.

(2) The September documentation update of VTAADS would be available at DA for programing purposes. However, to maintain planning accuracy and unit document stability, the current flexibility to implement numerous DA directed and command initiated actions throughout the year should be discouraged. The current monthly VTAADS update would become a semiannual submission. Between the March and September VTAADS update, DA would have to enforce a policy of approving only exceptional, high priority document changes. Without tight controls on document changes, the stability which this alternative attempts to establish would be circumvented.

(3) The next Case (Case 8) adds to the thoroughness of the Spring VTAADS submission to DA by requiring documentation of the January PBG.

5-8. CASE 8: DIRECTED JANUARY PBG DOCUMENTATION. Case 8 incorporates the controls, rescheduling and synchronization actions of Case 7 and analyzes additional changes to provide more complete document revisions to the field.

Table 5-14. Base Case/Case 7: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 7	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77 8 Aug 77	15 Mar 77 15 Sep 77	23 Mar 77 16 Sep 77	30 Sep 77 29 Mar 78
2. Equipment SB (Army-wide)	7 Feb 77 8 Aug 77	15 Mar 77 15 Sep 77	23 Mar 77 16 Sep 77	30 Sep 77 29 Mar 78
3. TOE change	7 Mar 77	13 Jun 77	20 Apr 77	30 Sep 77
Army-wide		14 Jul 77		
		15 Aug 77		
USAREUR only		16 Feb 77		29 Mar 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	23 Mar 77	N/A
Equipment SB	7 Feb 77	N/A	23 Mar 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	23 Dec 76	N/A
BOIP II	11 Aug 76	N/A	24 Sep 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	31 Mar 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	14 Oct 77	29 Mar 78
Army-wide		12 Jan 78		
		16 Feb 78		
USAREUR only		20 Aug 78		30 Sep 78
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	16 Sep 77	N/A
Equipment SB	8 Aug 77	N/A	16 Sep 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	20 Jun 77	N/A
BOIP II	9 Feb 77	N/A	22 Mar 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	24 Sep 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	17 Apr 77	N/A
	20 Jun 77	15 Oct 77	18 Jul 77	30 Sep 77
	20 Sep 77	N/A	18 Oct 77	N/A
	20 Dec 77	15 Apr 78	17 Jan 78	29 Mar 78
6. FAS[a/]	1st ea mo	45 days	1st ea mo	30 Sep 77
				29 Mar 78
7. PBG	17 May 77	12 Apr 78	17 May 77	30 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	
	23 Jan 78	12 Apr 78	23 Jan 78	29 Mar 78

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-15. Base Case/Case 7: Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 7	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	18 Apr 77
	1 Jul 77	2 Sep 77		
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78		
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		18 Apr 77	
	2 Sep 77			
	5 Dec 77		5 Dec 77	
	7 Mar 78			
PERSACS[a/]	20th curr	10th next	1 Apr 77	18 Apr 77
			1 Jul 77	19 Jul 77
			3 Oct 77	20 Oct 77
			3 Jan 78	20 Jan 78
Pass Record[a/]			1 Apr 77	
	1st curr		3 Oct 77	
ARPRINT	20 Nov 76	20 Mar 77	20 Jan 77	17 Apr 77
	26 Feb 77	20 Jun 77	18 Apr 77	18 Jul 77
	26 May 77	20 Sep 77	19 Jul 77	18 Oct 77
	20 Aug 77	20 Dec 77	20 Oct 77	17 Jan 78
POMCUS/TAADS	16 Aug 77		17 Oct 77	6 Oct 78

[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

a. Overview. The January PBG reflects the President's budget. March documentation of changes resulting from the President's budget would provide the MTOE and TDA units with modifications to their documents six months before the beginning of the next fiscal year.

(1) Documentation of the January PBG would provide the units with advance information for requisitioning purposes and for preparing work plans and training programs.

(2) Documentation of the January PBG could improve the quality of the March VTAADS documentation and thereby improve the July ARPRINT. A more accurate July ARPRINT would improve subsequent TRADOC adjustments to the training base establishment.

(3) The next three subparagraphs address the specific months scheduled for the release of change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These subparagraphs are supported by tables of significant milestone dates and an assessment of the impact of this alternative.

b. Issuance of Change Guidance. In this alternative, the schedule for release of change guidance shown in Figure 5-21 is the same as in Case 7 (paragraph 5-5a).

c. Documentation of Change. The elapsed time (working days) for the documentaton of changes in the various processes remains the same as in Case 7 (paragraph 5-7c), except for an additional requirement to document the January PBG. This case requires the application of the January PBG to the preparation of the March VTAADS submission. This coincides with the documentation of the February FAS (see paragraph 5-7c). Budget year changes in these two sets of guidance (FAS and VTAADS) would be used to modify the original budget documentation submitted the previous September. The documentation schedule is illustrated in Figure 5-22.

d. Use of Documentation. The schedule for the processes, using TAADS documentation, is shown in Figure 5-23 and remains the same as Case 7 (see paragraph 5-7d).

e. Comparison of Key Milestones. In this alternative (Case 8) the only significant difference from Case 7 is seen in Table 5-16: the PBG issued on 23 January is documented on 29 March. By comparison, there is no formal requirement or suspense associated with documenting the January PBG in the Base Case. Table 5-17 indicates no change from Case 7 in the schedules of the processes which use documentation.

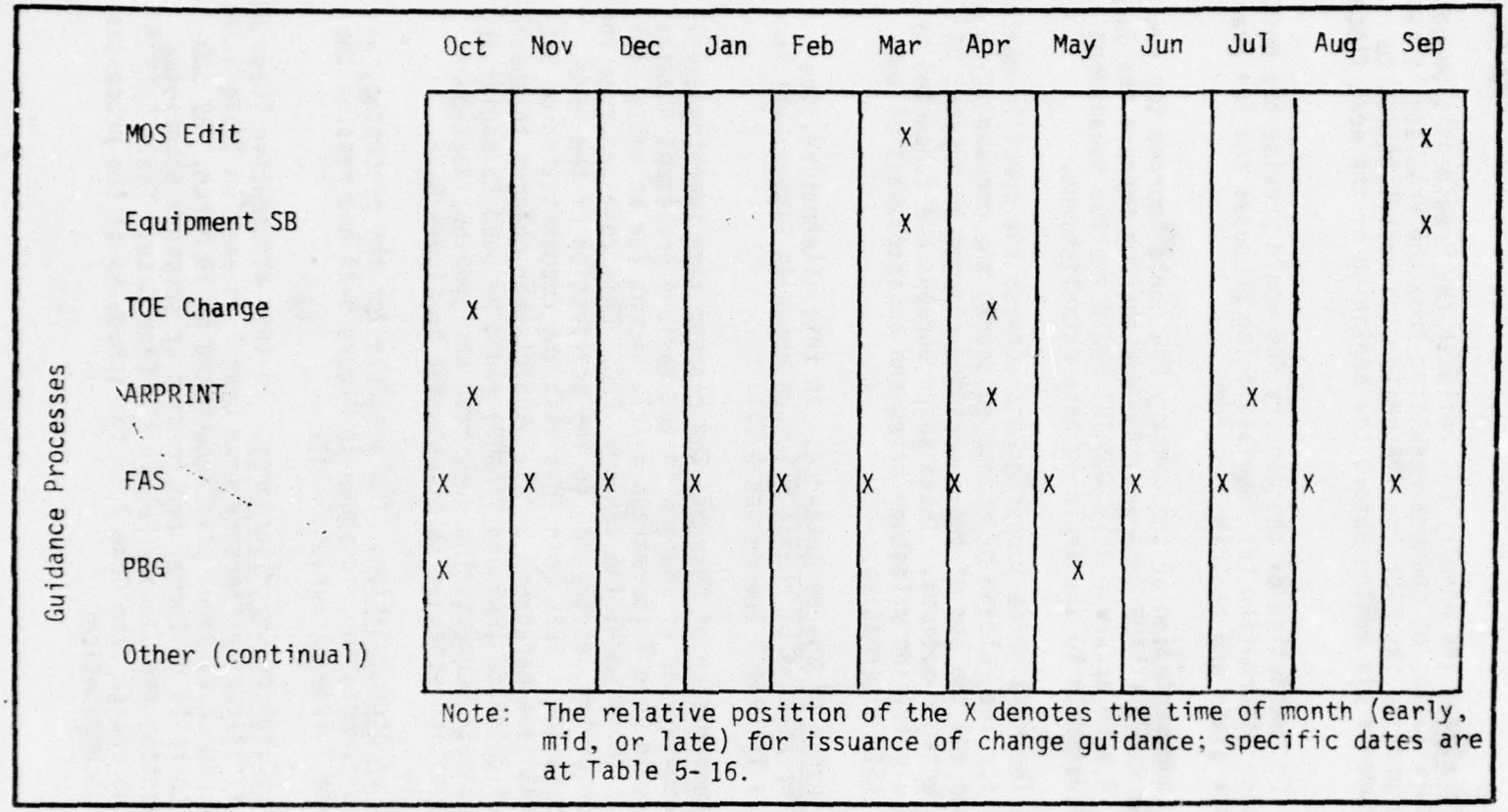


Figure 5-21. Case 8: Issuance of Change Guidance

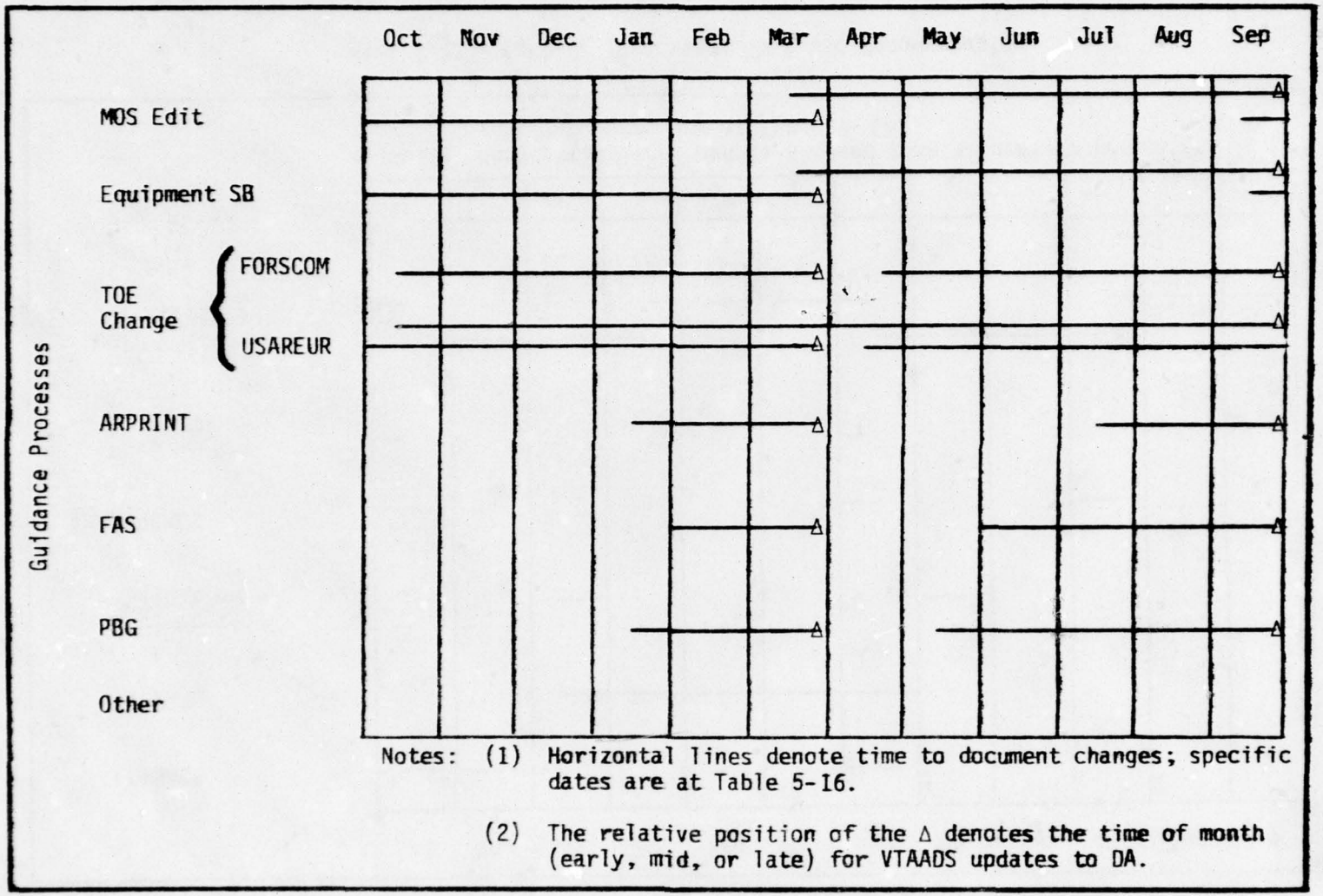


Figure 5-22. Case 8: Documentation of Changes

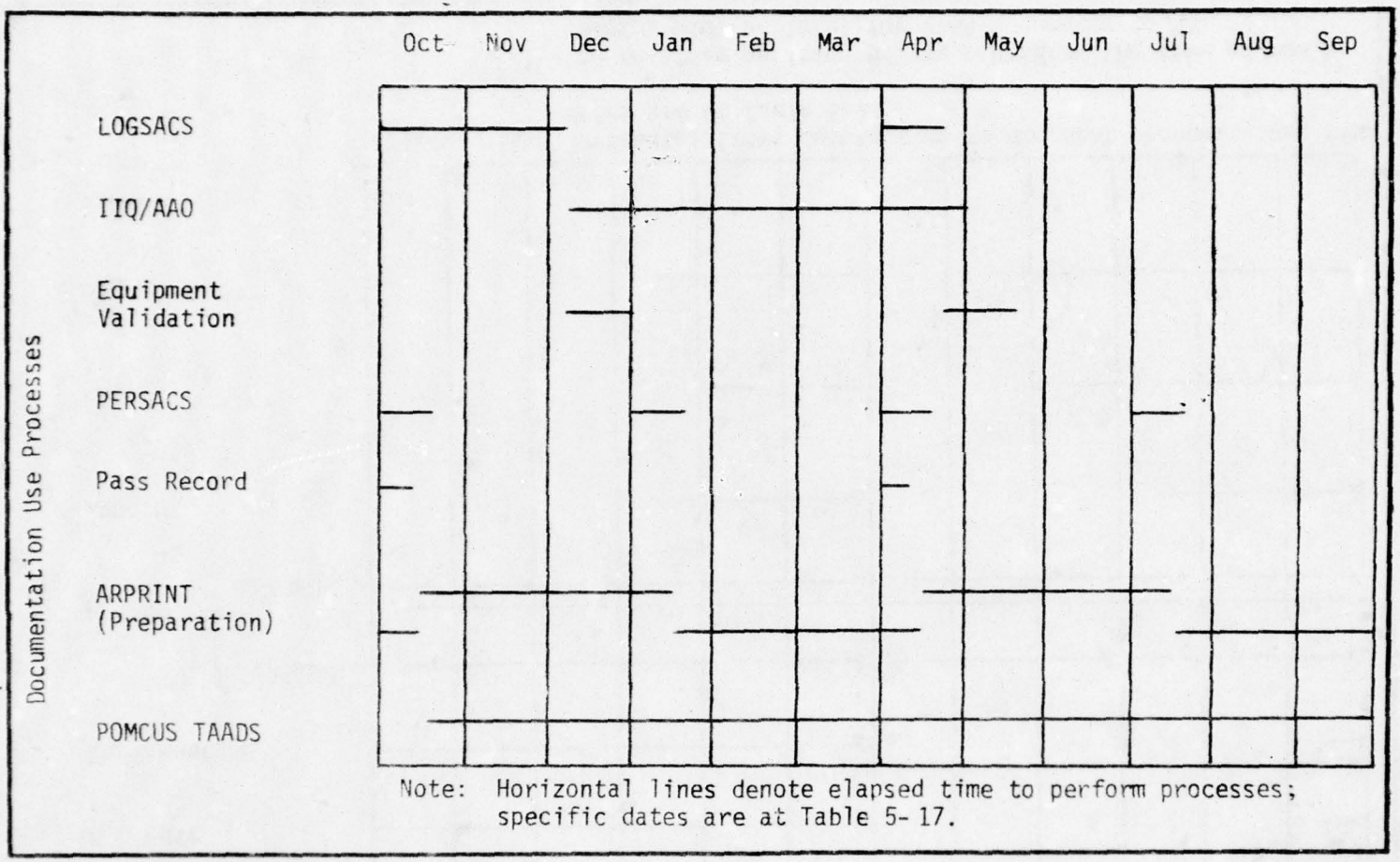


Figure 5-23. Case 8: Processes That Use Documentation

Table 5-16. Base Case/Case 8: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 8	
	Issued	Documented	Issued	Documented
1. MOS Update (Army-wide)	7 Feb 77	15 Mar 77	31 Mar 77	30 Sep 77
	8 Aug 77	15 Sep 77	16 Sep 77	29 Mar 78
2. Equipment SB (Army-wide)	7 Feb 77	15 Mar 77	31 Mar 77	30 Sep 77
	8 Aug 77	15 Sep 77	16 Sep 77	29 Mar 78
3. TOE change	7 Mar 77	13 Jun 77	28 Apr 77	30 Sep 77
Army-wide		14 Jul 77		
		15 Aug 77		
USAREUR only		16 Feb 78		29 Mar 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	31 Mar 77	N/A
Equipment SB	7 Feb 77	N/A	31 Mar 77	N/A
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	31 Dec 76	N/A
BOIP II	11 Aug 76	N/A	4 Oct 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	8 Apr 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	14 Oct 77	29 Mar 78
		12 Jan 78		
Army-wide		16 Feb 78		
		20 Aug 78		30 Sep 78
USAREUR only				
a. Feeder to TOE change				
MOS update	6 Aug 77	N/A	16 Sep 77	N/A
Equipment SB	8 Aug 77	N/A	16 Sep 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	20 Jun 77	N/A
BOIP II	9 Feb 77	N/A	21 Mar 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	24 Sep 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	17 Apr 77	N/A
	20 Jun 77	15 Oct 77	18 Jul 77	30 Sep 77
	20 Sep 77	N/A	18 Oct 77	N/A
	20 Dec 77	15 Apr 78	17 Jan 78	29 Mar 78
6. FAS[a/]	1st ea mo	45 days	1st ea mo	30 Sep 77
				29 Mar 78
7. PBG	17 May 77	12 Apr 78	31 May 77	30 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	
	23 Jan 78	12 Apr 78	23 Jan 78	29 Mar 78

[a/] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-17. Base Case/Case 8: Comparison of Milestones in the Documentation use Processes

Processes	Base Case (Case 2)		Case 8	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	18 Apr 77
	1 Jul 77	2 Sep 77		
	3 Oct 77	5 Dec 77	3 Oct 77	5 Dec 77
	3 Jan 78	7 Mar 78		
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		18 Apr 77	
	2 Sep 77			
	5 Dec 77		5 Dec 77	
	7 Mar 78			
PERSACS[a/]	20th curr	10th next	1 Apr 77	18 Apr 77
			1 Jul 77	19 Jul 77
			3 Oct 77	20 Oct 77
			3 Jan 78	20 Jan 78
Pass Record[a/]			1 Apr 77	
	1st curr		3 Oct 77	
ARPRINT	20 Nov 76	20 Mar 77	20 Jan 77	17 Apr 77
	26 Feb 77	20 Jun 77	18 Apr 77	18 Jul 77
	26 May 77	20 Sep 77	19 Jul 77	18 Oct 77
	20 Aug 77	20 Dec 77	20 Oct 77	17 Jan 78
POMCUS/TAADS	16 Aug 77		17 Oct 77	6 Oct 78

[a/]Entries indicate day of the month (current or next), unless specific dates are shown.

f. Impact of Schedule. This alternative provides the units with accurate budget year authorization documents six months before the beginning of the fiscal year. Since the earliest effective date (EDATE) for changed authorizations in the budget year would be at least 6 months in the future, this alternative should provide the unit adequate lead time to prepare personnel and equipment requisitions.

(1) This alternative takes maximum advantage of all available guidance.

(2) A possible negative impact of this alternative is that the field must work with an additional set of guidance (January PBG) in modifying the budget year documentation by the end of March. For the initial budget year documentation (i.e. the September VTAADS update), the field would have 4 months working time; for the March revision (the March VTAADS update), the field would have only 2 months working time.

(3) To grant the field more documentation time would cause a rescheduling of the VTAADS submission from March to April or May. This would slip the July ARPRINT to August or September, eliminating TRADOC's ability to use the ARPRINT in generating the September VTAADS documentation.

5-9. CASE 9: MODIFIED JANUARY PBG DOCUMENTATION. This alternative (Case 9) includes the controls, the rescheduling and the synchronization actions incorporated in Case 8 and analyzes additional changes in developing training documents from the January ARPRINT.

a. Overview. The ARPRINT is dependent, in large part, upon the TAADS documentation of changes generated throughout the Army. Since in each alternative except the Base Case a unit's documentation of changes affecting the budget year first enters TAADS in September, the subsequent January ARPRINT reflects the initial assessment of Army training requirements for the budget year.

(1) Comparison of Cases 7 and 8 to the Base Case indicates a reduction of January ARPRINT documentation time by 6 weeks--TRADOC had an estimated 3 months based on the former White Book process. This alternative (Case 9) examines the possibility of providing TRADOC an extra month to document the January ARPRINT, January PBG, and February FAS. TRADOC would submit this documentation at the end of April; the September documentation requirements remain unchanged.

(2) The next three paragraphs address the specific months

for the release of change guidance, the documentation of the changes and the use of the documented changes to support DA and asset manager actions. These paragraphs include tables of significant milestone dates and an assessment of the impact of this alternative.

b. Issuance of Change Guidance. The release of change guidance shown in Figure 5-24 is the same as in Case 8 (see paragraph 5-8b).

c. Documentation of Change. The elapsed times (working days) for the documentation of changes in the various processes remain the same as in Case 8 (see Figure 5-25 and paragraph 5-8c), with the exception of TRADOC documentation.

(1) The October MOS update and SB, and the November TOE changes would be accumulated by TRADOC until their April VTAADS update.

(2) The January ARPRINT, the January PBG and the February FAS would be documented by TRADOC at the end of April (instead of the end of March as in Case 8). This provides TRADOC an extra month to modify their budget year documentation; that is the same amount of time currently observed for FAS and only 2 weeks less for ARPRINT documentation actions (i.e., the Base Case).

(3) The rest of the Army would document the January PBG and February FAS changes by the end of March along with the October MOS update, SB, and the November TOE change.

(4) The May PBG, June FAS, and July ARPRINT changes would be documented Army-wide by the end of September along with the April MOS update, SB, and the May TOE changes.

d. Use of Documentation. The schedule of the processes which use documentation remains exactly the same as in Case 8 (see paragraph 5-8d). However, as a result of the allowed delay in Spring documentation, the TRADOC update would arrive too late for many of the using processes. Yet to delay the using process is not feasible; delaying PERSACS a month would delay the July ARPRINT to August, which is too late to support the September VTAADS update to DA. As a result, the April TRADOC submission would have to be manually integrated on an exception basis. Figure 5-26 illustrates the schedule for the processes which use the documentation.

(1) The LOGSACS would be prepared semiannually in conjunction with the September and March VTAADS updates. The October LOGSACS supports the IIQ for the POM. The equipment validation

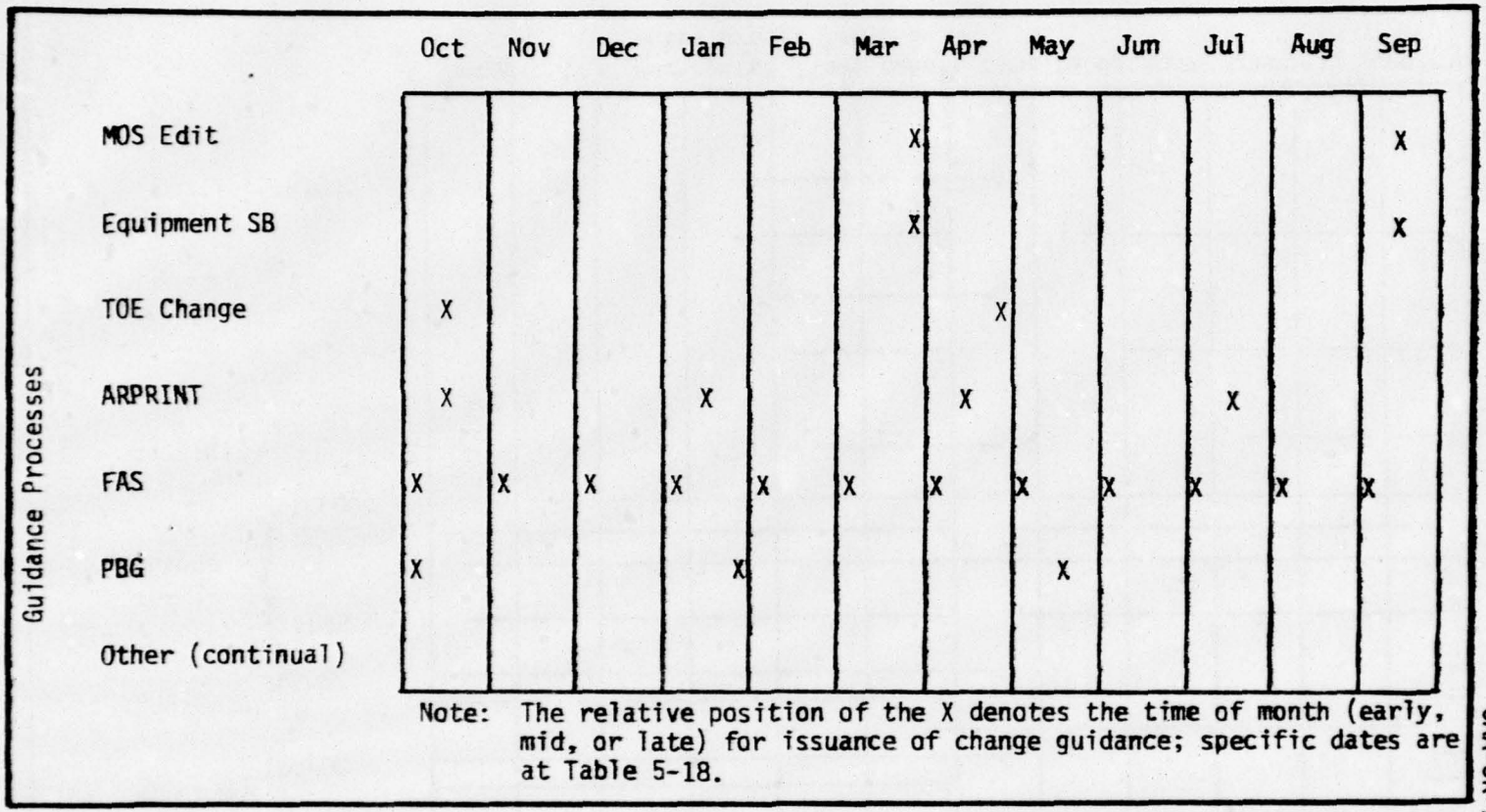
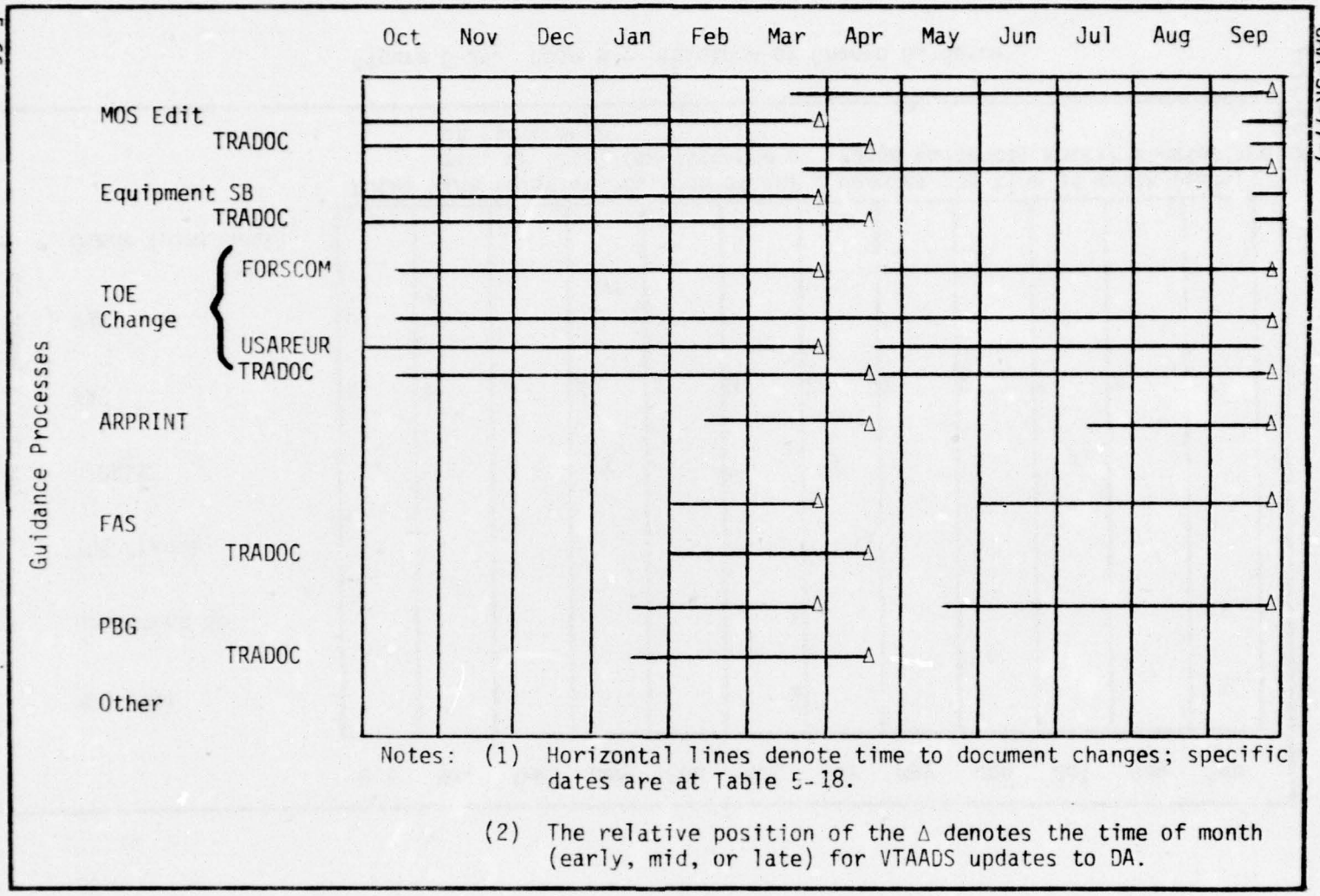


Figure 5-24. Case 9 : Issuance of Change Guidance



Notes: (1) Horizontal lines denote time to document changes; specific dates are at Table 5-18.

(2) The relative position of the Δ denotes the time of month (early, mid, or late) for VTAADS updates to DA.

Figure 5-25. Case 9: Documentation of Changes

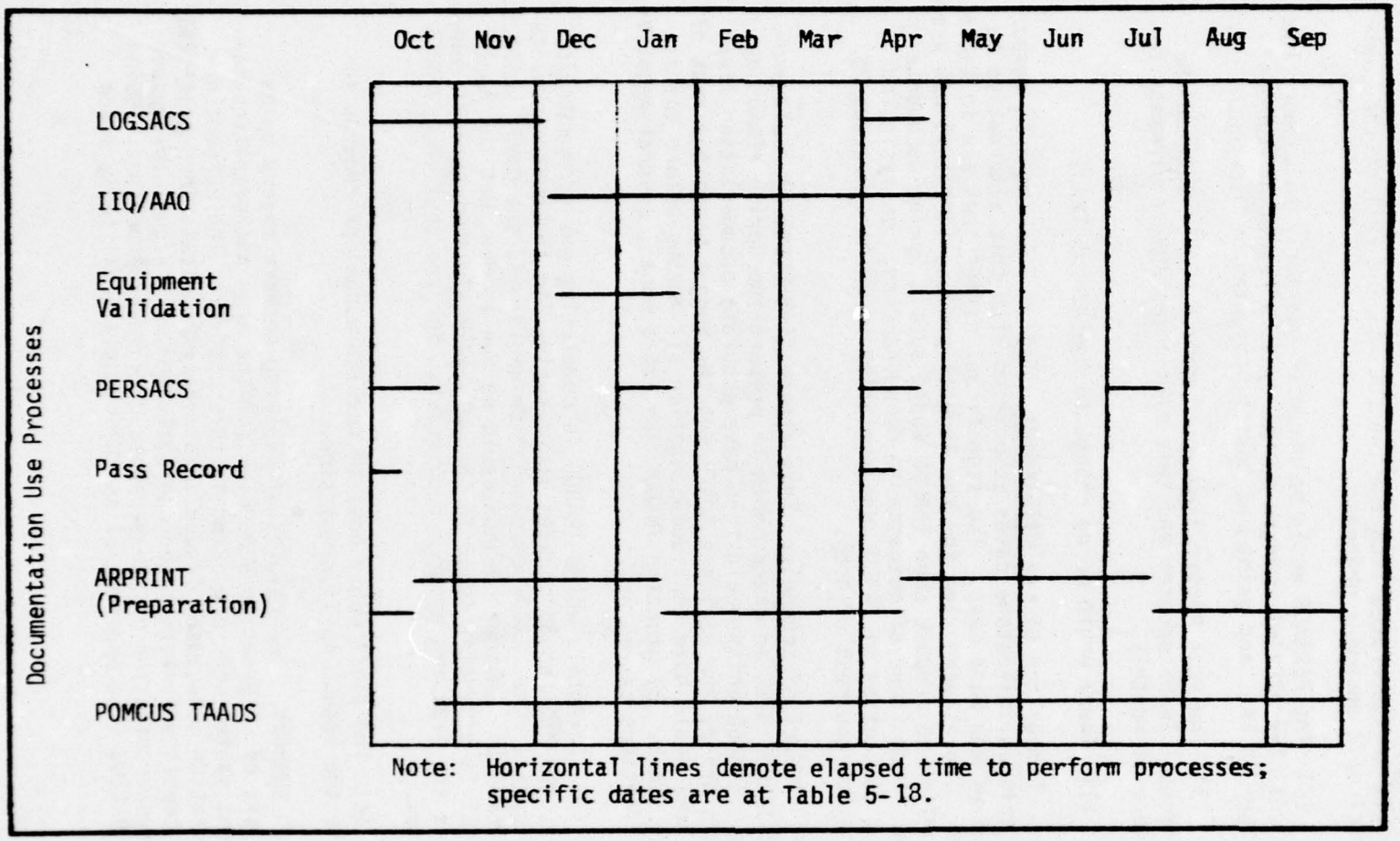


Figure 5-26. Case 9: Processes That Use Documentation

reports are generated from the two LOGSACS and reflect the semi-annual unit document changes.

(2) The PERSACS would be prepared quarterly to support the ARPRINT. The ARPRINT changes quarterly as a result of manpower changes in FAS, and gains and losses projected by MILPERCEN.

(3) The Pass Record tape would remain stable between the semiannual TAADS updates and this eliminates any requirement to produce it monthly.

(4) There would be no change to the POMCUS TAADS.

e. Comparison of Key Milestones. Tables 5-18 and 5-19 compare the critical milestone dates associated with this alternative to those of the Base Case. The significant differences are in Table 5-18. The elapsed time for the longest process (ARPRINT) was used by OPTIMA to compute when TRADOC would submit Spring documentation. From issue of guidance to documentation, analysis indicates completion of TRADOC documentation on 30 April versus 29 March for the rest of Army.

f. Impact of Schedule. This alternative (Case 9) would provide TRADOC with an extra month to prepare the Spring VTAADS update. TRADOC units would then have accurate documentation five months before the earliest EDATE for the budget year; the rest of the Army would have that documentation six months before the earliest EDATE. By granting TRADOC the extra month, several negative ramifications can occur.

(1) In April, while TRADOC is completing one documentation cycle, the MOS and SB updates would arrive for the next documentation cycle. The TRADOC documentation would miss the April LOGSACS and PERSACS. Another LOGSACS could be run in May, but the April PERSACS is essential input to the July ARPRINT; that ARPRINT generates the training program requirements for the September VTAADS update.

(2) The staff would have to develop manual procedures to handle the TRADOC April submission.

5-10. SUMMARY. The results of applying network theory to an analysis of alternative schedules for the Army authorization management system were presented in this chapter. The current authorization management schedule was analyzed first; then potential adjustments were formulated and evaluated with a goal to improve the synchronization of the separate management processes. Using OPTIMA 1100 (see Appendix E) as the computational tool, seven

Table 5-18. Base Case/Case 9: Comparison of Change Guidance and Documentation Process Milestones

Processes	Base Case (Case 2)		Case 9	
	Issued	Documented	Issued	Documented
1. MOS Update	7 Feb 77	15 Mar 77	31 Mar 77	30 Sep 77
	8 Aug 77	15 Sep 77	16 Sep 77	29 Mar 78[a]
2. Equipment SB	7 Feb 77	15 Mar 77	31 Mar 77	30 Sep 77
	8 Aug 77	15 Sep 77	16 Sep 77	29 Mar 78[a]
3. TOE change	7 Mar 77	13 Jun 77	28 Apr 77	30 Sep 77
Army-wide		14 Jul 77		
		15 Aug 77		
USAREUR only		16 Feb 78		29 Mar 78
a. Feeder to TOE change				
MOS update	7 Feb 77	N/A	31 Mar 77	N/A
Equipment SB	7 Feb 77	N/A	31 Mar 77	
b. Feeder to Equipment SB				
Commercial items	9 Nov 76	N/A	31 Dec 76	N/A
BOIP II	11 Aug 76	N/A	4 Oct 76	N/A
c. Feeder to BOIP II				
BOIP I	13 Feb 75	N/A	8 Apr 75	N/A
4. TOE change	5 Sep 77	14 Dec 77	14 Oct 77	29 Mar 78[a]
		12 Jan 78		
Army-wide		16 Feb 78		
		20 Aug 78		30 Sep 78
USAREUR only				
a. Feeder to TOE change				
MOS update	8 Aug 77	N/A	16 Sep 77	N/A
Equipment SB	8 Aug 77	N/A	16 Sep 77	N/A
b. Feeder to Equipment SB				
Commercial items	10 May 77	N/A	20 Jun 77	N/A
BOIP II	9 Feb 77	N/A	22 Mar 77	N/A
c. Feeder to BOIP II				
BOIP I	14 Aug 75	N/A	24 Sep 75	N/A
5. ARPRINT (TRADOC only)	20 Mar 77	N/A	17 Apr 77	N/A
	20 Jun 77	15 Oct 77	18 Jul 77	30 Sep 77
	20 Sep 77	N/A	18 Oct 77	N/A
	20 Dec 77	15 Apr 78	17 Jan 78	17 Apr 78
6. FAS[b]	1st ea mo	45 days	1st ea mo	30 Sep 77
				29 Mar 78[a]
7. PBG	17 May 77	12 Apr 78	31 May 77	30 Sep 77
	4 Oct 77	12 Apr 78	4 Oct 77	
	23 Jan 78	12 Apr 78	23 Jan 78	29 Mar 78[a]

[a] All TRADOC spring documentation submitted 17 Apr 78 in conjunction with ARPRINT.

[b] Entries may indicate time of month, or number of working days normally required, if specific date not shown.

Table 5-19. **Base Case/Case 9 :** Comparison of Milestones in the Documentation Use Processes

Processes	Base Case (Case 2)		Case 9	
	Started	Completed	Started	Completed
LOGSACS	1 Apr 77	3 Jun 77	1 Apr 77	18 Apr 77
	1 Jul 77	2 Sep 77	3 Oct 77	5 Dec 77
	3 Dec 77	5 Dec 77		
	3 Jan 78	7 Mar 78		
IIQ/AAO	5 Dec 77	Apr 78	5 Dec 77	Apr 78
Equipment Validation	3 Jun 77		18 Apr 77	
	2 Sep 77		5 Dec 77	
	5 Dec 77			
	7 Mar 78			
PERSACS[a/]	20th curr	10th next	1 Apr 77	18 Apr 77
			1 Jul 77	19 Jul 77
			3 Oct 77	20 Oct 77
			3 Jan 78	20 Jan 78
Pass Record[a/]			1 Apr 77	
	1st curr		3 Oct 77	
ARPRINT	20 Nov 76	20 Mar 77	20 Jan 77	17 Apr 77
	26 Feb 77	20 Jun 77	18 Apr 77	18 Jul 77
	26 May 77	20 Sep 77	19 Jul 77	18 Oct 77
	20 Aug 77	20 Dec 77	20 Oct 77	17 Jan 78
POMCUS/TAADS	16 Aug 77		17 Oct 77	6 Oct 78

[a/] Entries indicate day of the month (current or next), unless specific dates are shown.

alternative schedules were analyzed to assess their impact and feasibility.

a. The characteristics of turbulence inherent in the current authorization management schedule (Base Case) exhibit three traits which are manifest at different levels of command.

(1) Documentation Shortfalls at DA. A document shortfall results from a lack of synchronization with the SACS processes. Specifically, a shortfall occurs when the SACS is run before the latest authorization changes are documented in VTAADS. This results in inaccuracies in PERSACS and LOGSACS creating turbulence in personnel and materiel programing at HQDA.

(2) Conflicting Guidance at MACOM. Guidance is issued at conflicting times in the schedule for the current authorization management system; documentation workload turbulence results at MACOM-level. Each MACOM establishes its own priority to document conflicting change guidance.

(3) Frequent Changes at the Unit. The frequency of document changes causes personnel and equipment instability, or turbulence, at the unit level and requires unit requisitions to be cancelled, revised, or corrected. The resultant requisition changes frequently conflict with the authorization validation reports used by the asset managers for distributing personnel and equipment. This can result in rejection of valid requisitions.

b. A management system was postulated to remedy all three characteristics of turbulence (Case 3). All change guidance was reduced to an annual schedule; all revisions to documents were limited to once a year; and these actions were scheduled to support the program development efforts at DA. Analysis of Case 3 indicates that authorization change flexibility was traded-off for stability at unit level and reduced documentation workload at MACOM level.

c. A series of alternatives (Cases 4 through 9) were formulated to remedy each individual characteristic of turbulence without being as restrictive as Case 3.

(1) Case 4 addressed documentation shortfalls and established when documentation was essential to support programing for the budget year. This alternative involved a schedule change so timely documentation arrived at HQDA; synchronization of the training program to capitalize on that documentation in TAADS was also involved.

(2) Guidance conflicting with budget year documentation by

the MACOMs was rescheduled in Case 5. Technical guidance (MOS, SB, and TOE changes) release dates were revised to reduce the workload during the budget year documentation period established in Case 4.

(3) Frequent changes at the unit were controlled partially in Case 6 and then completely in Case 7. In addition, both Cases 6 and 7 incorporate the solutions for documentation shortfalls and conflicting guidance discussed above. Case 6 limited MOS, SB and TOE changes to a semiannual documentation update in TAADS. In Case 7, all revisions to TAADS (guidance and documentation) were placed on semiannual schedules. Consequently the unit's documents change only semiannually.

(4) Case 8 takes maximum advantage of all available guidance but placed an extra workload on the field to document the January PBG. Case 9 provides more documentation time to TRADOC but results in additional workload at DA.

CHAPTER 6
OBSERVATIONS

6-1. INTRODUCTION. The Management of Change (MOC) study has analyzed the Army management processes associated with authorization changes across staff and command lines. As documented in the preceding chapters and supporting appendices, the MOC study has identified ways of reducing the frequency of unit authorization changes, improving the assimilation of changes at all levels, and synchronizing the documentation of changes to support essential DA information requirements. This chapter answers the Essential Elements of Analysis (EEA) and then presents the major observations of the study.

6-2. ESSENTIAL ELEMENTS OF ANALYSIS. The EEA specified in the tasking directive were addressed in the study and are discussed below.

a. What types of authorization changes cause the most turbulence? Two generic types of authorization changes were observed to cause the most turbulence. The first type is authorization change guidance which conflicts with earlier guidance thereby generating additional administrative workload (primarily at MACOM-level) preparing revised authorization documents. An example is a TOE change (CCT) not including the latest equipment Supply Bulletin information. The second type is the frequency of revised documents for MTOE and TDA authorizations creating turbulence in the units through cancellations, corrections and revisions to personnel or equipment requisitions, and mismatches between skilled personnel and equipment authorized and on-hand. The latter example of turbulence directly impacts a unit's readiness condition.

b. Are there responses to authorization changes which can be modified to reduce turbulence (e.g., delayed, reduced or eliminated)? Yes. Some specific examples include: delaying the response to MOS, equipment SB and TOE change guidance in order to permit a single document revision for all three types of guidance; reducing the frequency of VTAADS submissions to a semiannual cycle thus reducing the frequency of revised documents for the units; and eliminating a special H-530 equipment validation report prepared for, but not used by FORSCOM. These and other examples are discussed in Chapter 4, Management Prescriptions, and Chapter 5, Schedule Alternatives.

c. Can alternative information systems, e.g., VFDMIS, be effectively used to reduce turbulence? Alternative information systems can be used to improve the reports derived from existing information bases. But, the turbulence does not appear to be caused

by information systems. Rather, it is the volume, frequency and schedule of changes to the data contained in the information systems which cause turbulence. It would therefore appear that turbulence can best be controlled through disciplining the procedures for changing data in the information systems.

6-3. OBSERVATIONS. The major observations resulting from this study of Army authorization management are presented in the following material.

a. Army authorization management processes form a system which is amenable to analytical investigation. That system is comprised of individual management processes for which detailed representations or models can be developed. The models can then be analyzed either singularly or as interconnected processes using techniques of network theory.

b. The Army authorization management system contains 17 key management processes.. These processes either provide guidance on authorization changes, document the changes, or use the documentation (See Chapter 2, Table 2-1).

c. There are different characteristics of authorization turbulence which manifest themselves at the various command and functional levels. At the unit level, the turbulence is associated with implementing the revised documents through requisitions; at the MACOM and installation level, the turbulence is associated with applying the change guidance to the VTAADS; at the DA level, the turbulence is associated with obtaining the most complete documentation synchronized to program development efforts; and at the personnel and equipment asset manager level, the turbulence is associated with obtaining timely information on current authorizations in the units.

d. The development of thorough and accurate models of the individual processes required the detailed investigation of the authorization management processes. The preparation of the models revealed three types of procedural problems which contribute to turbulence.

(1) Problems due to time delays.

(2) Problems due to disconnects among related processes.

(3) Problems due to the lack of synchronization among processes.

e. The use of network theory is a powerful quantitative technique for analyzing the scheduling of management processes and improving the synchronization among these processes. The analysis of the authorization management system revealed:

(1) The current schedule for authorization management processes can be reestablished to reduce the frequency of change, to better synchronize the interactions and to reduce the turbulence.

(2) The processes of the authorization management system can be limited to a schedule whereby change guidance is issued once a year, documentation of the guidance is required once a year, and unit documents change only once a year. While such a schedule can be shown analytically to be possible, operational problems of such limitations on change may occur.

(3) Other alternative schedules of management processes can be synchronized to an update of TAADS twice a year (March and September). These schedules, appear to offer three advantages:

(a) The authorization documents remain relatively stable, reducing the frequency of changes to the units and allowing the requisitioning processes to work.

(b) The issuance of guidance can be scheduled to provide sufficient time for updating documents.

(c) The update schedule for authorization documents can be synchronized to support force, personnel, and equipment policy decision milestones at DA.

f. The MOC network diagrams provide HQDA with a unique mechanism by which to address the objectives and work flows of the authorization management processes and the overall system that results from those processes. The prescriptions and alternative schedules nominated in this study use the diagrams to identify actions for reducing turbulence generated within the official authorization management system. However, the prescriptions and alternatives cannot control the "one time" guidance which contribute to much of the turbulence. A disciplined DA control mechanism for coordinating and approving the release, schedule and the subsequent documentation feedback for <u>all</u> authorization changes could reduce turbulence further.

APPENDIX A
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APPENDIX C
GLOSSARY OF TERMS

AAPERS	Active Army Personnel Reporting System
AAO	Authorized Acquisition Objective
ABF	Availability Balance File
ad	advise
ADCSOPS	Assistant Deputy Chief of Staff for Operations and Plans
AESR	Army Equipment Status Report
AESRS	Army Equipment Status Reporting System
AFP	Army Force Program (annual guidance letter)
Agcy	Agency(ies)
AID-E	Automatic Interaction Detector-Enlisted
AMDF	Army Master Data File
AMP	Army Materiel Plan
AMSC	Army Management Structure Code
anal	analyze, analysis
appr	approve(d)
ARNG	Army National Guard
ARPRINT	Army Program for Individual Training
asg	assign
asgd	assigned
asgmt	assignment
auth	authorize(d)

BOI	basis of issue
BOIP	Basis Of Issue Plan
BOIP I	Basis Of Issue Plan, Phase I
BOIP II	Basis Of Issue Plan, Phase II
BY	Budget Year
CAP III	Central Assignment Procedure III
can	cancel
CCT	Consolidated Change Table
CDA	Catalog Data Agency
CEGE	Combat Equipment Group, Europe
ch	change(s)
cmdty	commodity
COBE	Command Operating Budget Estimate
comd	command
coml	commercial
consol	consolidate(d)
CONUS	Continental United States
coord	coordinate(d); coordination
CPM	Critical Path Method
CY	Current Year
DA	Department of the Army
DARCOM	Army Materiel Development and Readiness Command Headquarters
DCSLOG	Deputy Chief of Staff for Logistics

DCSOPS	Deputy Chief of Staff for Operations and Plans
DCSPER	Deputy Chief of Staff for Personnel
DCSRM	Deputy Chief of Staff for Resource Management
DESCOM	Depot Systems Command
detm	determine(d)
dev	develop
disap	disapprove(d)
distr	distribute; distribution
div	division, divisional
docu	document(s)
DODAAC	Department of Defense Activity Address Code
EARA	Equipment Authorization Review Activity
EDATE	effective date
ELIM COMPLIP	Enlisted Loss Inventory Model, Computation of Manpower Programs by Linear Programing
EMF	enlisted master file
enl	enlisted
EPMS	Enlisted Personnel Management System
equip	equipment
FAS	Force Accounting System
FORSCOM	United States Army Forces Command
furn	furnish(ed)
fwd	forward(ed)
fy	fiscal year

G/L	gain/loss
GPO	Government Printing Office
H-528	Equipment Validation Report (commodity oriented)
H-530	Equipment Validation Report (generic)
H-533	Equipment Validation Report (command oriented)
IAW	in accordance with
ident	identify; identification; identified
IDS	Item Data Segment
IIQ	Initial Issue Quantity
info	information
instl	installation
instr	instruction(s)
ITAADS	Installation TAADS
JTDA	Joint Table(s) of Distribution and Allowances
LIN	line item number
log	logistics; logistical
LOGSACS	Logistics Structure and Composition System
LON	letter of notification
MACOM	major Army command(s)
maint	maintain(ed); maintenance
mat	materiel
MD	materiel development
mgr	manager

mgt	management
MILPER	Military Personnel Center (USAREUR)
MILPERCEN	United States Army Military Personnel Center
MILPO	military personnel office(s)
MIS	Management Information Systems
MMC	Materiel Management Center(s)
MOC	Management of Change
mod	modify
modif	modification
MOS	military occupational specialty
mpr	manpower
MRC	Materiel Readiness Command
MTOE	Modification Table(s) of Organization and Equipment
NICP	national inventory control point
NSN	national stock number
ODCSLOG	Office, Deputy Chief of Staff for Logistics
ODCSOPS	Office, Deputy Chief of Staff for Operations and Plans
ODCSPER	Office, Deputy Chief of Staff for Personnel
ODCSRDA	Office of the Deputy Chief of Staff for Research, Development and Acquisition
OPTIMA	The OPTIMA 1100 Project Management System
os	oversea, overseas
PARR	Program Analysis and Resource Review

PBG	Program and Budget Guidance
pers	personnel
PERSACS	Personnel Structure and Composition System
PIA	Personnel Inventory Analysis
POM	Program Objective Memorandum
POMCUS	prepositioning of materiel configured to unit sets
PPG	Planning and Programing Guidance
PPNT	proponent
ppsd	proposed
PQQPRI	provisional qualitative and quantitative personnel requirements information
PR	pass records
prep	preparation, preparatory, prepare(d)
proc	process
prov	provide
pub	publish
PROBE	Program Optimization and Budget Evaluation
py	program year
PYF	program year force
QQPRI	qualitative and quantitative personnel requirements information
RDAISA	Research, Development and Acquisition Information Systems Agency
rec	receive(d)
rel	release(d)

repl	replace
rept	report(s)
req	request
rev	review
ROMOSS	Revised Officer Military Occupational Specialty System
RPC	regional personnel center(s) (USAREUR)
rqn	requisition
rmt(s)	requirement(s)
rtn	return
SACS	Structure and Composition System
SAILS	Standard Army Intermediate Level System
SB	Supply Bulletin 700-20
sbm	submit
shn	shorthand note(s)
SIB	SIDPERS Interface Branch(es) (CONUS)
SICC	Service Item Control Center
SID	SIDPERS Interface Division(s) (USAREUR)
SIDPERS	Standard Installation/Division Personnel System
Sptg	supporting
SSN	standard study number(s)
SSNS	Standard Study Numbering System
std	standard; standing
stf	staff

TAADS	The Army Authorization Documents System
TAGCEN	United States Army Adjutant General Center
TC	type classification
TDA	Table(s) of Distribution and Allowances
TDR	Transfer Data Record
thtr	theater
TL	troop list
tng	training
TOE	Table(s) Of organization and Equipment
TRADOC	United States Army Training and Doctrine Command
UIC	Unit Identification Code
UMR	unit manning report
USAMSSA	United States Army Management Systems Support Agency
USAR	United States Army Reserve
USAREUR	United States Army, Europe
vali	validate
VFDMIS	Vertical Force Development Management Information System
VTAADS	Vertical, The Army Authorization Documents System
WB	will be

APPENDIX D
Networks

D-1. GENERAL. This appendix presents the network diagrams of the key authorization management processes identified in Chapter 2, Authorization Change Environment. The diagrams were constructed to provide descriptive, structured and vigorous models of the workflows inherent in each process. Preparing the diagrams required a thorough, systematic investigation and analysis of each process. This technique supported the qualitative analysis of the individual processes and also made possible the quantitative analysis of combinations of processes using network theory. The MOC study, in particular the network diagrams, provides a unique, quantitative analysis of the key management processes that interface with The Army Authorization Documents System (TAADS). Each network diagram was constructed following extensive research and data collection efforts which included reviewing applicable Army regulations and directives, receiving in-depth briefings from DA and MACOM staff members responsible for the management processes, and numerous detailed discussions with personnel most familiar with the operations of the processes at DA, MACOMs and field installations. Accuracy in modeling the authorization management processes was assured by meticulous review and analysis of input through the functional elements, and by frequent coordination of the network diagrams with the appropriate agencies (e.g., DA, TRADOC, FORSCOM, DARCOM, DESCOM, USAREUR). Each of the network diagrams, with corresponding explanatory material, is documented in a separate annex to this appendix. Table D-1 lists the sequence and subject of the annexes.

D-2. NETWORK CONVENTIONS. The following material provides information necessary for the proper interpretation of the network diagrams by explaining the conventions used in the diagrams.

a. Nodes and Arcs. The network diagrams are activity networks which means that the start or finish of an activity is represented by an event node, and the activities are characterized by arcs drawn between the nodes. The 17 networks diagrams contain a total of 541 activities and 517 nodes.

b. Notation. Each network diagram should be read from left to right. Arc length does not indicate the duration of an activity. Likewise the angle at which an activity is drawn is simply for convenience and has no special significance. The network diagrams convey that one activity precedes another and that the preceding activity must be completed before the succeeding activity can begin. Activity information is written adjacent to the arc repre-

senting that activity. The activity information includes a description of the activity, the performing organization and, in most cases, the organization receiving that action. The abbreviations and acronyms used throughout the networks are defined in

Table D-1. Networks

Annex	Network
I	Basis of Issue Plan (BOIP) I
II	Basis of Issue Plan (BOIP) II
III	Commercial Item Introduction
IV	Supply Bulletin (Chapters 2 and 8)
V	Supply Bulletin (Chapters 6 and 7)
VI	MOS Update
VII	TOE Change Process
VIII	TAADS Documentation
IX	PERSACS Preparation
X	LOGSACS Preparation
XI	Training Program Development (ARPRINT)
XII	Initial Issue Quantity/Authorized Acquisition Objective (IIQ/AAO)
XIII	Personnel Requisition CONUS
XIV	Equipment Requisition CONUS
XV	Personnel Requisition USAREUR
XVI	Equipment Requisition USAREUR
XVII	POMCUS TAADS

Appendix C, the Glossary. Shown in parentheses above the activity description are the number of days required to complete the activity. These time estimates are working days rather than calendar days.

D-3. EXPLANATORY MATERIAL. The narrative discussion in the annexes provides the following information. First, the purpose of the authorization management process is discussed; followed by a description of the network diagram. Then, critical milestones associated with the network are identified and also linkages to other networks. The network diagram appears at the end of each annex.

APPENDIX D
Networks

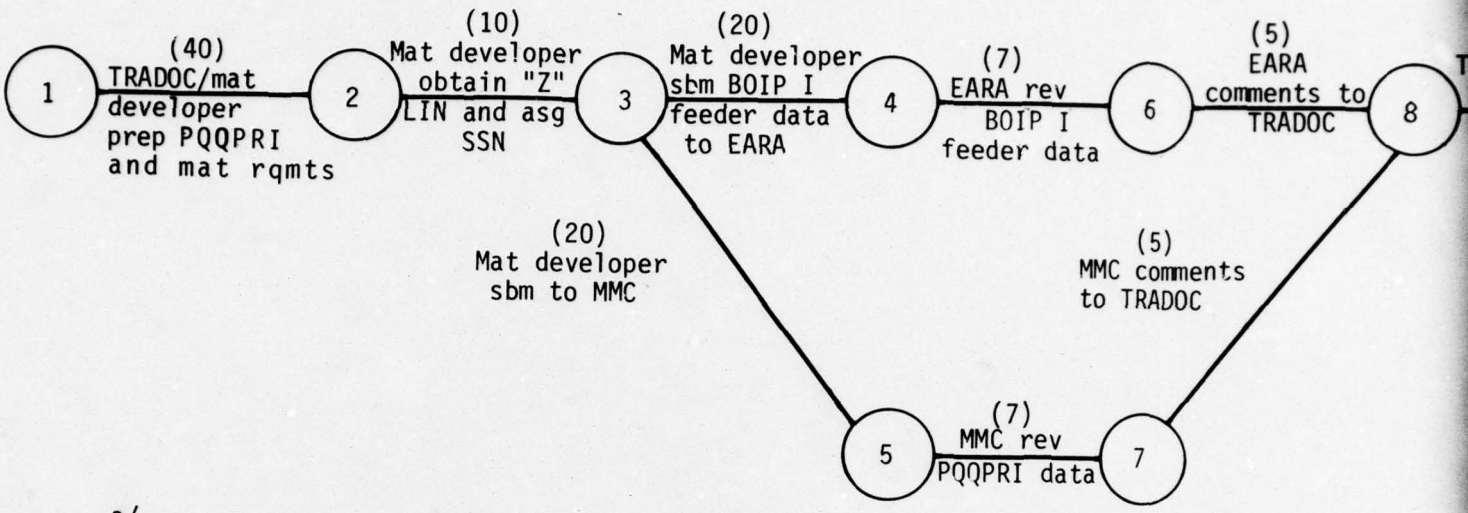
ANNEX I
Basis of Issue Plan I

D-I-1. PURPOSE. The Basis of Issue Plan (BOIP I) is the preliminary planning process for the introduction of new equipment into the Army inventory. It also furnishes preliminary input for planning personnel requirements and serves as the primary input for the development of BOIP II.

D-I-2. DESCRIPTION. TRADOC and the Materiel Developer are responsible for preparing the initial BOIP I requirements (arc 1-2). The Materiel Developer submits BOIP feeder data to both the Equipment Authorization Review Activity (EARA) and the Materiel Management Center (MMC) (arcs 3-4 and 3-5 respectively) after obtaining a "Z" Line Item Number (LIN) and assigning a Standard Study Number (SSN). A "Z" LIN is used to identify the new item of equipment while the SSN specifies what equipment category in which to carry the item. BOIP feeder data is reviewed by both EARA and the MMC and comments are furnished to TRADOC (arcs 6-8 and 7-8, respectively). The MMC reviews the Preliminary Quantitative and Qualitative Personnel Resources Information (PQQPRI) at arc 5-7. Early consideration of the personnel impact of new items of equipment is highly desirable. TRADOC assigns one of its schools to be the BOIP proponent. The proponent school is responsible for developing and submitting the BOIP to TRADOC (arc 9-10). TRADOC, EARA, and the DA Staff review the BOIP submitted by the proponent school. The plan is either approved by DA (arc 12-13) or disapproved (arc 12-14). In each case, DA returns the BOIP to TRADOC for either publication (arc 13-15), or for cancellation (arc 14-16), and/or resubmission (arc 14-17).

D-I-3. CRITICAL MILESTONES. The BOIP I process is open-ended in that it has no prescribed time duration or fixed schedule. BOIPs are developed as needed and then maintained (updated) pending initation of BOIP II.

D-I-4. LINKAGE TO OTHER NETWORKS. BOIP I links to BOIP II from node 13. After DA returns an approved BOIP I to TRADOC, publication of the BOIP I can take place. At one time, a link existed between BOIP I and the MOS update process. However, MILPERCEN does not rely on the information found in BOIP I to plan MOS requirements because that information is too preliminary and subject to considerable revision.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

Figure D-I-1.

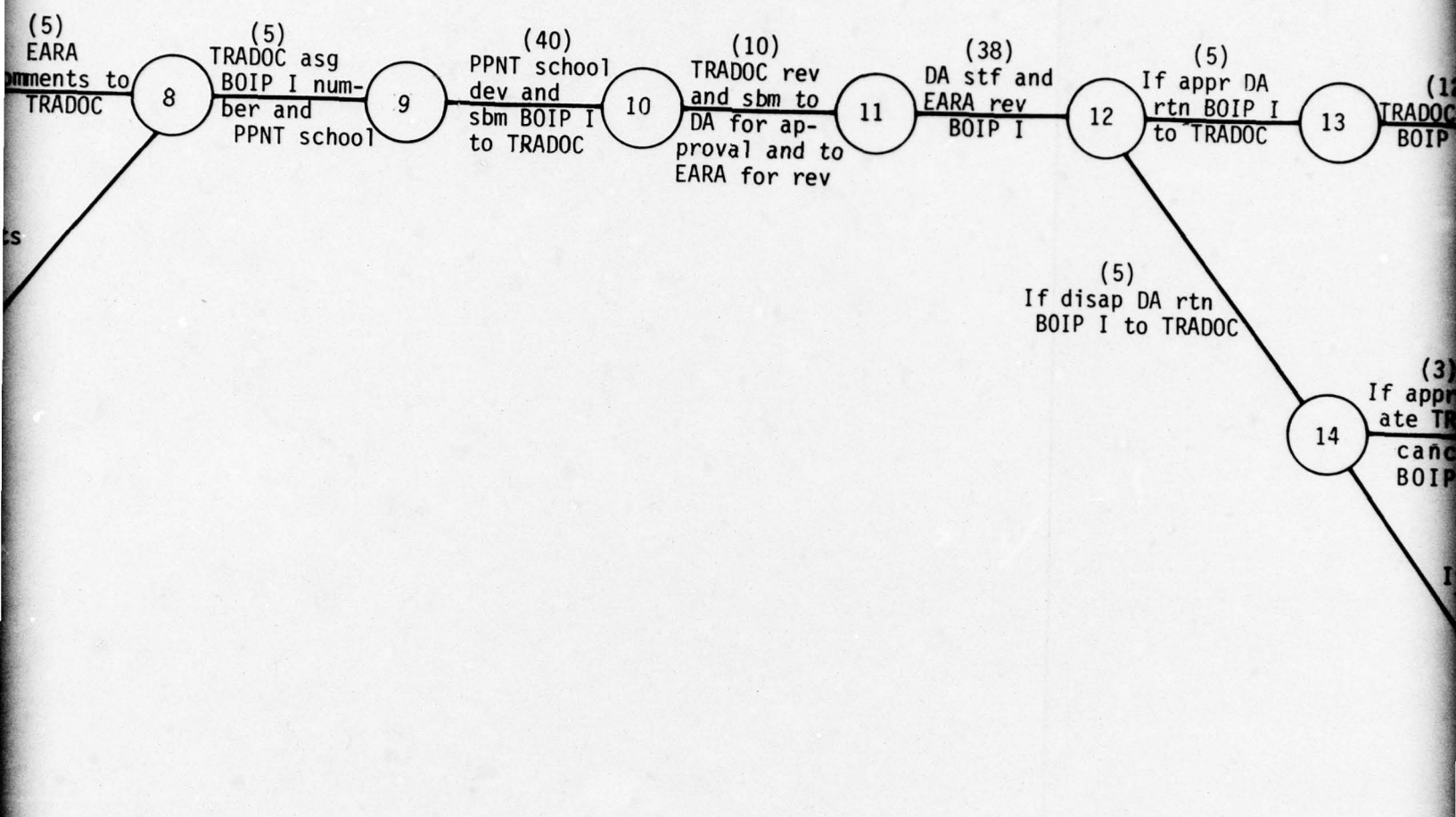
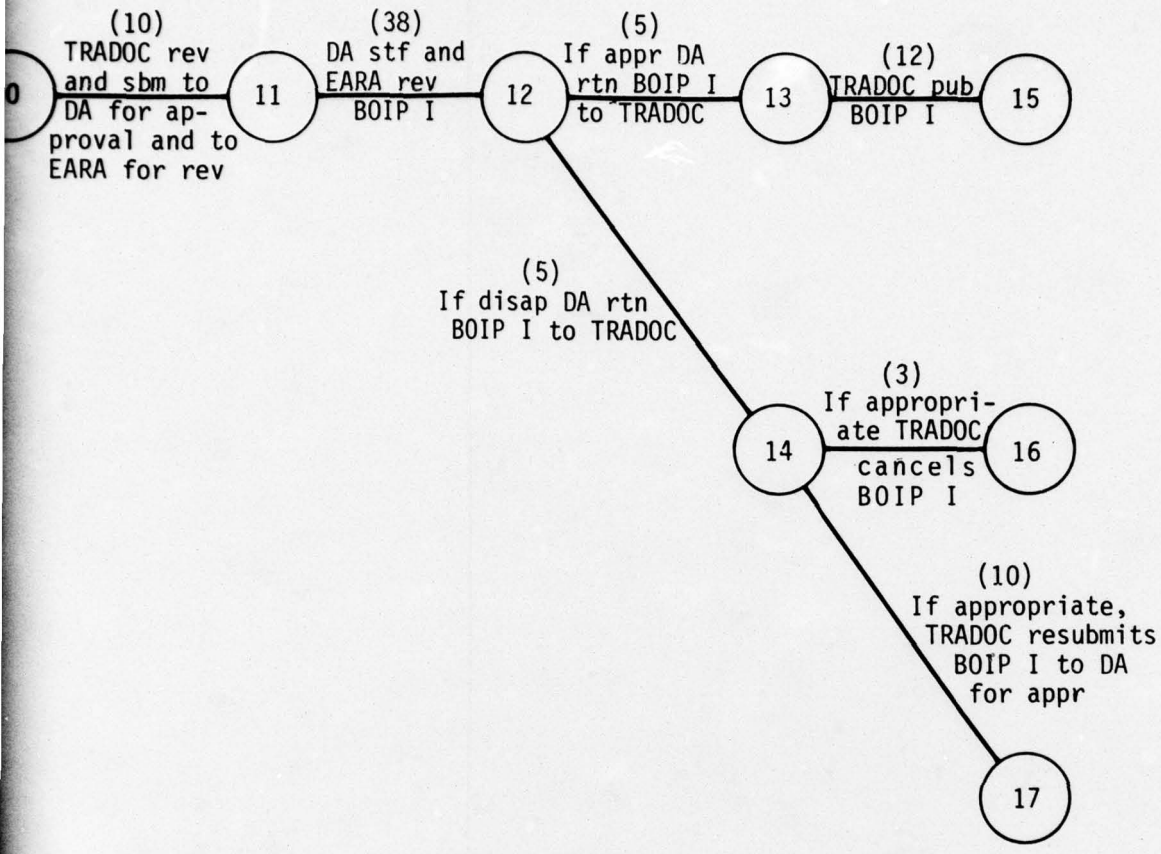


Figure D-I-1. Basis of Issue Plan (BOIP) I


(10)
TRADOC rev
and sbm to
DA for ap-
proval and to
EARA for rev
11
(38)
DA stf and
EARA rev
BOIP I
12
(5)
If appr DA
rtn BOIP I
to TRADOC
13
(12)
TRADOC pub
BOIP I
15
(5)
If disap DA rtn
BOIP I to TRADOC
14
(3)
If appropri-
ate TRADOC
cancels
BOIP I
16
(10)
If appropriate,
TRADOC resubmits
BOIP I to DA
for appr
17

APPENDIX D
Networks

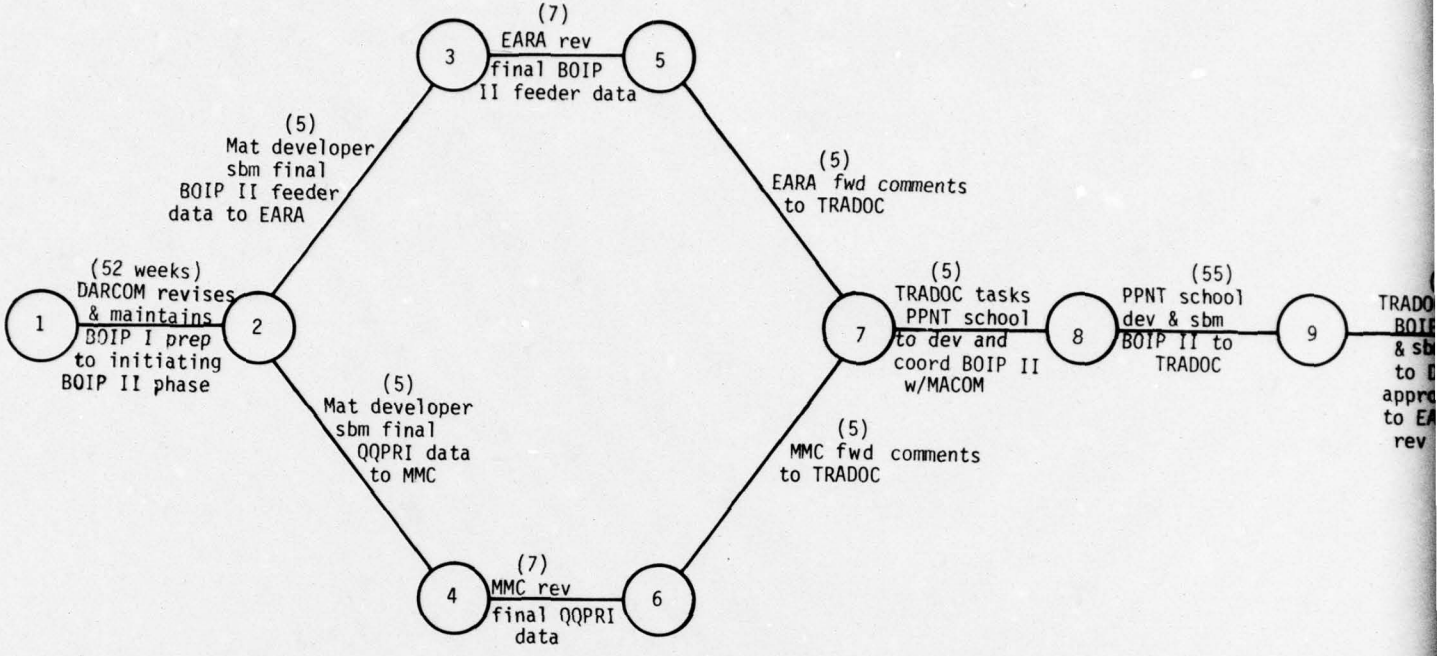
Annex II
Basis of Issue Plan II

D-II-1. PURPOSE. The Basis of Issue Plan (BOIP) II is the process for specifying the qualitative and quantitative personnel requirements for new equipment. These requirements include the identification of the types of units that will need the new equipment.

D-II-2. DESCRIPTION. The BOIP I is maintained and updated pending initiation of BOIP II (arc 1-2). In a manner similar to BOIP I, the Materiel Developer submits final BOIP II feeder data to both the Equipment Authorization Review Activity (EARA) and the Materiel Management Center (MMC) (arcs 2-3 and 2-4, respectively). In the case of BOIP II, the MMC is responsible for reviewing the final Qualitative and Quantitative Personnel Resource Information (QQPRI) (arc 4-6). The proponent school, assigned by TRADOC during the BOIP I process, is responsible for developing and coordinating the BOIP II with all the MACOMs (arc 7-8). Following completion of the BOIP II by the proponent school, TRADOC, DA, and EARA review the plan (arcs 9-10 and 10-11). If DA disapproves the BOIP, TRADOC will either cancel or rejustify and submit the plan. If DA approves the plan, TRADOC will distribute the published document to DA, the Materiel Developer, and all the MACOMs (arc 12-14). A critical step in this process occurs when the Materiel Developer must type classify the item. Type Classification (TC) results in a standard LIN being assigned (arc 14-17). Assignment of the standard LIN updates the BOIP information used in LOGSACS, updates the SB 700-20 edit tape information and warns schools, centers, and MACOMs that BOIP II will be applied to the TOE in the next Consolidated Change Table (CCT) cycle (arc 17-20). The last 4 arcs indicate how the BOIP information is applied. MACOMs apply BOIP II to TDAs while revising MTOEs based on the semiannual CCT (arc 19-22 and 21-22, respectively). The final two arcs describe how the MACOMs advise DA when the BOIP is applied (arc 22-23). Likewise, DA is notified when the BOIP II is moved to the history file (arc 23-24).

D-II-3. CRITICAL MILESTONES. The publication of the equipment Supply Bulletin (SB), effective 1 March and 1 September, has associated input suspense dates of 10 November and 10 May, respectively. In order for a standard LIN for a new piece of equipment to be published in the SB, action on the applicable BOIP must be completed prior to the 10 November and 10 May dates. Otherwise, an additional 6 month wait will be incurred before the information will appear in the Supply Bulletin.

D-II-4. LINKAGE TO OTHER NETWORKS. At node 14, BOIP II links to the MOS Update network where MILPERCEN obtains the information contained in the Qualitative and Quantitative Personnel Requirements Information (QQPRI) report (arc 2-4) to establish personnel requirements needed to support the new equipment. From node 19, BOIP II links to the equipment Supply Bulletin (SB) update; DESCOM enters the information on the LIN for the new BOIP into the SB edit tape. Also from node 19, BOIP II links to the TOE change process where BOIP II information is entered into the Consolidated Change Table (CCT) which TRADOC publishes semiannually, effective 1 March and 1 September.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

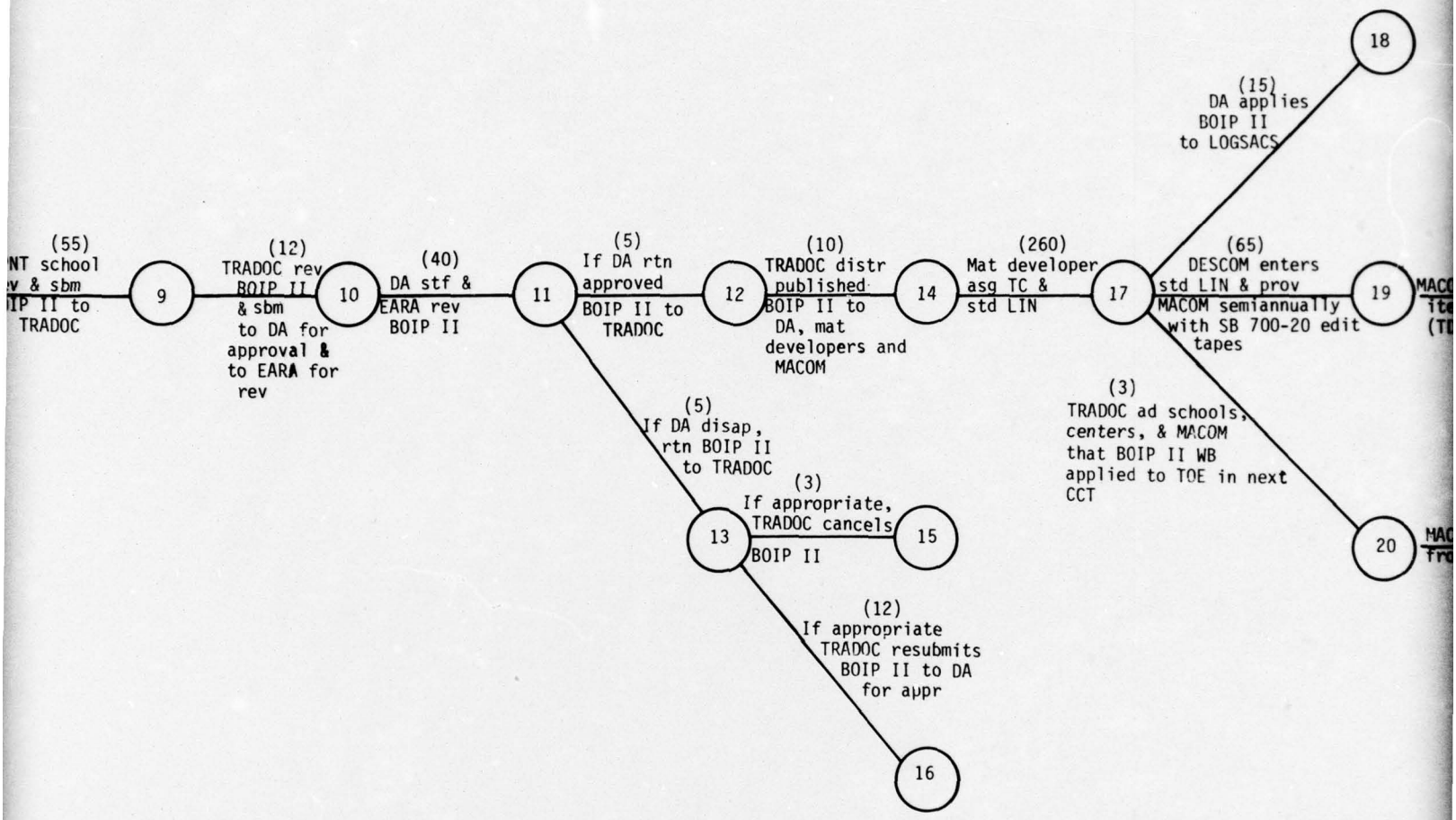
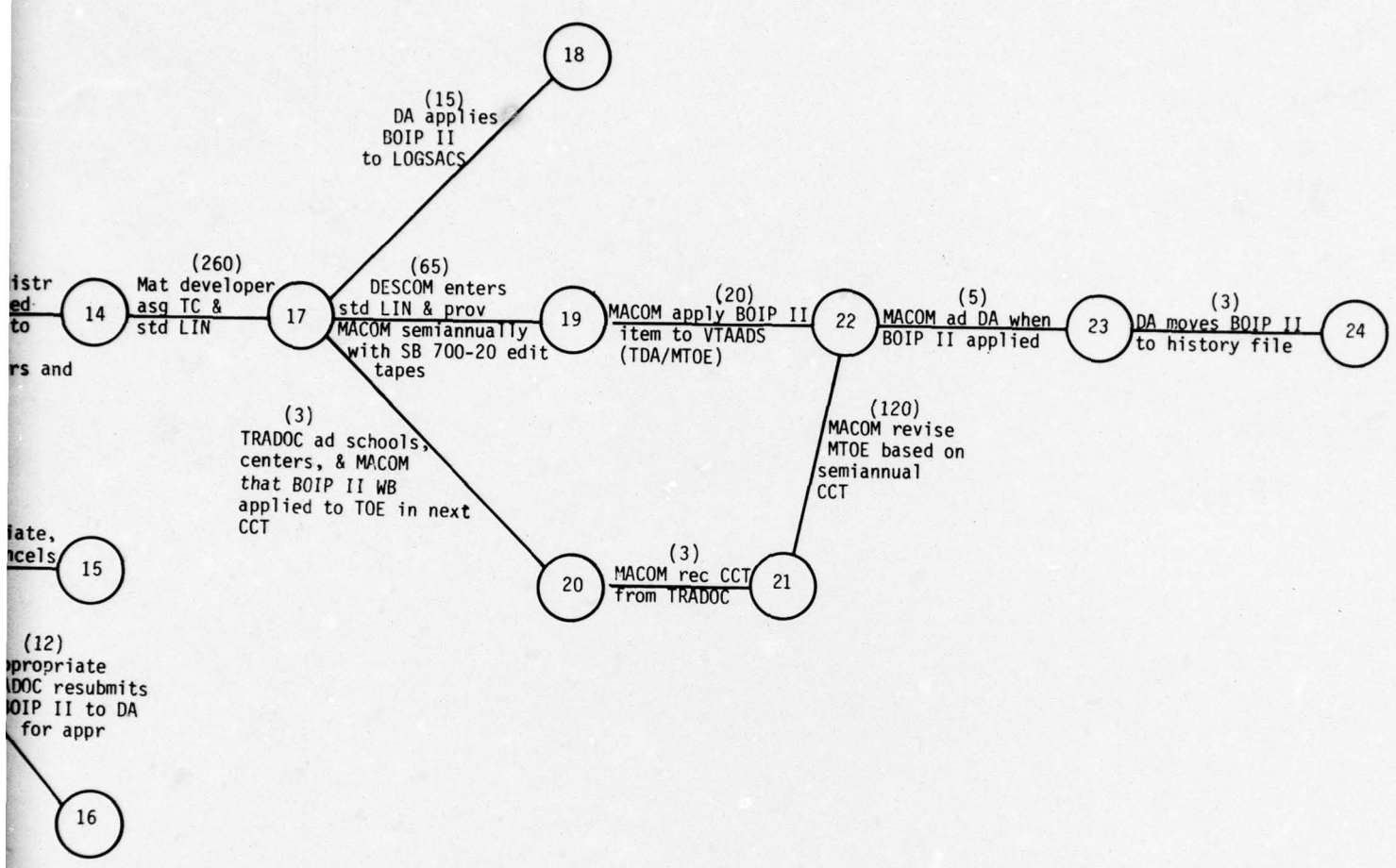


Figure D-II-1. Basis of Issue Plan (BOIP) II


18
(15)
DA applies
BOIP II
to LOGSACS
istr
ed
to
14
(260)
Mat developer
asg TC &
std LIN
17
(65)
DESCOM enters
std LIN & prov
MACOM semiannually
with SB 700-20 edit
tapes
19
(20)
MACOM apply BOIP II
item to VTAADS
(TDA/MTOE)
22
(5)
MACOM ad DA when
BOIP II applied
23
(3)
DA moves BOIP II
to history file
24
rs and
(3)
TRADOC ad schools,
centers, & MACOM
that BOIP II WB
applied to TOE in next
CCT
(120)
MACOM revise
MTOE based on
semiannual
CCT
iate,
ncels
15
20
(3)
MACOM rec CCT
from TRADOC
21
(12)
ppropriate
ADOC resubmits
OIP II to DA
for appr
16

n (BOIP) II

APPENDIX D
Networks

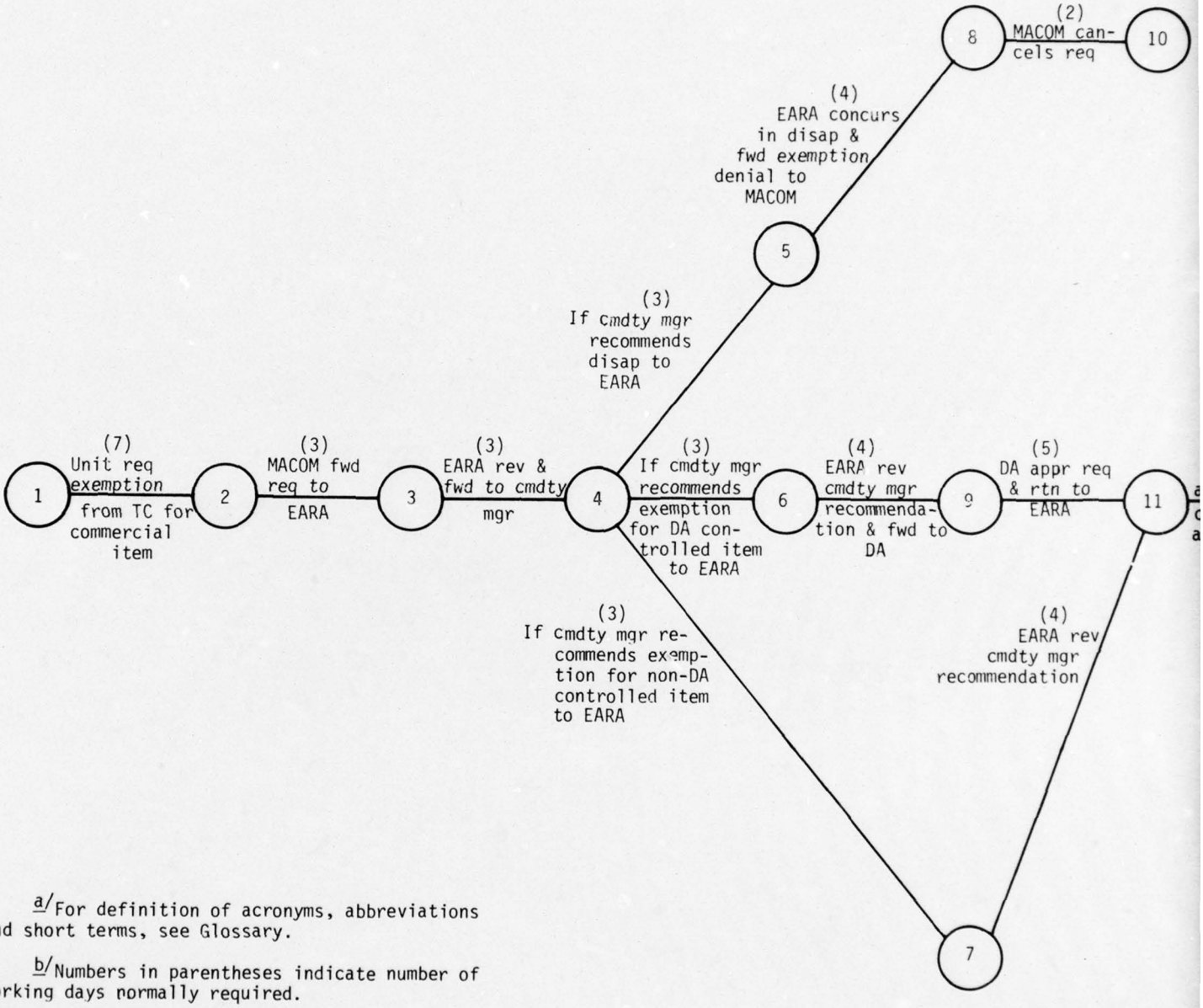
ANNEX III
Commercial Item Introduction

D-III-1. PURPOSE. The purpose of the Commercial Item Introduction process is to enter commercial items of equipment into the Army's inventory.

D-III-2. DESCRIPTION. The Commercial Item Introduction process is initiated by unit requests for exemption from type classification for a commercial item of equipment (arc 1-2). The request for exemption proceeds through the MACOM, to the Equipment Authorization Review Activity (EARA) (arc 3-4), and then to the commodity manager. Either the commodity manager will recommend disapproval (arc 4-5) or exemption. If an exemption is recommended for a DA controlled item, the request must go to DA for approval (arc 9-11). If the request is for a non-DA controlled item, EARA will review the commodity manager's recommendations (arc 7-11). After DA and EARA approve the exemption request, EARA will forward approval notification to the MACOM and National Inventory Control Point (NICP) (arc 11-12). The NICP will then proceed with whatever procurement actions are required (arc 12-13). At the same time, the MACOM must submit a request to EARA for the assignment of a Line Item Number (LIN) (arc 12-14). The next five activities explain how a new LIN is assigned and eventually updates SB 700-20 (arcs 14-19). DESCOM then notifies the NICPs and EARA of the LIN information (arcs 19-20 and 19-21, respectively). EARA, in turn, notifies the MACOM(s) of the LIN (arc 21-22).

D-III-3. CRITICAL MILESTONES. Critical milestones for this process occur when DESCOM assigns a LIN and updates the equipment Supply Bulletin. In order for that information to be included in the next Supply Bulletin, it must be submitted prior to the 10 November or 10 May cut-off dates; after these dates, new LINs will not be included in the Supply Bulletins published 1 March and 1 September respectively.

D-III-4. LINKAGE TO OTHER NETWORKS. The Commercial Item network links to the Supply Bulletin networks from node 19.



a/For definition of acronyms, abbreviations and short terms, see Glossary.

b/Numbers in parentheses indicate number of working days normally required.

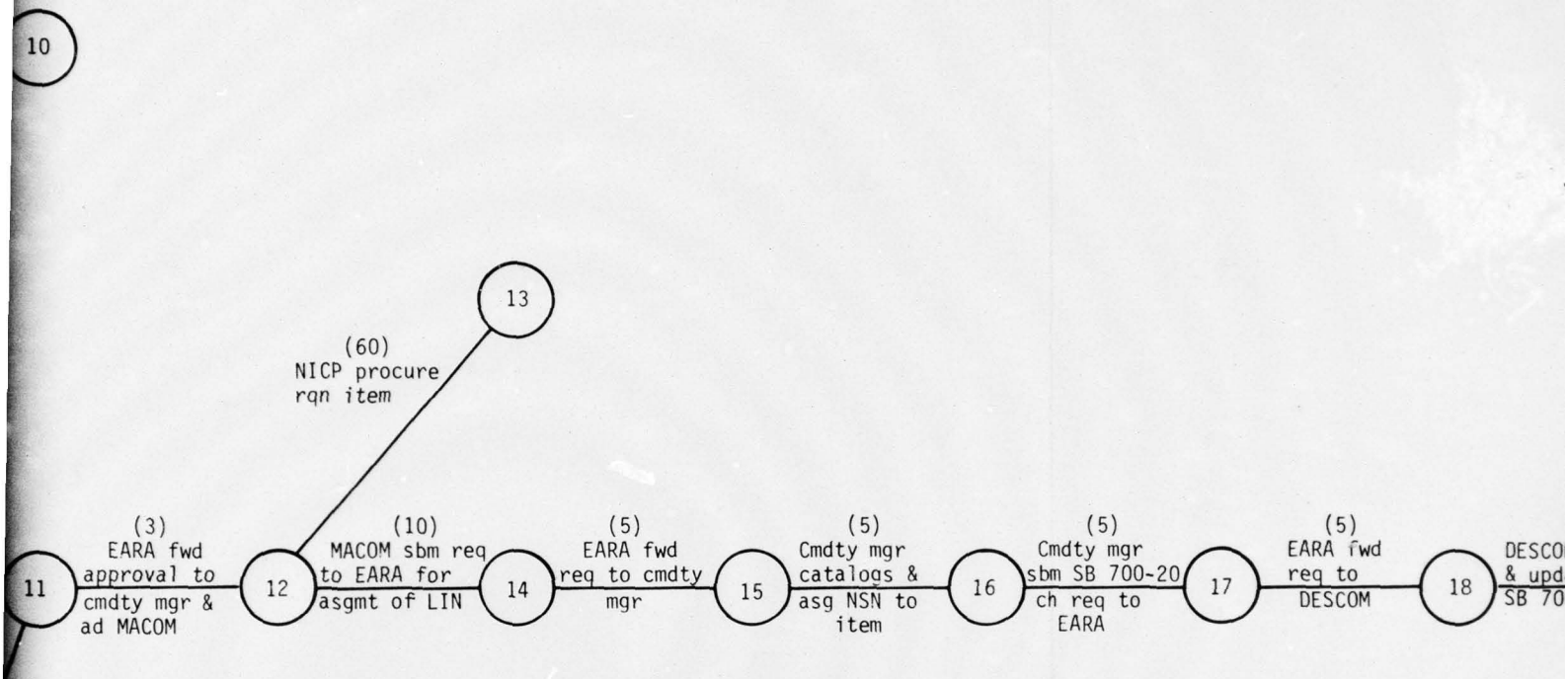
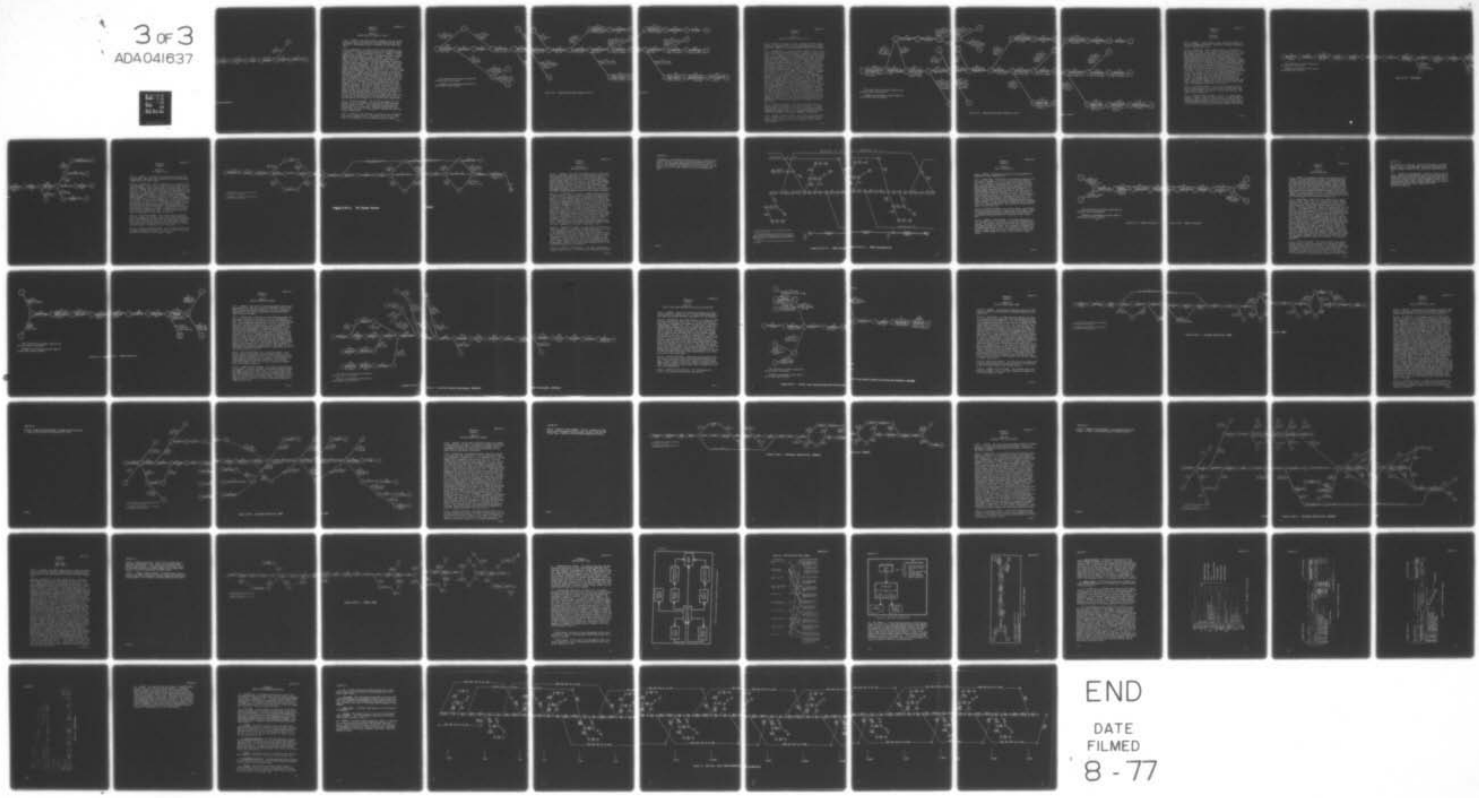


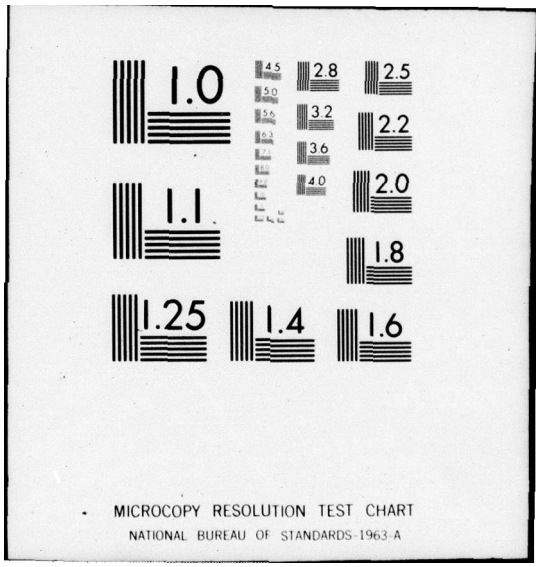
Figure D-III-1. Commercial Item Introduction

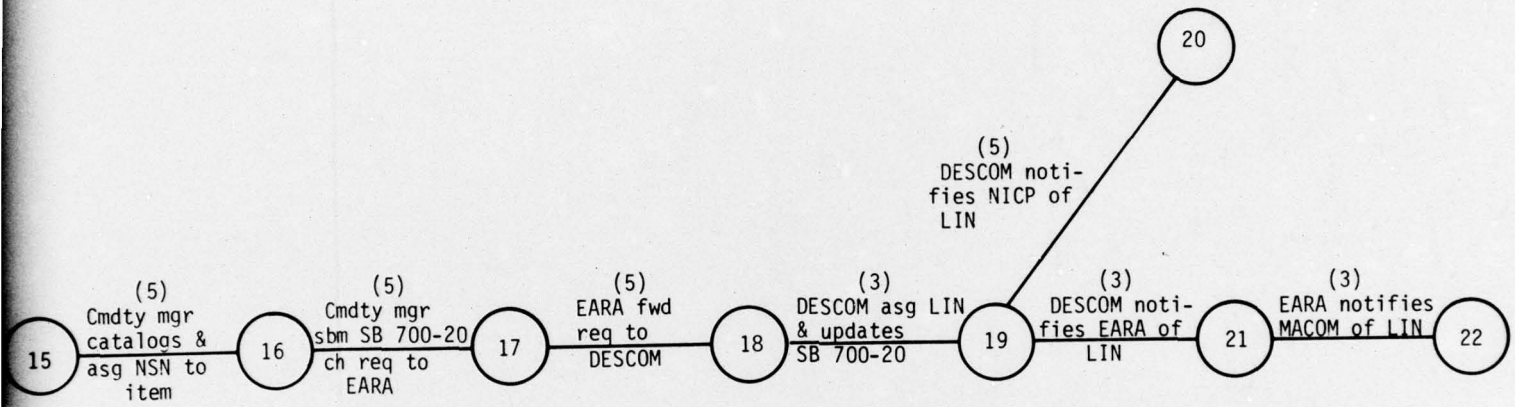
AD-A041 637 ARMY CONCEPTS ANALYSIS AGENCY BETHESDA MD F/G 5/1
MANAGEMENT OF CHANGE (MOC).(U)
JUN 77 F A DISTASIO, M E BONNETT, F E HARTMAN
UNCLASSIFIED CAA-SR-77-7 NL

3 OF 3
ADA041637



END
DATE FILMED
8 - 77


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



Item Introduction

APPENDIX D
Networks

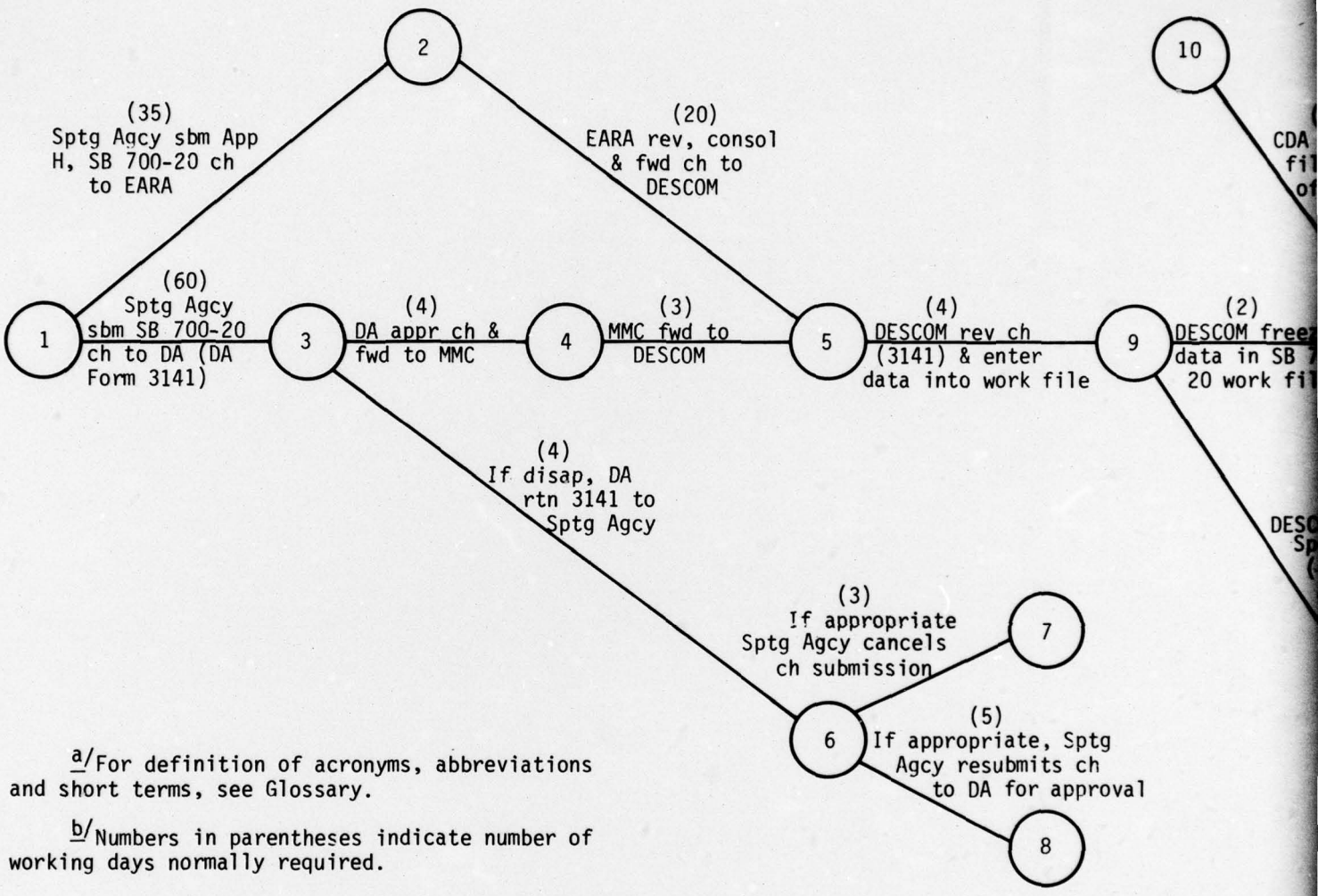
Annex IV
Supply Bulletin, Chapters 2 and 8

D-IV-1. PURPOSE. The Supply Bulletin (Chapters 2 and 8) process provides an analysis of the work flow associated with the introduction of the standard items of equipment into the Army inventory.

D-IV-2. DESCRIPTION. The Supply Bulletin 700-20 (Chapters 2 and 8) process is initiated with the submission of changes to Chapters 2 and 8 (arc 1-3) and to Appendix H (arc 2-3). Chapter 2, "Army Adopted Items of Materiel," lists all items which have a separate basis of issue and have been type classified. Chapter 8, "CTA Items" lists those items authorized only by Common Tables of Allowances (CTA). Appendix H, "Selected Assemblages and Applicable Major PEMA Support Items" lists the support items issued separately from their assemblage. DA either approves changes to the Supply Bulletin and forwards the change request through the Maintenance Management Center (MMC) to DESCOM (arc 3-4) or returns the request for resubmission or cancellation (arc 3-6). It is at DESCOM where Appendix H changes approved by the Equipment Authorization Review Activity (EARA) and those changes processed by the MMC are reviewed and entered in the DESCOM work file (arc 5-9). Semiannually (10 November and 10 May), DESCOM freezes the data held in the Supply Bulletin work file thereby fixing the data that will be in the 1 March and 1 September SB issued to TRADOC and other field commands (arc 9-11). The Catalog Data Agency (CDA) and DESCOM exchange information updating each other's files (arcs 11-13 and 18-22, respectively). At node 17, copies of the SB 700-20 edit tapes are sent to all the users. The edit tapes are furnished in advance of when the Government Printing Office (GPO) produces and distributes the hardcopy version of SB 700-20 (arc 16-19 and 19-23). DESCOM in coordination with CDA, updates their data files by preparing discrepancy reports and submitting them to the supporting agencies for comment (arcs 22-25 and 25-26, respectively).

D-IV-3. CRITICAL MILESTONES. Two critical milestones for this network are the 10 November and 10 May cut-off dates associated with the Supply Bulletin. These dates mark the time when the DESCOM work file is turned over. Changes received after these cut-off dates are held for incorporation in the next SB to be published 6 months later.

D-IV-4. LINKAGE TO OTHER NETWORKS. From node 21, the SB network joins the TOE Change network. Information in the SB is incorporated in the semiannual CCT publication produced by TRADOC.



a/For definition of acronyms, abbreviations and short terms, see Glossary.

b/Numbers in parentheses indicate number of working days normally required.

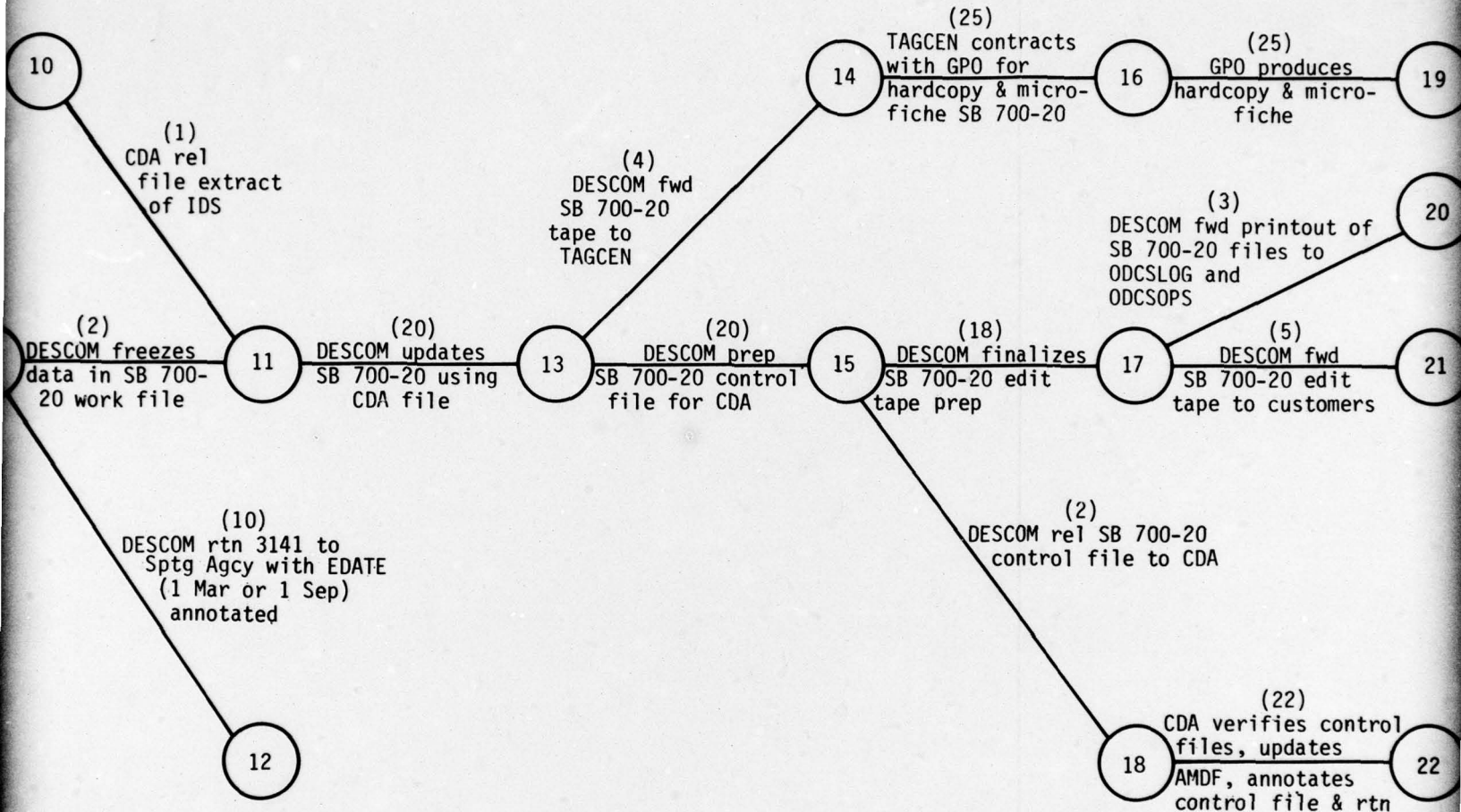
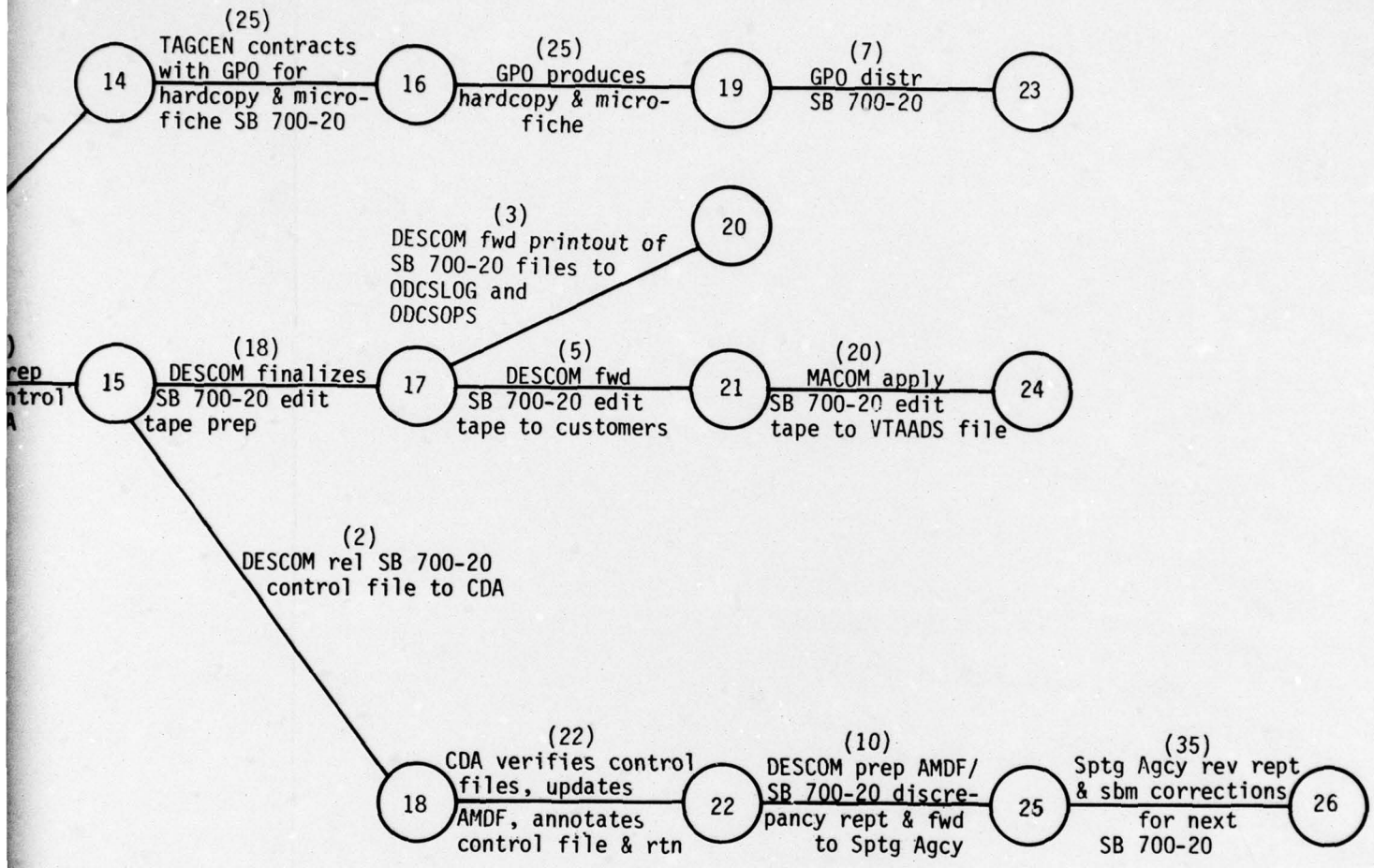


Figure D-IV-1. Supply Bulletin Update (Chapters 2 and 8)


(25)
TAGCEN contracts with GPO for hardcopy & micro-fiche SB 700-20
14
16
(25)
GPO produces hardcopy & micro-fiche
19
(7)
GPO distr SB 700-20
23
(3)
DESCOM fwd printout of SB 700-20 files to ODCSLOG and ODCSOPS
20
rep
ntrol
A
15
(18)
DESCOM finalizes SB 700-20 edit tape prep
17
(5)
DESCOM fwd SB 700-20 edit tape to customers
21
(20)
MACOM apply SB 700-20 edit tape to VTAADS file
24
(2)
DESCOM rel SB 700-20 control file to CDA
18
(22)
CDA verifies control files, updates AMDF, annotates control file & rtn
22
(10)
DESCOM prep AMDF/ SB 700-20 discre-pancy rept & fwd to Sptg Agcy
25
(35)
Sptg Agcy rev rept & sbm corrections for next SB 700-20
26

ers 2 and 8)

APPENDIX D
Networks

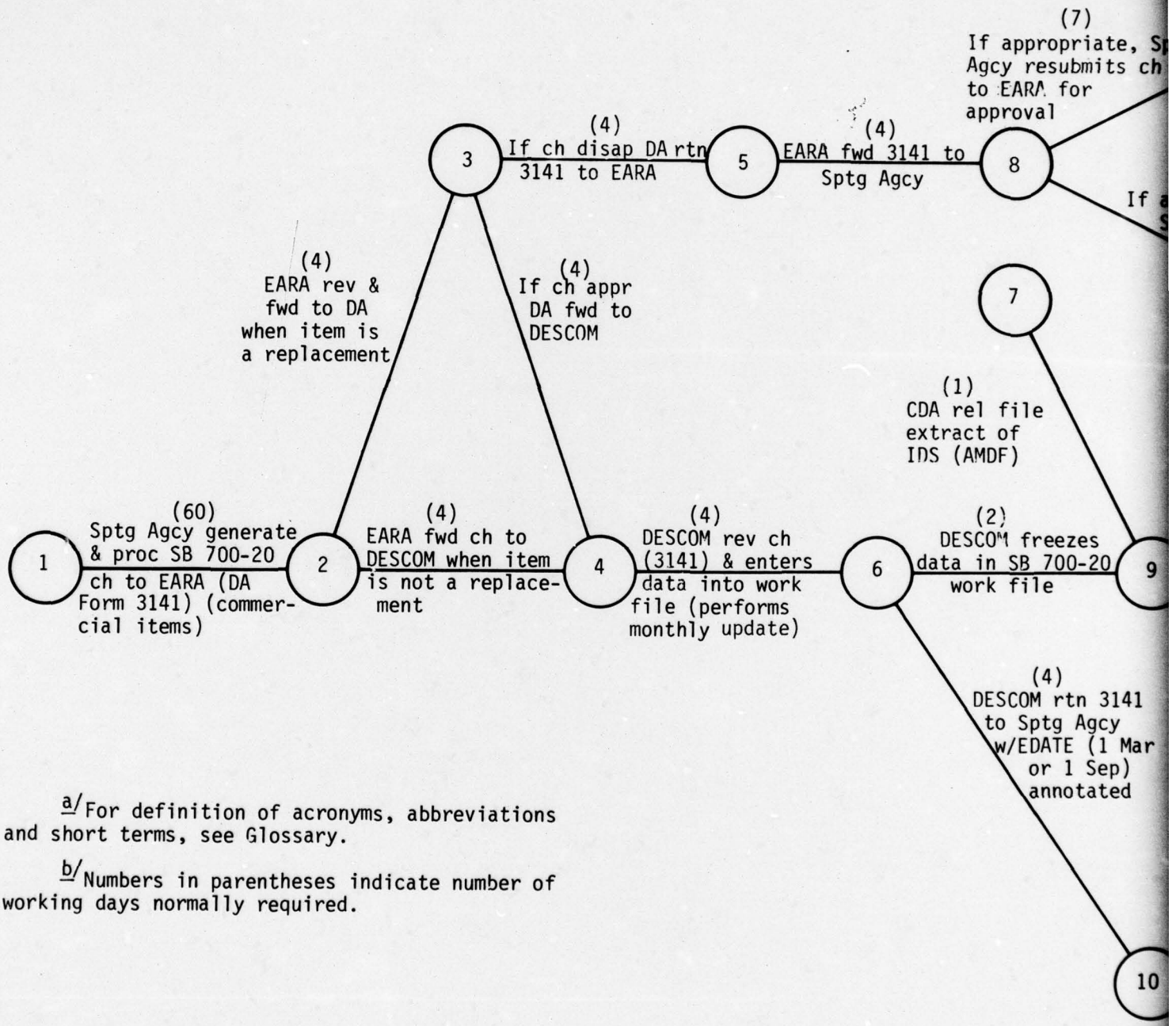
Annex V
Supply Bulletin, Chapters 6 and 7

D-V-1. PURPOSE. The Supply Bulletin (Chapters 6 and 7) process provides an analysis of the work flow associated with the introduction of commercial items of equipment into the Army inventory.

D-V-2. DESCRIPTION. The Supply Bulletin (Chapters 6 and 7) process is initiated with the submission of changes to Chapters 6 and 7 (arc 1-2). Chapter 6, "TDA Items Not Requiring Type Classification", lists nondevelopmental, nonexpendable TDA items, including items addressed in Appendix P, AR 310-49; and DA controlled items (para 4-4, AR 310-49) regardless of cost. Chapter 7, "Nontype Classified, Non-PEMA Commercial Items," list Non-standard Line Item Numbers (NSLIN) for commercial items not type classified to be included in Section III or IV of a TDA. The Equipment Authorization Review Activity (EARA) is responsible for reviewing and forwarding to DESCOM those changes that do not involve a replacement (arc 2-4). If a replacement is required, EARA will forward the change to DA for approval (arc 2-3). If DA approves the change, it will be forwarded to DESCOM (arc 3-4). Regardless of whether the change request flows through DA, DESCOM will review and then enter the change in the SB work file (arc 4-6). Semiannually (10 November and 10 May), DESCOM freezes the data held in the SB work file, thereby fixing the data that will be in the 1 March and 1 September SB issued to the field (arc 6-9). The Catalog Data Agency (CDA) and DESCOM exchange information updating each others' files (arc 9-13 and 18-22, respectively). At node 17, copies of the SB 700-20 edit tapes are sent to all the users. The edit tapes are furnished before the Government Printing Office (GPO) produces and distributes the hardcopy version of SB 700-20 (arcs 16-19 and 19-23). DESCOM, in coordination with CDA, updates its data files by preparing discrepancy reports and submitting them to the supporting agencies for comment (arcs 22-25 and 25-26).

D-V-3. CRITICAL MILESTONES. Two critical milestones for this network are the 10 November and 10 May SB cut-offs. It is then that the work file at DESCOM is cut off; no subsequent changes received after these dates will be incorporated into the SB published the following 1 March and 1 September, respectively.

D-V-4. LINKAGE TO OTHER NETWORKS. From node 21, the Supply Bulletin (Chapters 6 and 7), joins the TAADS Documentation network thereby incorporating information on commercial items in the VTAADS update.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

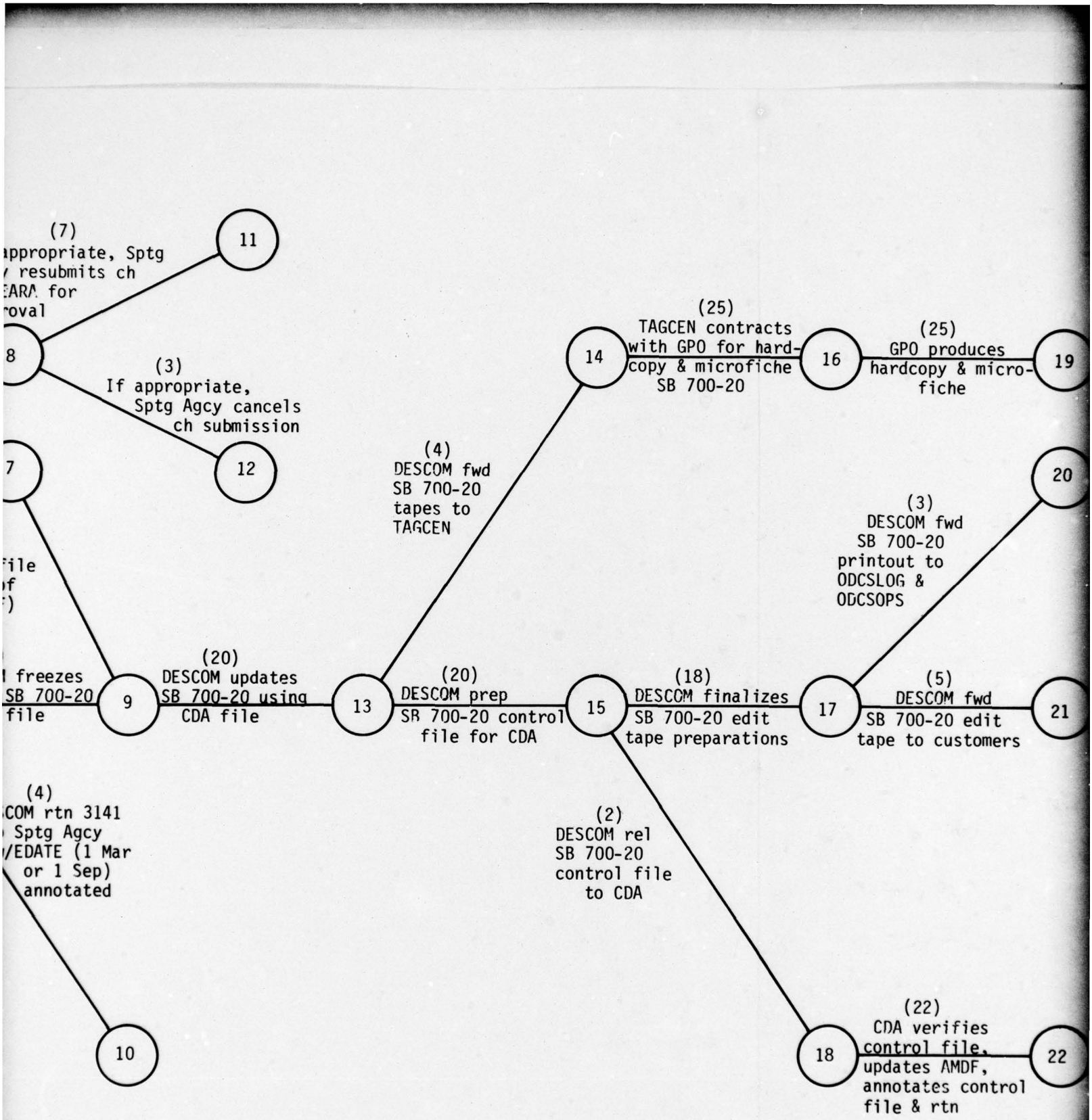
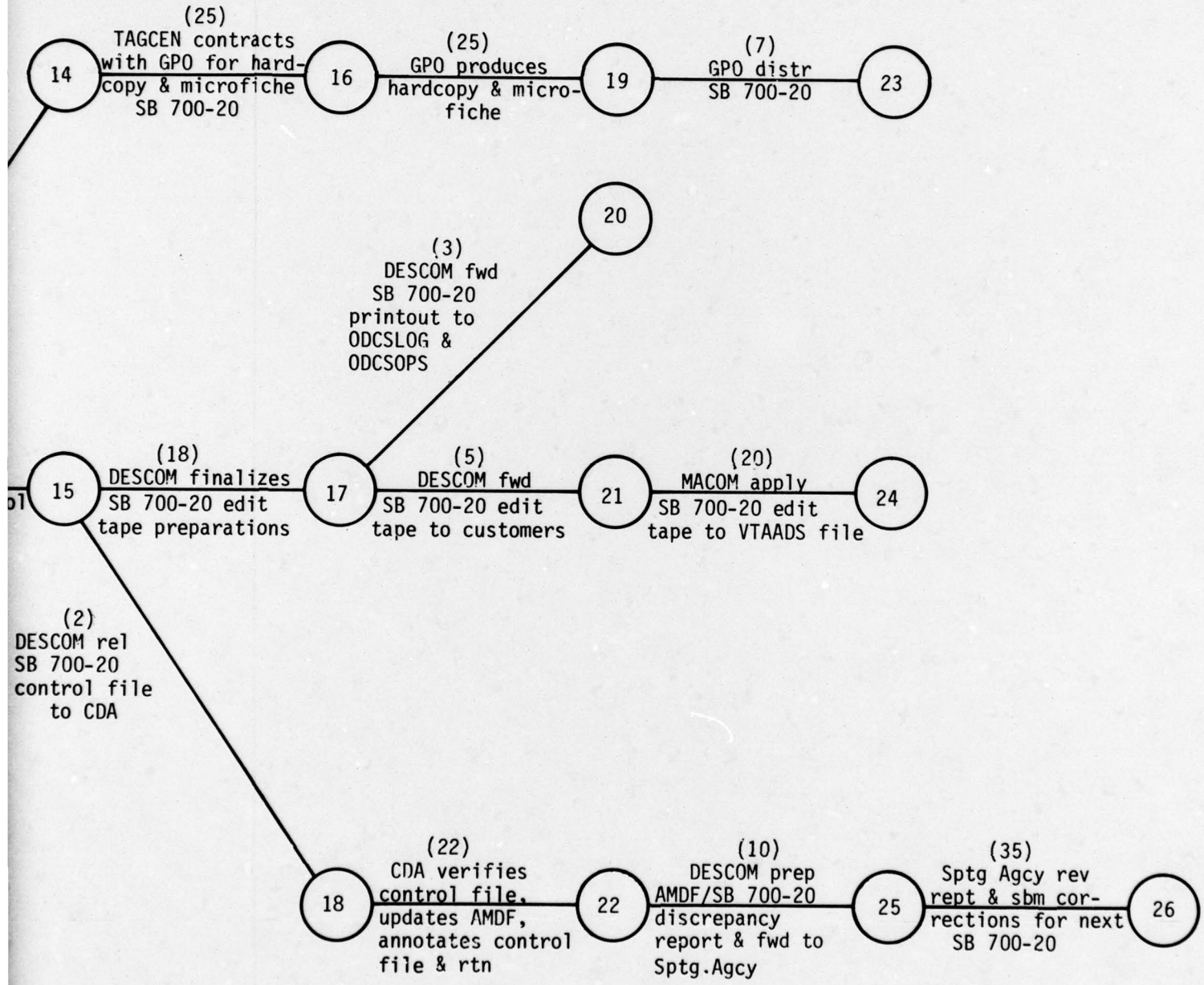


Figure D-V-1. Supply Bulletin Update (Chapters 6 and 7)


(25)
TAGCEN contracts with GPO for hard-copy & microfiche SB 700-20
14
16
(25)
GPO produces hardcopy & micro-fiche
19
(7)
GPO distr SB 700-20
23
20
(3)
DESCOM fwd SB 700-20 printout to ODCSLOG & ODCSOPS
15
(18)
DESCOM finalizes SB 700-20 edit tape preparations
17
(5)
DESCOM fwd SB 700-20 edit tape to customers
21
(20)
MACOM apply SB 700-20 edit tape to VTAADS file
24
(2)
DESCOM rel SB 700-20 control file to CDA
18
(22)
CDA verifies control file, updates AMDF, annotates control file & rtn
22
(10)
DESCOM prep AMDF/SB 700-20 discrepancy report & fwd to Sptg.Agcy
25
(35)
Sptg Agcy rev rept & sbm corrections for next SB 700-20
26

ters 6 and 7)

APPENDIX D
Networks

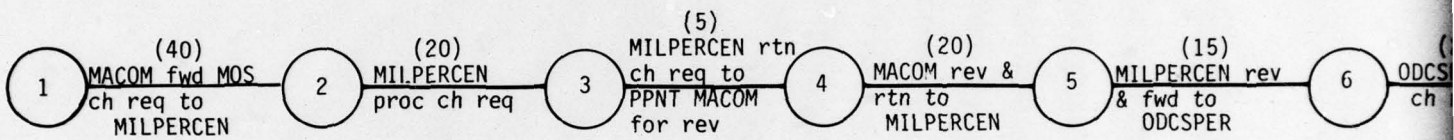
Annex VI
MOS UPDATE

D-VI-1. PURPOSE. The MOS Update process controls the manner by which MOS changes evolve from a request for a change to the publication of the MOS edit tape.

D-VI-7. DESCRIPTION. The MOS Update process is initiated with the submission of MOS change requests to MILPERCEN (arc 1-2). The MOS changes submitted by the MACOMs are staffed by MILPERCEN (arc 2-3) and returned to the proponent MACOM for review (arc 4-5). After reviewing the change requests, MILPERCEN forwards the request to DA (arc 5-6). ODCSPER then reviews the request. At node 8, MILPERCEN either approves or disapproves the MOS change request (arcs 9-10 and 8-9). If MILPERCEN approves the change, Letters of Notification (LON) are forwarded to the MACOMs (arc 10-11). All the LONs are collected (arc 11-12) and MILPERCEN prepares the MOS edit tape (arc 12-14) for release on approximately 1 August and 1 February. Copies of the MOS edit tape are provided to the MACOMs (arc 14-15), DA (arc 14-18), and the installation SIDPERS (arc 14-16). These tapes are used to update MACOM VTAADS (arc 15-19), DA TAADS (arc 18-22), and installation personnel records (arc 16-20). At the same time that the MACOMs are updating their VTAADS files, TRADOC updates the TOE file with the latest MOS edit tape. Semiannually, TRADOC publishes the TOE Consolidated Change Table (CCT) discussed in Annex VII (arc 17-21).

D-VI-3. CRITICAL MILESTONES. The critical milestone events for the MOS Update process are the publication of the MOS Edit Tape (node 14) and TRADOC's preparation of revised MOS data for inclusion in the CCT (node 17).

D-VI-4. LINKAGE TO OTHER NETWORKS. At node 15, the MOS Update process is linked to the TOE Change process. The MOS changes are important inputs to TAADS, and thus are directly linked to the TAADS Documentation network from node 18. The MOS Update process also feeds the Training Program Development network from node 15.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

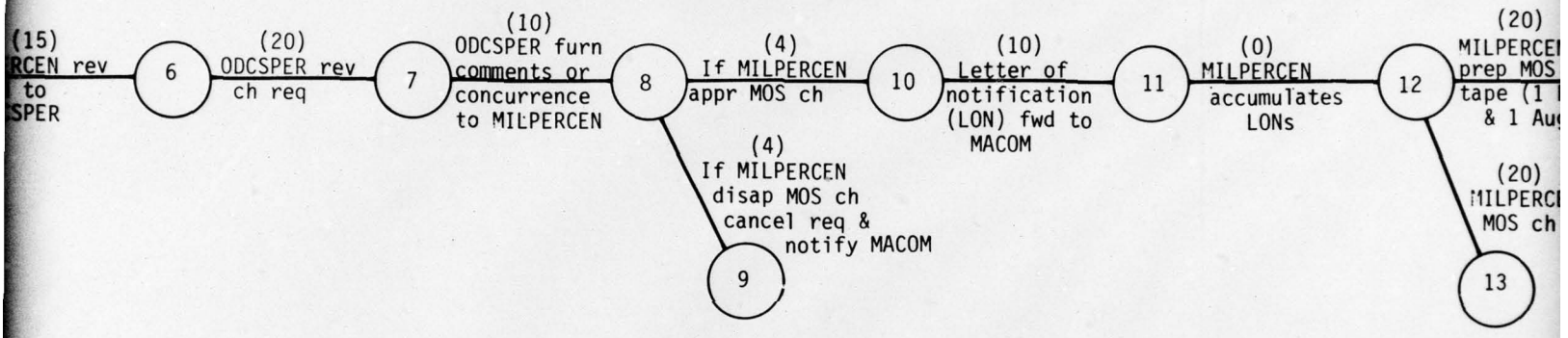
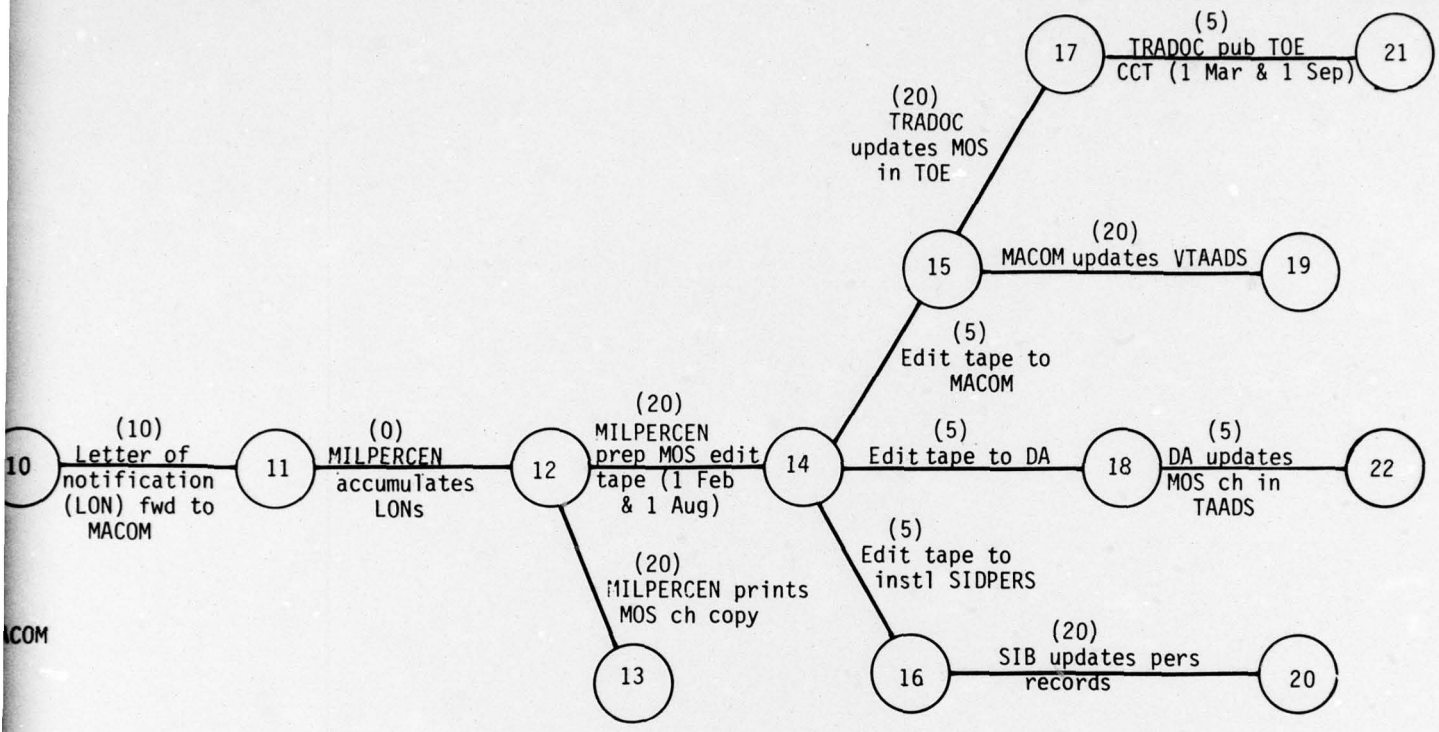


Figure D-VI-1. MOS Update


10
(10)
Letter of notification (LON) fwd to MACOM
11
(0)
MILPERCEN accumulates LONs
12
(20)
MILPERCEN prep MOS edit tape (1 Feb & 1 Aug)
13
(20)
MILPERCEN prints MOS ch copy
14
(5)
Edit tape to MACOM
15
(20)
MACOM updates VTAADS
19
(20)
TRADOC updates MOS in TOE
17
(5)
TRADOC pub TOE CCT (1 Mar & 1 Sep)
21
(5)
Edit tape to DA
18
(5)
DA updates MOS ch in TAADS
22
(5)
Edit tape to instl SIDPERS
16
(20)
SIB updates pers records
20

ACOM

APPENDIX D
Networks

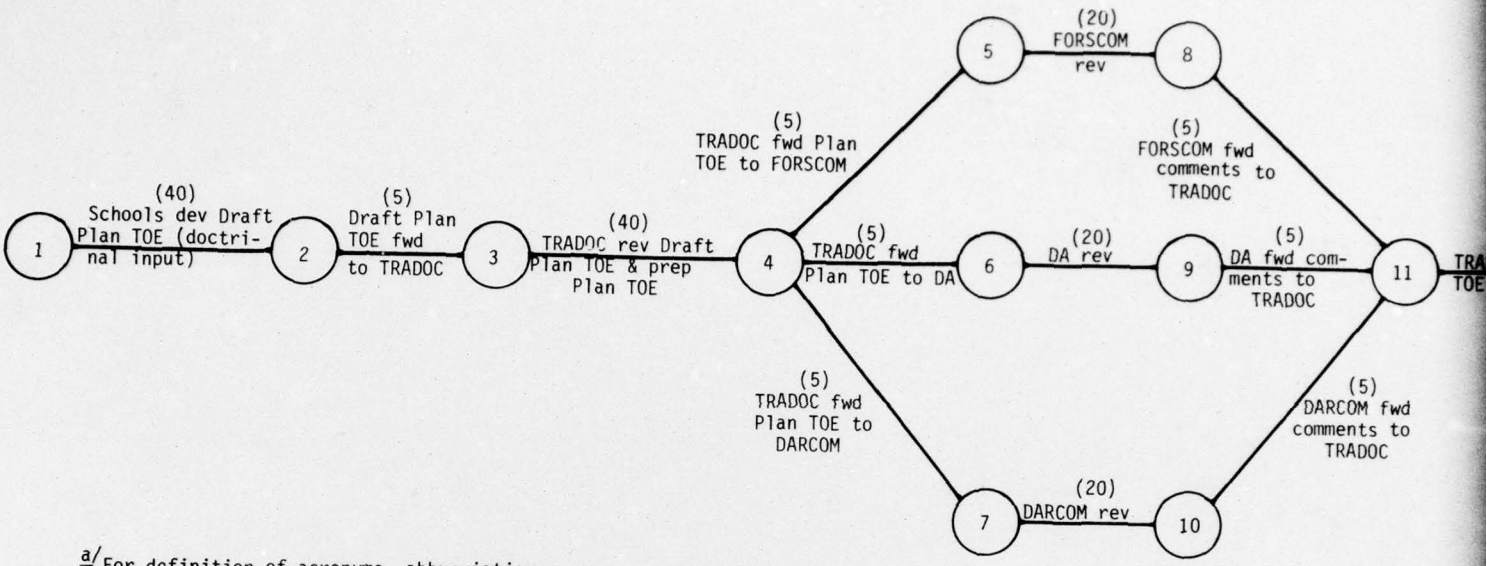
Annex VII
TOE Change Process

D-VII-1. PURPOSE. TOE Change is the process by which new TOEs are developed, published, and incorporated into the Consolidated Change Table (CCT) twice a year.

D-VIII-2. DESCRIPTION. The TOE Change process is initiated with the development of draft plans for new TOE by the TRADOC training schools (Infantry School, Armor School, Artillery School, etc.) (arc 1-2). TRADOC reviews the draft plan TOEs and prepares a plan TOE (arc 3-4). The plan TOE is forwarded to FORSCOM (arc 4-5), DA (arc 4-6), and DARCOM (arc 4-7) for their review and comments. Based principally on comments received from these three MACOMs, TRADOC prepares a final tape for new TOE. This tape is forwarded to the MACOMs prior to the 1 September and 1 March effective dates (arc 12-16). The tape is also forwarded to TAG for publication and distribution (arcs 12-15). A post-publication review is then conducted by the implementing MACOMs, TRADOC and DARCOM (arcs 15-16, 15-18 and 15-17, respectively). Recommended revisions are consolidated by TRADOC (arc 18-20). Changes to the TOE transaction file are accumulated by TRADOC in preparation to producing the next semiannual CCT publication (arc 20-21).

D-VII-3. CRITICAL MILESTONES. The critical events associated with this network are at nodes 12 and 22 where the TOE tapes are sent to the MACOMs for incorporation into authorization documents. Also critical are the input from the SB and MOS Update networks. These publications precede the publication of the CCT and need to be incorporated in the latest CCT on a timely basis.

D-VII-4. LINKAGE TO OTHER NETWORKS. The TOE change network feeds the TAADS Documentation network from nodes 12 and 22. It receives information from the SB and MOS Update networks.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

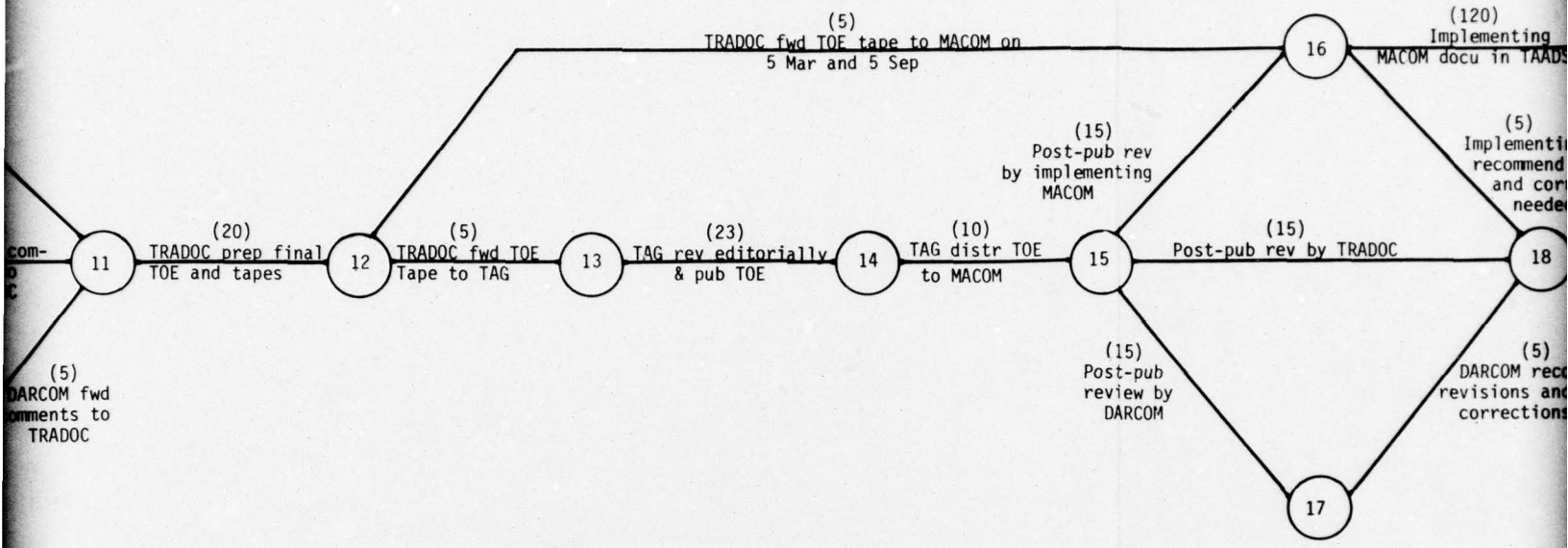
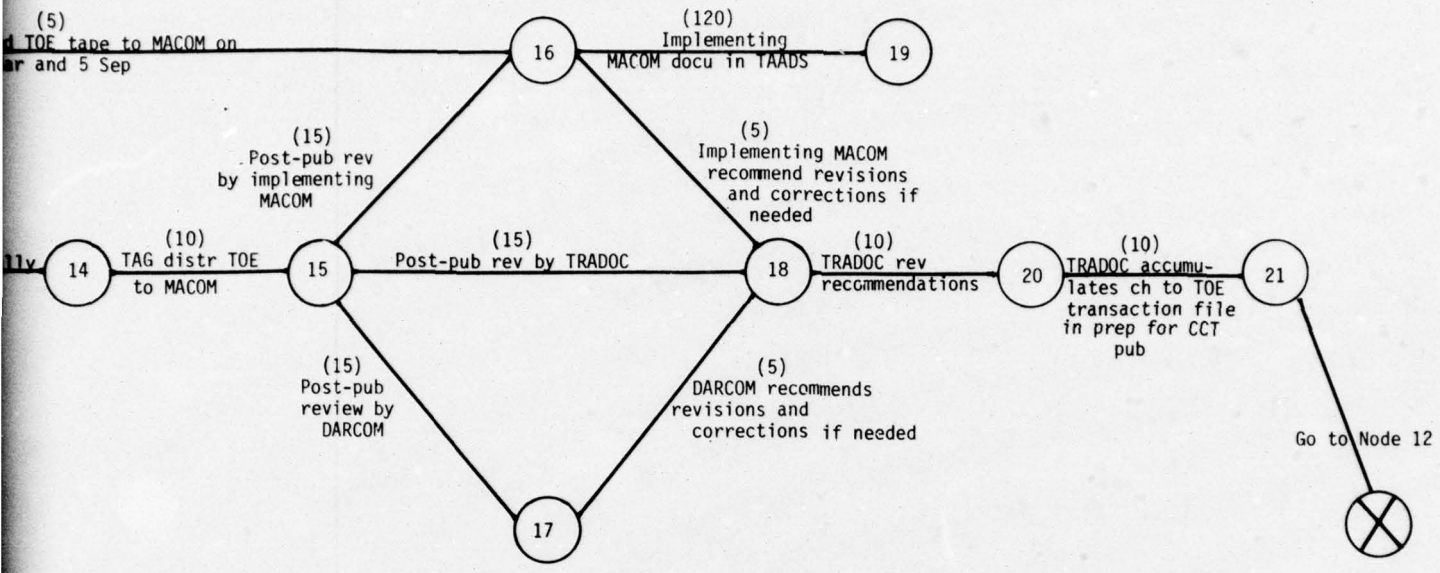


Figure D-VII-1. TOE Change Process

2


(5)
d TOE tape to MACOM on
ar and 5 Sep
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(120)
Implementing
MACOM docu in TAADS
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Post-pub rev by TRADOC
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pub
21
(15)
Post-pub
review by
DARCOM
(5)
DARCOM recommends
revisions and
corrections if needed
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17

rocess

APPENDIX D
Networks

Annex VIII
TAADS Documentation

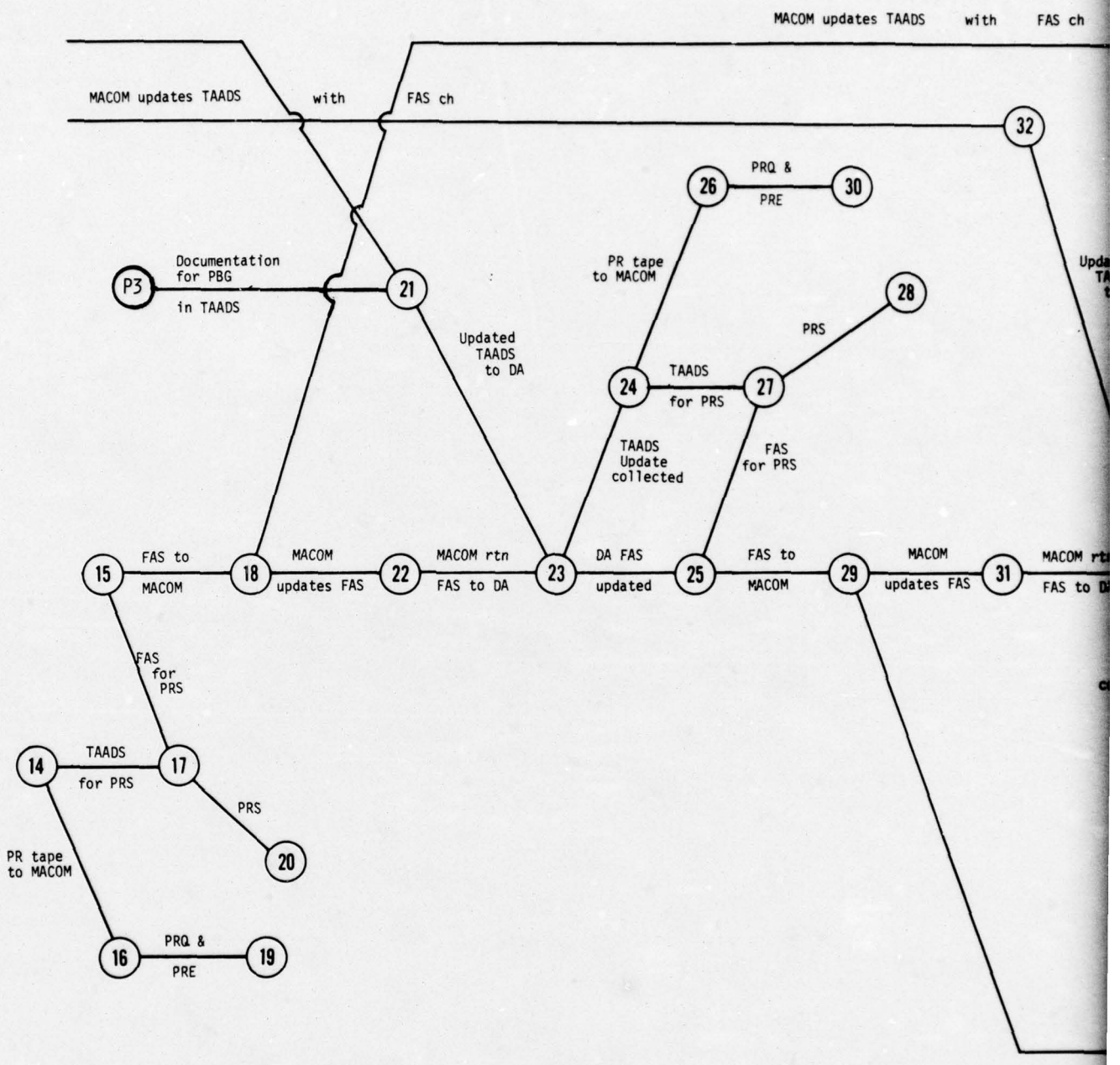
D-VIII-1. PURPOSE. The TAADS Documentation process depicts the flow of authorization documents into TAADS during a yearly cycle. The monthly FAS and TAADS updates are depicted with the FAS changes being returned to DA in the form of revised TAADS documents (VTAADS) after a 65 day interval. All other TAADS documentation is shown entering at the appropriate time during the year. The network also indicates the users of TAADS information, and when during the year this information is required. The TAADS Documentation network serves as an operational base which connects the other sixteen management processes in their proper sequence.

D-VIII-2. DESCRIPTION. The section of TAADS Documentation shown in this annex is a portion of the full yearly cycle found at Appendix F. In this segment (April through June), the May PBG is sent to the field, and PBG documents are fed back to the DA TAADS with April's VTAADS/TAADS update (arc 21-23). Each monthly cycle in the TAADS documentation process consists of 10 events and 12 activities. The month begins with the FAS being sent to the MACOMs for update (arc 15-18,). At node 18 two activities take place: the FAS file is updated and returned to HQDA by the 15th of the month (arcs 18-22 and 22-23); and the FAS changes are incorporated into TAADS and returned to DA (arcs 18-41 and 41-43, respectively). The updated FAS and TAADS are collected at HQDA (arcs 23-24 and 23-25, respectively) and from this update current information is drawn to link with the PERSACS (arcs 24-27 and 25-27, respectively) and the Personnel Requisition Networks (arc 24-26). The remainder of the TAADS Documentation network repeats this basic sequence for each month of the yearly cycle.

D-VIII-3. CRITICAL MILESTONES. The most critical milestone in TAADS Documentation is the monthly VTAADS/TAADS update (arc 23-24). In the automated scheduling analysis, this activity was to be completed by the first of every month; this forced the network into an accurate monthly schedule that is crucial to timely linkages with other networks in the Base Case (Chapter 5, paragraph 5-2). By tying down this event, the information for PERSACS, LOGSACS, and the Pass Records File are available the first of the month. These, in turn, feed other processes which use authorization documentation information.

D-VIII-4. LINKAGE TO OTHER NETWORKS. The TAADS Documentation network forms the base in the authorization management system and,

consequently, is the central diagram from which all other MOC processes are linked. Specifically, the PBG documentation links to node 21, the FAS change documentation links monthly (nodes 21, 32, and 41), the PERSACS, and Personnel Requisition Processes link to nodes 24 and 25, and other networks are linked throughout the year.



a/ This figure is an excerpt from the complete Annual TAADS documentation at Appendix F.

b/ Three special abbreviations, which appear on this figure only, are used to represent entire networks shown in certain subsequent figures as follows: Pre-Personnel Requisition, USAREUR (Figure D-XV-1), PRO-Personnel Requisition, CONUS (Figure D-XIII-1), and PRS-PERSACS (Figure D-IX-1).

c/ For definition of other acronyms, abbreviations and short terms, see Glossary.

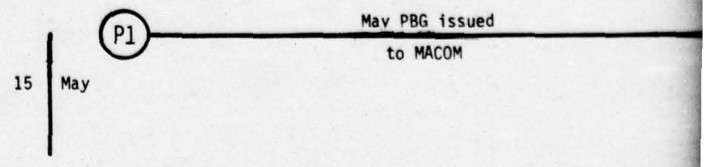
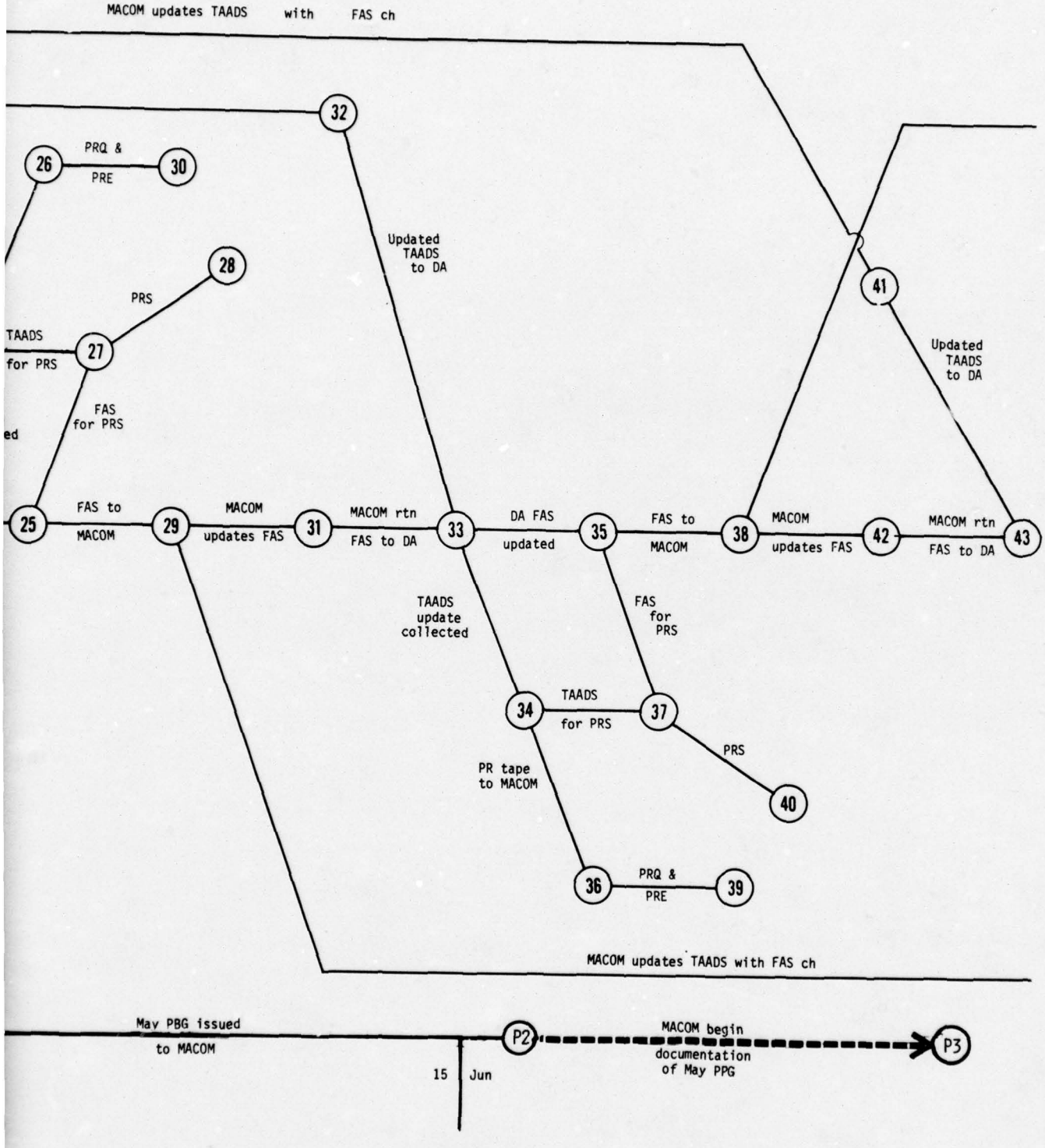


Figure D-VIII-1. TAADS Docume



ure D-VIII-1. TAADS Documentation

APPENDIX D
Networks

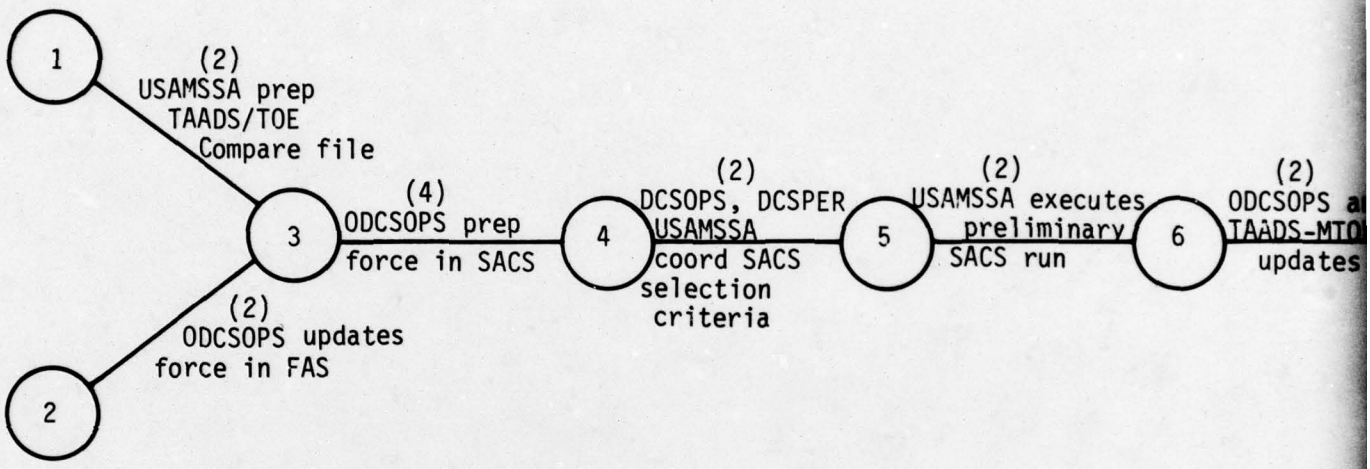
Annex IX
PERSACS Preparation

D-IX-1. PURPOSE. The PERSACS Preparation process examines the preparation of the PERSACS report.

D-IX-2. DESCRIPTION. Preparation of the TAADS/TOE component file each month by USAMSSA (arc 1-3) initiates the PERSACS process. This file is detailed to component level (Active Army, National Guard, US Army Reserve, and unmanned) and is provided for subsequent matching with the FAS during force preparation (arc 3-4). At approximately the same time the TAADS/TOE component file is being prepared, ODCSOPS updates the force in FAS, thus insuring that the force is properly configured (arc 2-3). During SACS force preparation (arc 3-4), the FAS and TAADS files are overlaid to make certain that there is a document for every unit in the force. During the preliminary SACS computation run (arc 5-6), TAADS is matched with the FAS force to generate the detailed personnel records. As soon as the final computation run is completed (arc 7-8), copies of the PERSACS tape are sent to ODCSOPS and MILPERCEN (arcs 8-9 and 8-10).

D-IX-3. CRITICAL MILESTONES. The critical events in the PERSACS preparation process involve the inputs from FAS and TAADS at node 3, and the final preparation and distribution of the product by the suspense dates associated with activities on arcs 8-9 and 8-10.

D-IX-4. LINKAGE TO OTHER NETWORKS. The PERSACS preparation process receives critical information from the TAADS Documentation process. The PERSACS process directly feeds the Training Program Development process four times a year to generate information for the appropriate ARPRINT cycles. The information in PERSACS also serves as input to the requisition validation report used by MILPERCEN (command managers) to check on the validity of requisitions.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

Figure D-IX-1. PERSACS Preparation

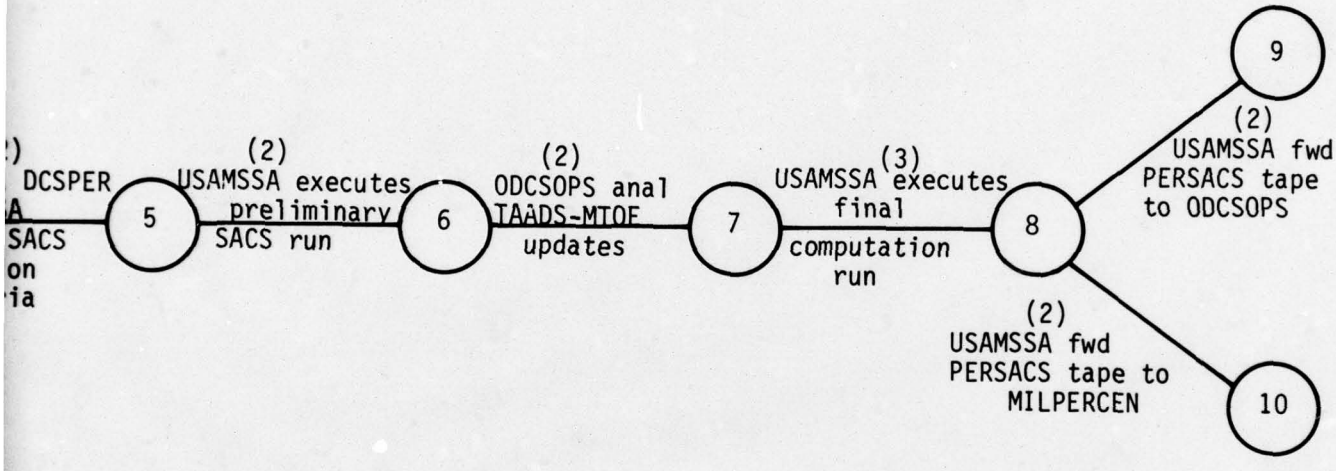


Figure D-IX-1. PERSACS Preparation

APPENDIX D
Networks

Annex X
LOGSACS PREPARATION

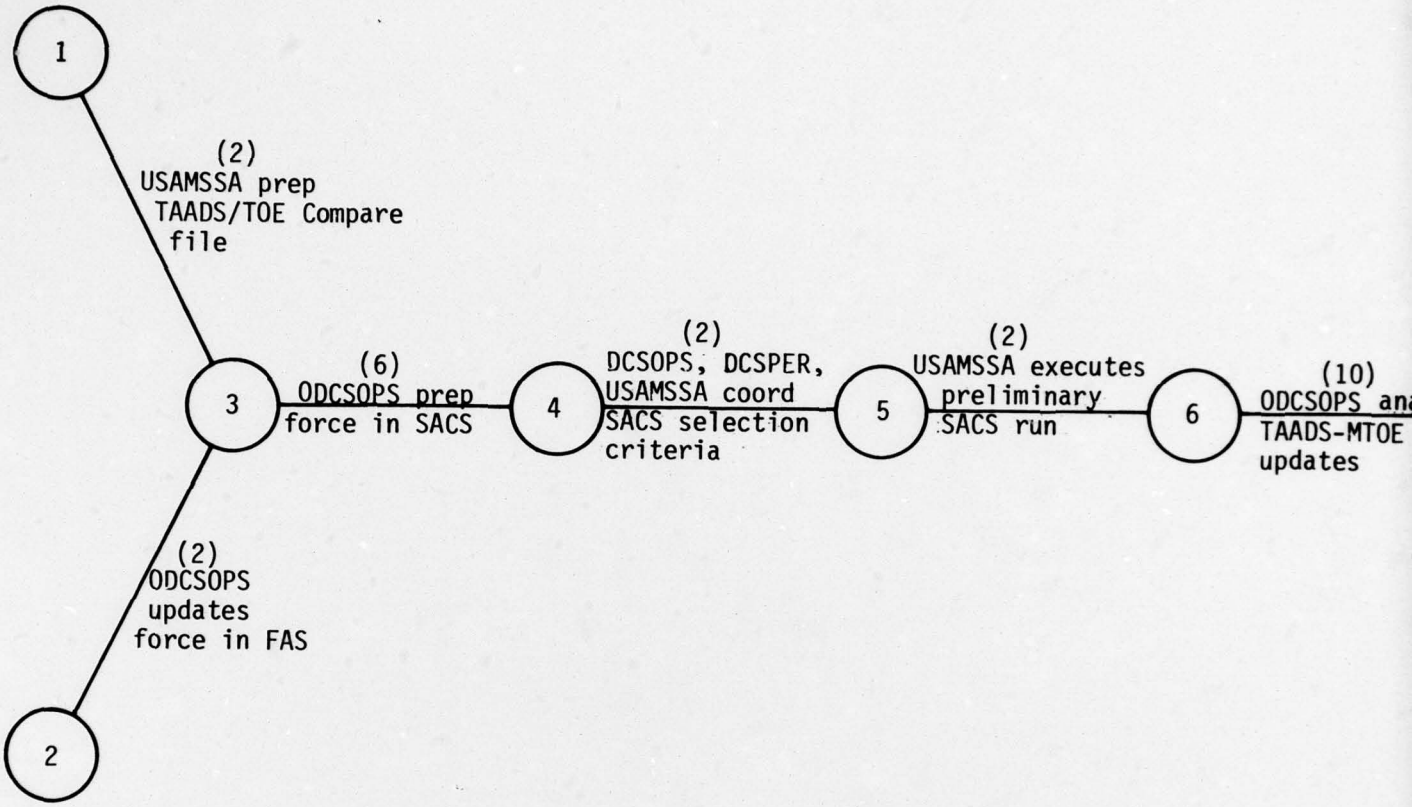
D-X-1. PURPOSE. The Logistic Structure and Composition System (LOGSACS) is a HQDA administered process for integrating force structure data from the Force Accounting System (FAS) and equipment data from The Army Authorization Documents System (TAADS), the Tables of Organization and Equipment (TO&E) System, and the Basis of Issue Plan (BOIP) System. The authorization data from LOGSACS is used by the equipment managers at the National Inventory Control Points (Materiel Readiness Commands) in validating requisitions received from the field. The requirements data from LOGSACS is used by ODCSRDA to calculate the Initial Issue Quantity and Authorized Acquisition Objective (see Annex XII).

D-X-2. DESCRIPTION. Preparation of the TAADS and TOE computational files by USAMSSA (arc 1-3) initiates the LOGSACS process. The TAADS file contains equipment authorization records for the three components - Active Army, National Guard and US Army Reserves. The unmanned component computes its requirements from the TOE file. The TAADS/TOE files are used for matching the units in the FAS during force preparation (arc 3-4). At approximately the same time the TAADS/TOE files are being prepared, ODCSOPS performs necessary force data updates thus ensuring data validity (arc 2-3). During LOGSACS force preparation week (arc 3-4), the FAS and TAADS/TOE files are compared by computer to ensure that each unit in the force will match the appropriate equipment record during the LOGSACS process. Equipment modernization requirements are generated by applying the Basis of Issue Plans in LOGSACS (arc 5-6). Modification to LOGSACS equipment data can be made using the Shorthand Note subsystem at any point between nodes 5 and 9 (node 10 if the analysis of results can be waived). As soon as the final computations have been completed, copies of the LOGSACS tape are sent to both DESCOM and ODCSRDA. DESCOM uses the LOGSACS file to prepare the Major Item Distribution Plan (MIDP) of which the equipment validation report (H-530 produce) is an important component.

D-X-3. CRITICAL MILESTONES. The critical event in the LOGSACS process occurs at node 3 with receipt of the TAADS/TOE computational files and updated FAS information. Information supporting the TAADS and FAS files must be input to those systems on a rigorous schedule if that data is to be reflected in the latest LOGSACS. A procedure, Shorthand notes (SHN), has been developed for inserting late or newly generated information without redoing

the LOGSACS in its entirety. SHN can be introduced at any node between 5 and 9. These SHN make it possible to introduce last minute equipment information into the latest LOGSACS production run.

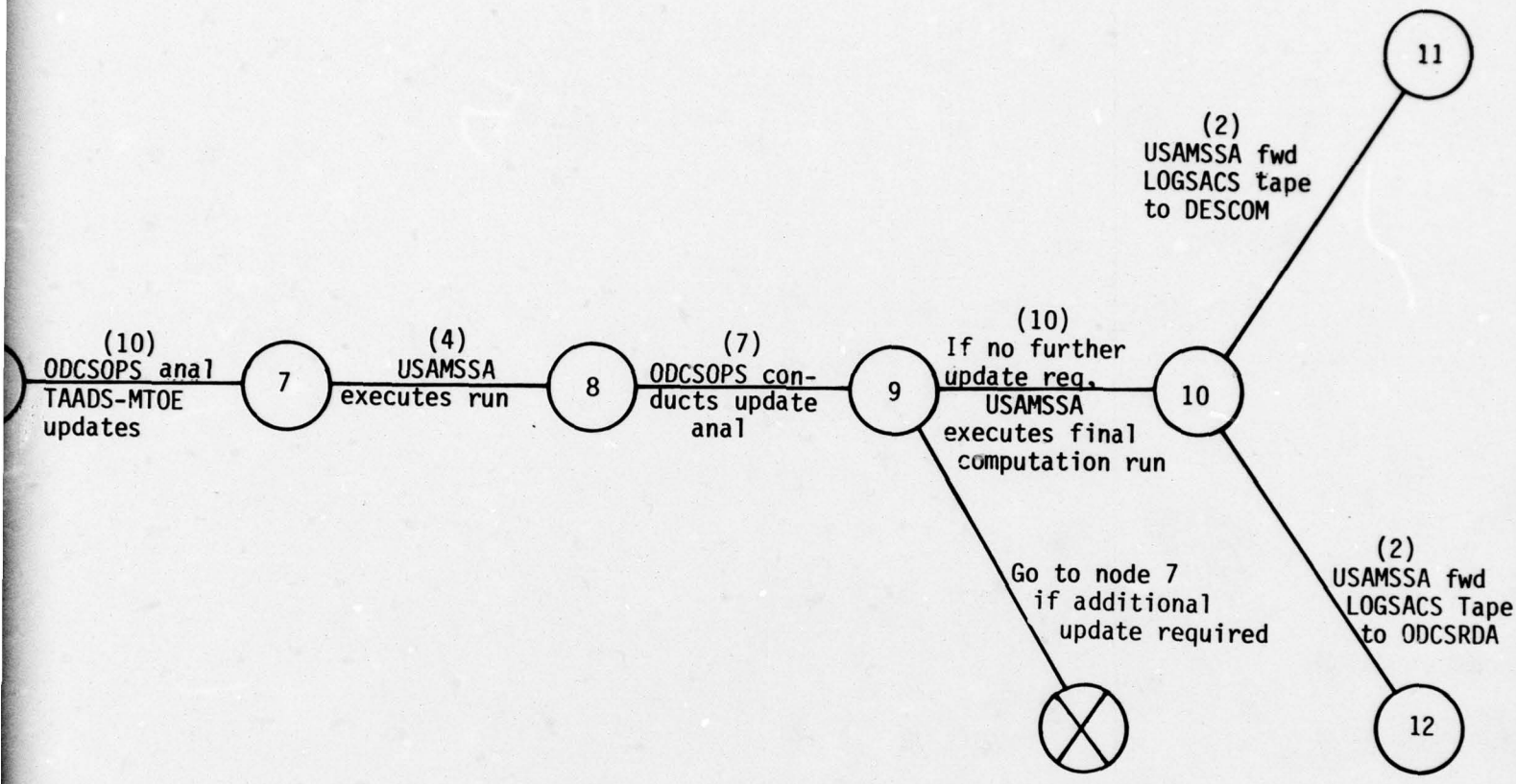
D-X-4. LINKAGES TO OTHER NETWORKS. LOGSACS is linked to the equipment requisition processes for EUROPE and CONUS from node 10. DESCOM takes the results of the LOGSACS process and uses the information to produce a report used by commands and NICP to validate equipment requisitions. LOGSACS information is also sent to ODCSRDA to support the IIQ/AAO computations in POM development.1,391,802



a/ For definition of acronyms, abbreviations and short terms, see Glossary

b/ Numbers in parentheses indicate number of working days normally required.

Figure D-X-1. LOGS



e D-X-1. LOGSACS Preparation

APPENDIX D
Networks

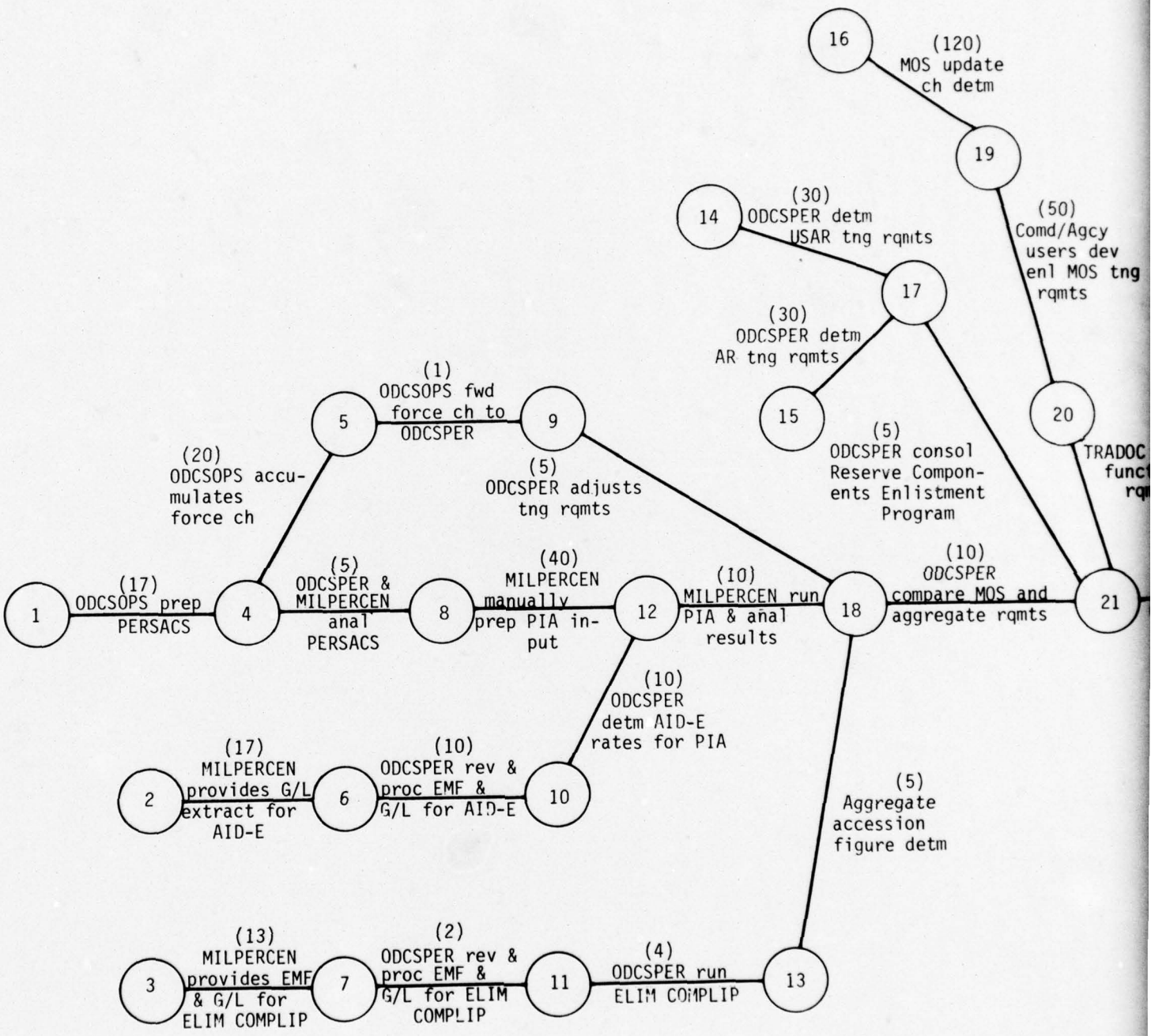
Annex XI
TRAINING PROGRAM DEVELOPMENT

D-XI-1. PURPOSE. The Training Program Development network traces the preparation of the Army Program for Individual Training (ARPRINT) through the semiannual update cycle and the subsequent implementation of the training requirements through installation level revisions in VTAADS.

D-VI-2. DESCRIPTION. Preparation of the appropriate monthly PERSACS tape is the initial activity (arc 1-4) in the ARPRINT process. After analysis of the PERSACS at ODCSPER and MILPERCEN (arc 4-8), input preparation commences for PIA, AID-E, and ELIM-COMPLIP (arcs 8-12, 2-6 and 3-7, respectively). Any force changes not captured in the latest PERSACS are provided by ODCSOPS (arc 5-9) and the training requirements are manually adjusted (arc 9-10). Input from the Army Reserve (arc 14-17) and the National Guard (arc 15-17) are consolidated into the Reserve Enlistment Program at ODCSPER (arc 17-21). The MOS update process feeds ARPRINT at node 19. Here, the revised MOS designations and numbers are submitted to TRADOC (arc 19-20) where they are consolidated by functional skill requirements and fed directly into the ARPRINT update cycle (arc 21-22). After this formal update period, installations develop class schedules (arc 22-24) and send them to TRADOC for review (arcs 24-25 and 25-26 respectively). Once TRADOC review is completed, the installation prepares their revised TDAs (arc 26-27) and updates VTAADS (arc 27-28)

D-XI-3. CRITICAL MILESTONES. The critical milestones in the ARPRINT process are the completion of PERSACS at node 4, completion of PIA and ELIM-COMPLIP at node 8, and the completion of the actual ARPRINT preparation cycle at node 22. The development of class schedules and the eventual preparation of the revised installation TDAs at node 27 is critical to getting the ARPRINT impact into VTAADS at node 28.

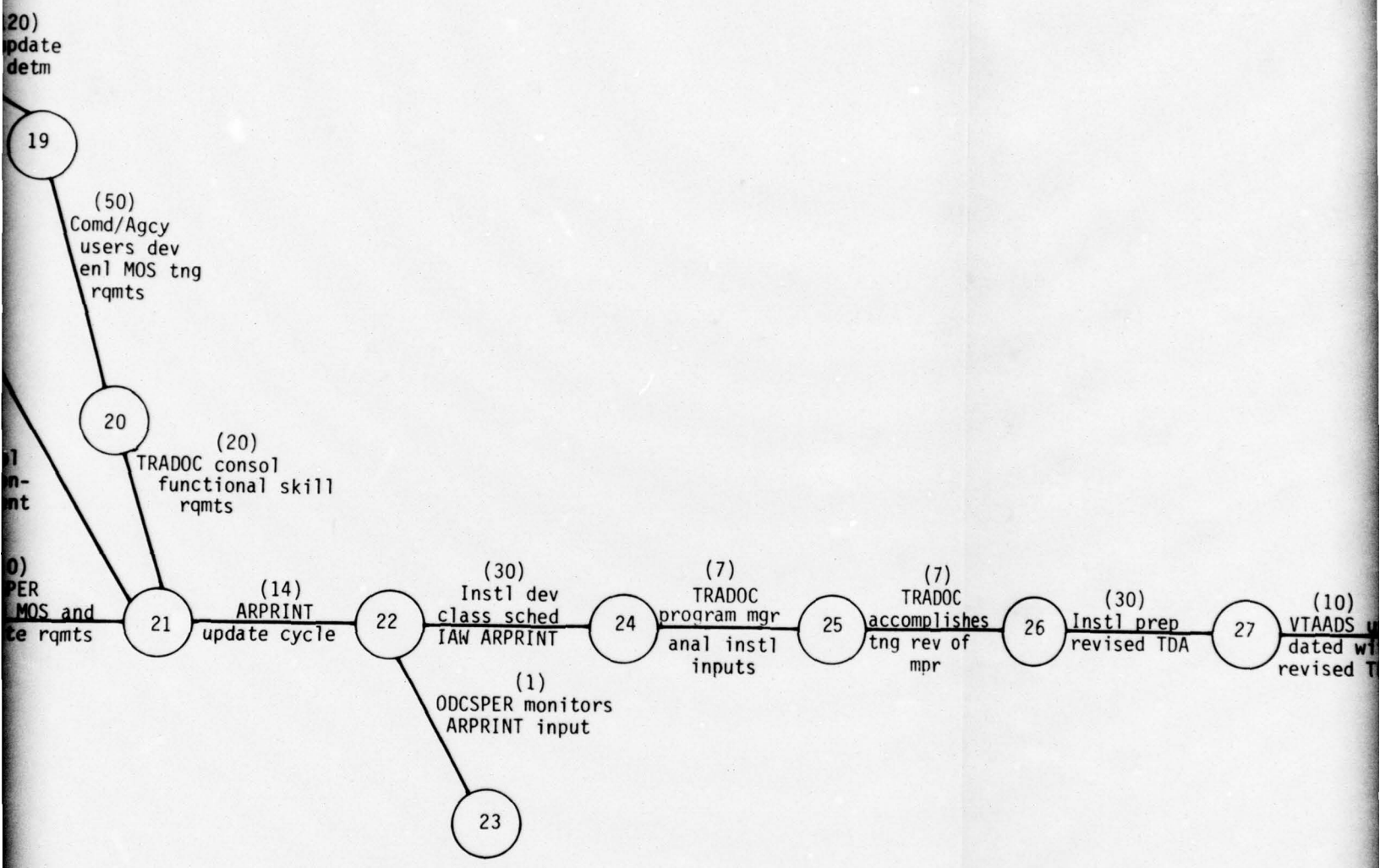
D-XI-4. LINKAGE TO OTHER NETWORKS. The Training Program Development network is linked to the TAADS Documentation network through the PERSACS process four times a year. It is also linked to the MOS update through the use of revised MOS information (arc 20-21). Once the revised TDAs are approved at node 26, the ARPRINT process feeds the Personnel Requisition CONUS network to provide for the requisitioning of additional instructors and support personnel at TRADOC installations.



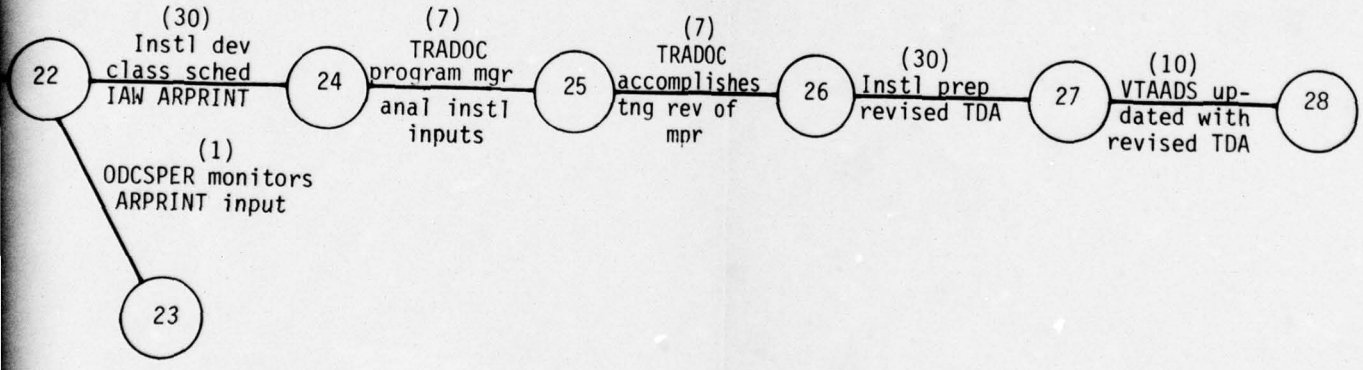
a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

Figure D-XI-1.



D-XI-1. Training Program Development (ARPRINT)



ram Development (ARPRINT)

APPENDIX D
Networks

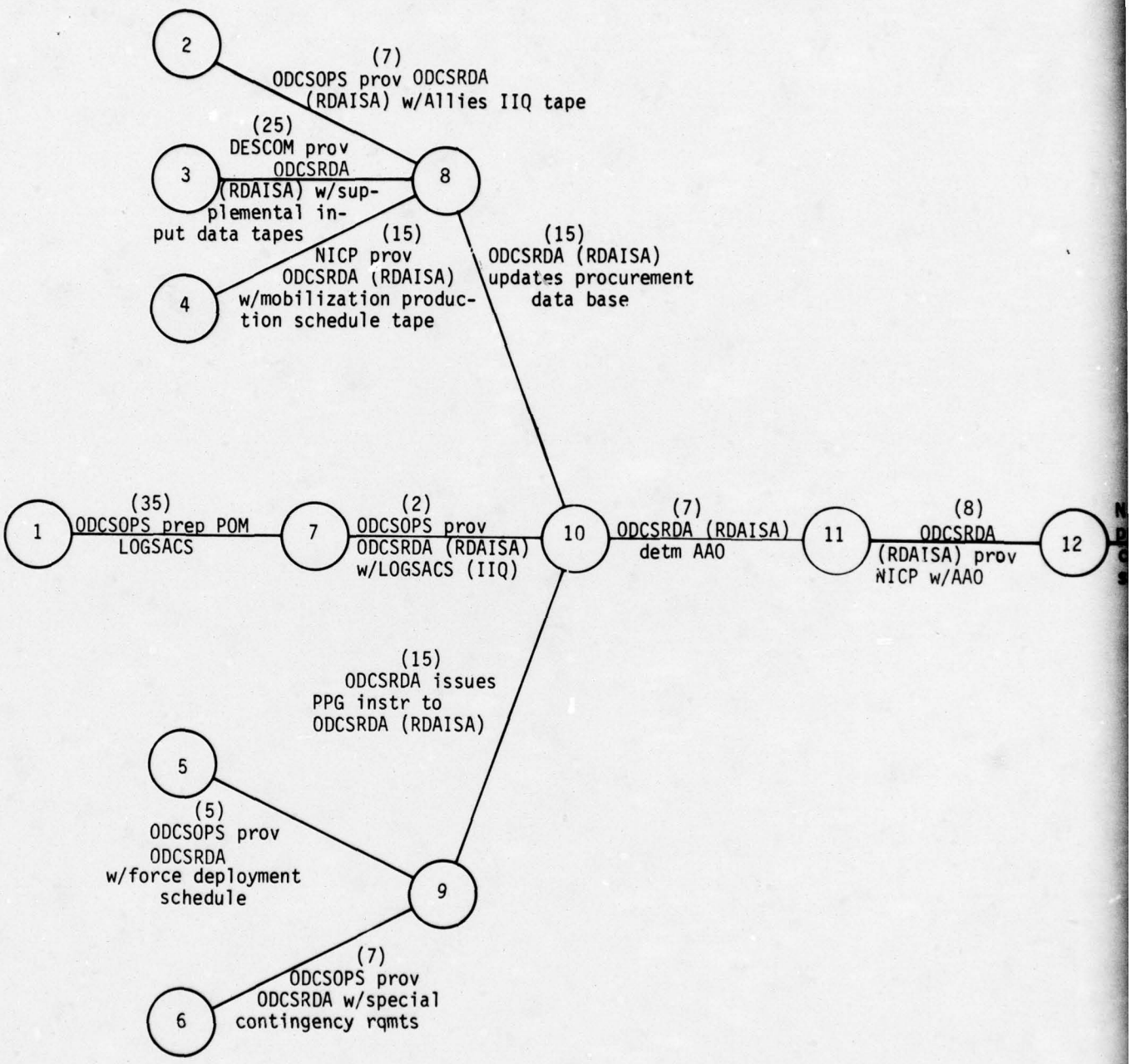
Annex XII
Initial Issue Quantity/Authorized Acquisition Objective

D-XII-1. PURPOSE. The Initial Issue Quantity/Authorized Acquisition Objective (IIQ/AAO) process is the DA administered system that specifies the Army equipment requirements for the POM years.

D-XII-2. DESCRIPTION. The IIQ/AAO process is initiated with the preparation of the POM LOGSACS (arc 1-7) and the transmittal of that tape to the Research, Development and Acquisition Information Systems Agency (RDAISA) (arc 7-10). Two other major inputs furnished RDAISA are updates to the procurement data base (arc 8-10) and the Planning, Procurement and Guidance (PPG) instructions, both of which are furnished by ODCSRDA. The principal contributors to updating the procurement data base are ODCSOPS, DESCOM, and the NICPs (arcs 2-8,, 3-8 and 4-8, respectively). ODCSOPS is responsible for providing ODCSRDA with the force deployment schedule (arc 5-9) and special contingency requirements (arc 6-9). Having reviewed the POM LOGSACS, updates of the procurement data base, and the latest PPG instructions, RDAISA determines the Army Acquisition Objective (AAO) (arc 10-11). The final three activities in this process describe how the AAO information is furnished to the NICPs; how the NICPs complete the AMP and submit it to ODCSRDA; and how ODCSRDA then inputs that information into the PDB for the POM, budget, and apportionment documentation (arcs 11-12, 12-13, and 13-14, respectively).

D-XII-3. CRITICAL MILESTONES. Development and production of the POM LOGSACS is the most critical event associated with this process. The NICPs cannot prepare their portion of the AMP without LOGSACS input. Because of continual changes being made to FAS and TAADS, the production of timely LOGSACS data is required for accurate IIQ/AAO development.

D-XII-4. LINKAGE TO OTHER NETWORKS. The IIQ/AAO process is linked to the LOGSACS Preparation process at node 7.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

Figure D-XII-1. Initial Issue Quantity/Authorized Acquisition

tape

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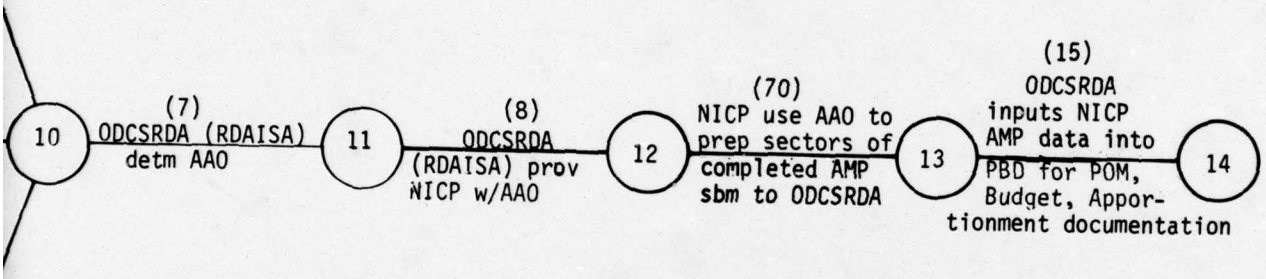
RDA (RDAISA)
tes procurement
data base



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ial Issue Quantity/Authorized Acquisition Objective (IIQ/AAO)

APPENDIX D
Networks

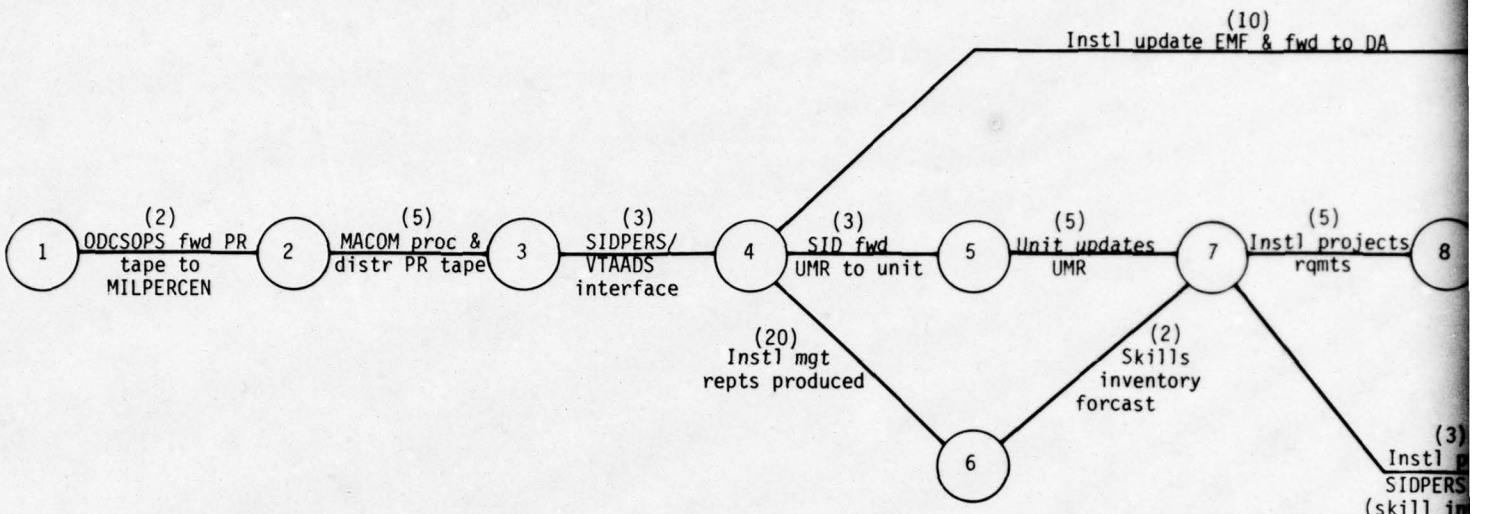
ANNEX XIII
Personnel Requisition CONUS

D-XIII-1. PURPOSE. The Personnel Requisition process for CONUS models the workflow associated with personnel requisitions for CONUS units.

D-XIII-2. DESCRIPTION. The CONUS Personnel Requisition process is initiated with the transmittal of the Pass Records (PR) tape from DA ODCSOPS to the MACOMs (arc 1-2). At each MACOM, the tape is distributed and processed so that SIDPERS is updated with the latest TAADS information (arc 3-4). As a result of this interface action at the installation level, the Enlisted Master File (EMF) is updated and forwarded to DA (arc 4-10), the SIDPERS Interface Division (SID) forwards the Unit Manning Report (UMR) to the unit (arc 4-5), and installation management reports are prepared (arc 4-6). These separate actions result in units updating their UMR and installations projecting their requirements (arcs 5-7 and 7-8, respectively). In this way, personnel shortages can be identified and appropriate requisitions submitted to MILPERCEN (arcs 7-9, 8-9, and 9-10, respectively). Once a requisition reaches MILPERCEN, it must be reviewed and validated (arcs 10-11 and 11-12, respectively). If the requisition is approved, assignment instructions are sent to both the losing and gaining installations (arcs 14-15 and 14-16, respectively). The losing installation is responsible for sending the Transfer Data Record (TDR) to the gaining installation (arc 15-17). The network terminates with the arrival of the replacement at the receiving unit (arc 18-19), the verification of the assignment, and the final updating of SIDPERS (arcs 20-21).

D-XIII-3. CRITICAL MILESTONES. The only critical milestone event in the Personnel Requisition process for CONUS is the forwarding of the Pass Records tapes to the MACOMs at node 2.

D-XIII-4. LINKAGE TO OTHER NETWORKS. The Personnel Requisition network for CONUS is fed by the TAADS Documentation network (arc 1-2) and by ARPRINT at node 9.



a/ For definition of acronyms, abbreviations and short terms, see Glossary

b/ Numbers in parentheses indicate number of working days normally required.

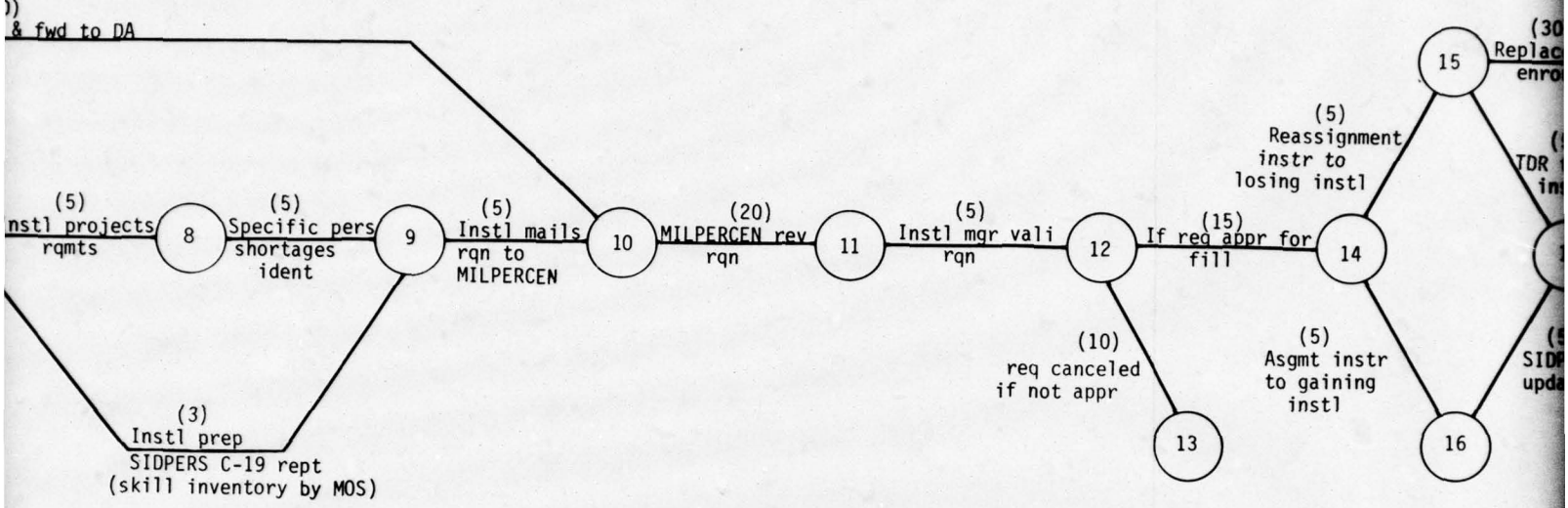
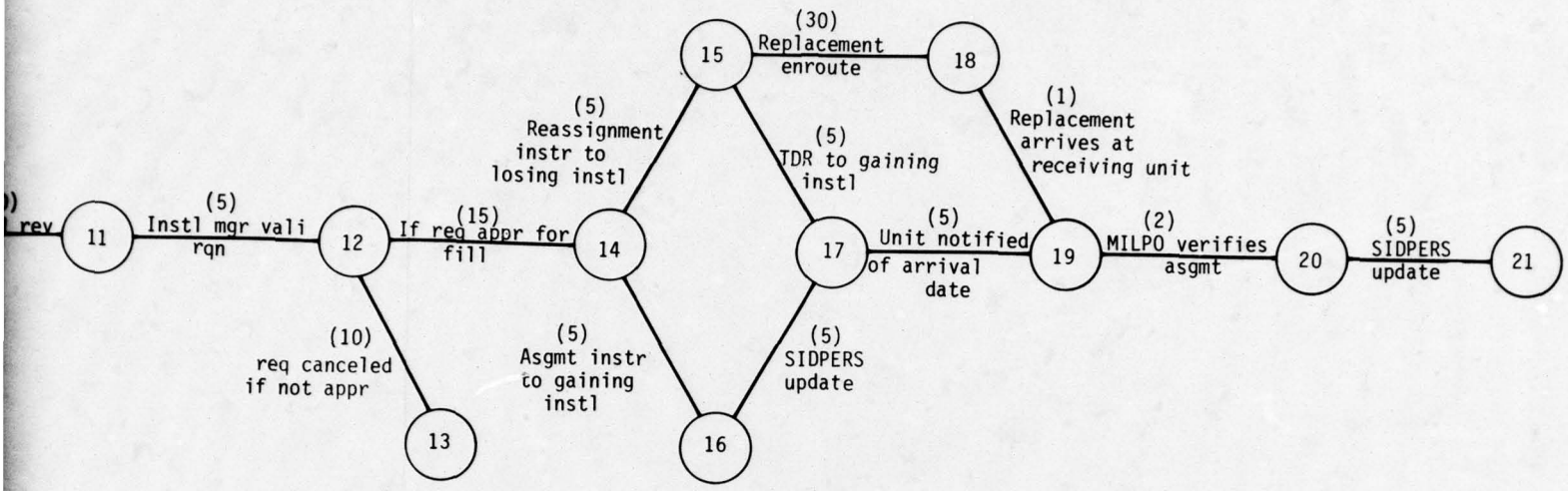


Figure D-XIII-1. Personnel Requisition, CONUS



uisition, CONUS

APPENDIX D
Networks

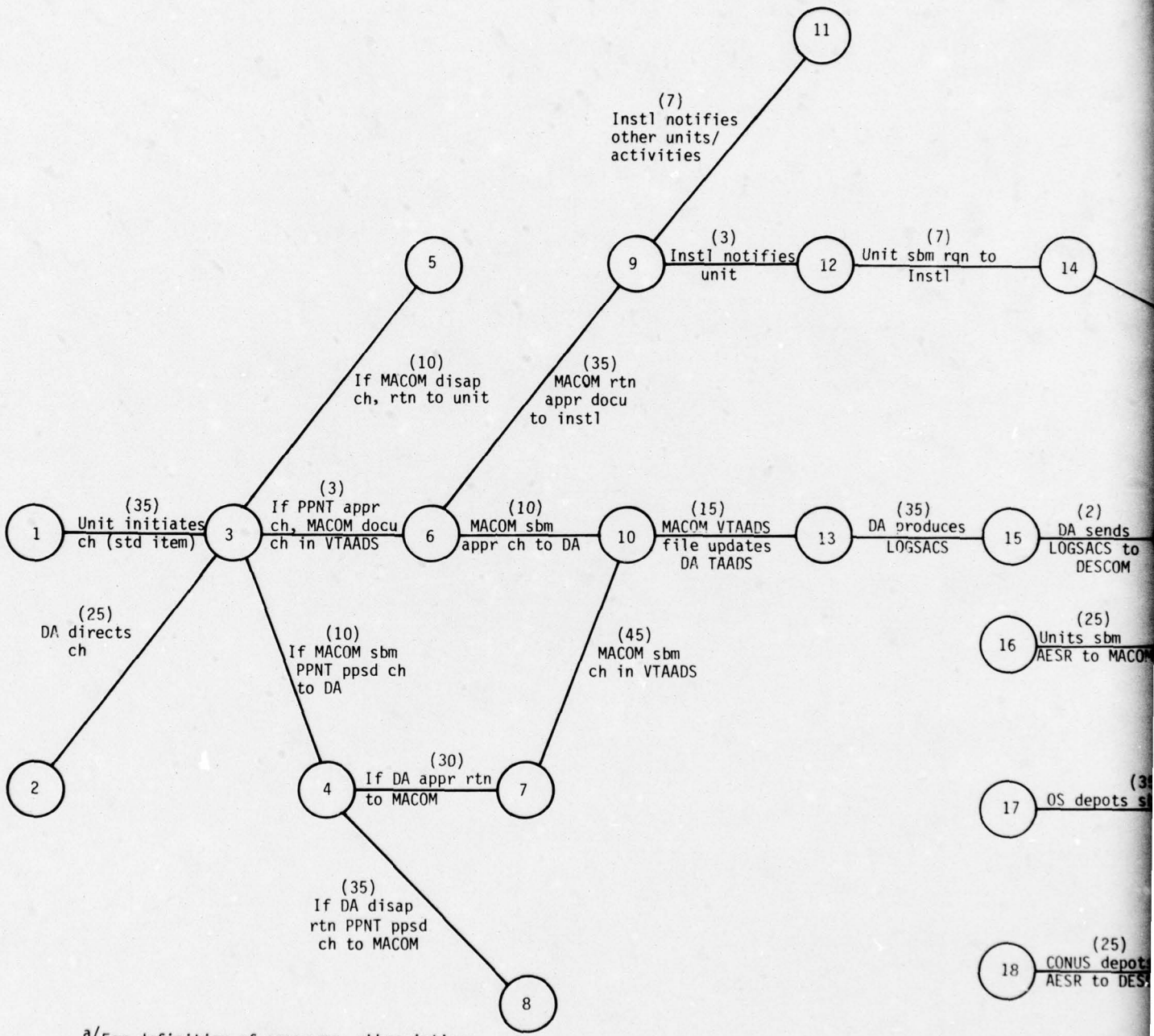
Annex XIV
Equipment Requisition CONUS

D-XIV-1. PURPOSE. The purpose of the Equipment Requisition CONUS process is to analyze the procedures for providing changes in equipment authorized to a unit and to supply that new materiel.

D-XIV-2. DESCRIPTION. The Equipment Requisition CONUS process begins with either a unit request for a change to its authorization document (arc 1-3) or a DA directed authorization change (arc 2-3). Regardless of the origination of the change, CONUS MACOMs either document the change in VTAADS (arc 3-6), submit a proposed change to DA (arc 3-4), or disapprove the change request (arc 3-5). Approved change requests enter DA TAADS at node 10 and are incorporated in the LOGSACS produced by ODCSOPS. Only those approved changes residing in the TAADS data base will be incorporated in the periodic production of LOGSACS. Following production, LOGSACS is sent to DESCOM (arc 15-20) where the equipment validation report (H-530 product) (arc 20-22) is produced. This report is used by commodity managers to validate major item requisitions (arc 24-26). From node 23, DESCOM forwards an additional validation product the Army Equipment Status Report (AESR) to the commodity managers. This report reflects what equipment is presently on-hand in the units and depots. During the time that the changes are being updated in TAADS, and LOGSACS is being produced, commodity managers are using the validation reports prepared by DESCOM for the last LOGSACS. The top path of the network begins with the MACOMs returning approved documents to the installation submitting the change (arc 6-9). With an approved document units can then submit requisitions (arc 12-14). Requisitions move much quicker in CONUS than in USAREUR where a requisition must filter through as many as three command levels before going to the NICP. In CONUS, only the installation has the opportunity to review the request before forwarding it (arc 14-24). Depending upon whether the commodity manager can validate the request (arc 24-26) or not (arc 24-28), either the MACOM item manager (arc 28-30), the Equipment Authorization Review Activity (EARA) (28-31), or ODCSLOG (arc 31-34) will be contacted for validation assistance. Upon validation, the NICP will forward the requisitioned item (arcs 26-27, 30-32, 33-35, and 36-38 depending where validation assistance is obtained).

D-XIV-3. CRITICAL MILESTONES. The most critical milestone for this process is the production of LOGSACS by DA (arc 13-15). Until this occurs, commodity managers can not be furnished usable validation documents.

D-XIV-4. LINKAGE TO OTHER NETWORKS. Equipment Requisition CONUS is linked to the production of LOGSACS at arc 13-15.



a/For definition of acronyms, abbreviations and short terms, see Glossary

b/Numbers in parentheses indicate number of working days normally required.

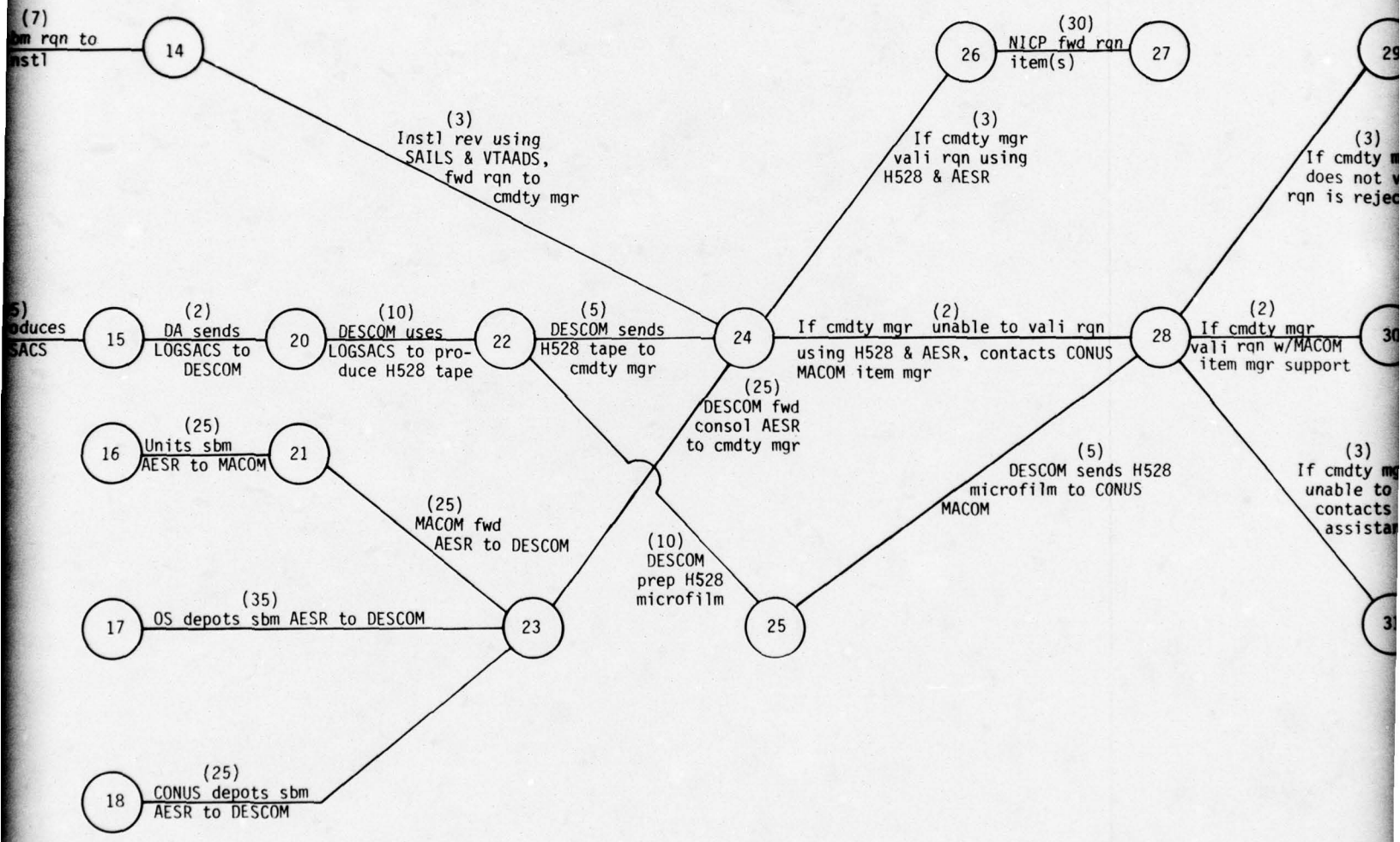


Figure D-XIV-1. Equipment Requisition, CONUS

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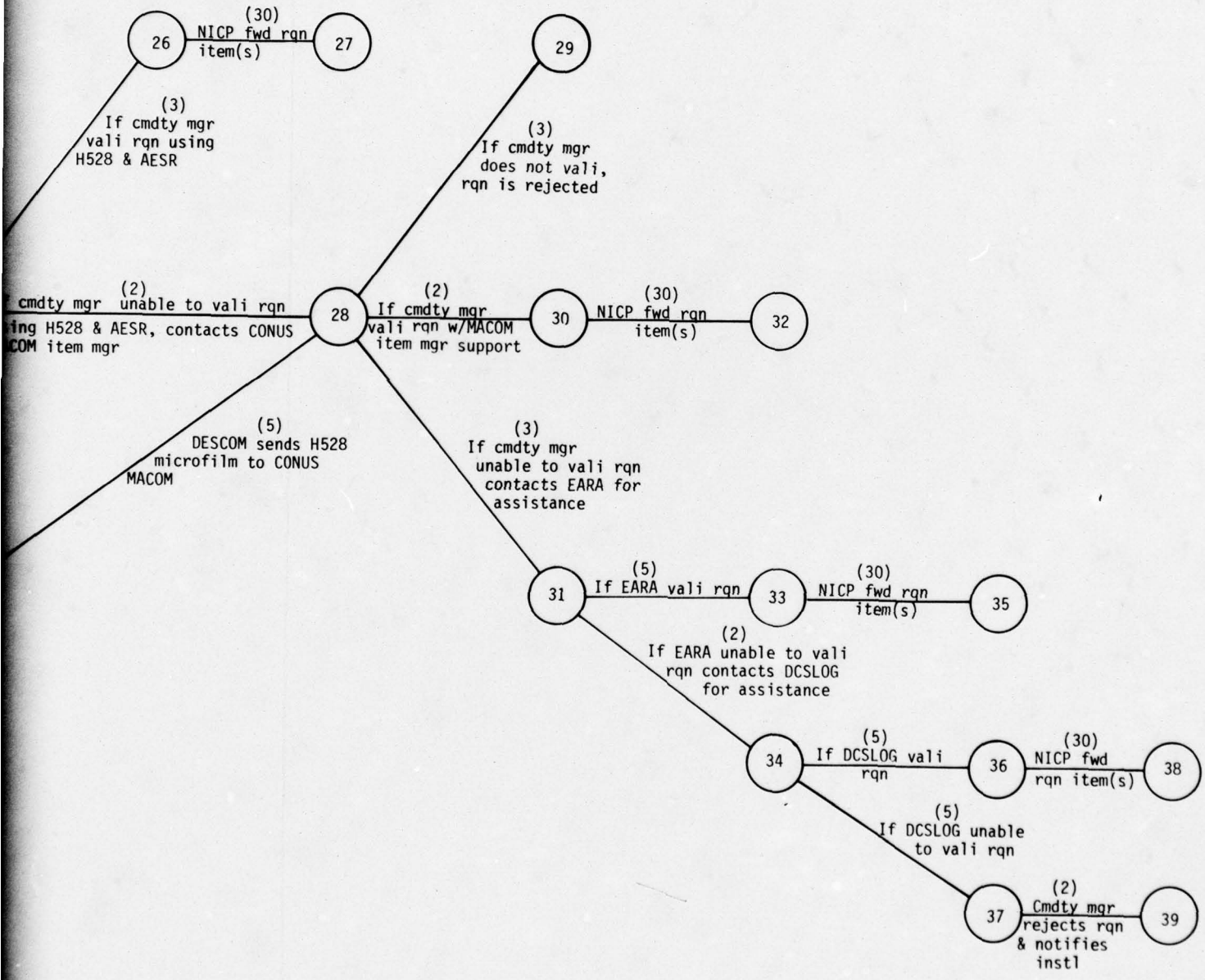

(30)
NICP fwd rqn item(s)
26
27
29
(3)
If cmdty mgr vali rqn using H528 & AESR
(3)
If cmdty mgr does not vali, rqn is rejected
cmdty mgr
(2)
unable to vali rqn
ing H528 & AESR, contacts CONUS
COM item mgr
28
(2)
If cmdty mgr vali rqn w/MACOM item mgr support
30
(30)
NICP fwd rqn item(s)
32
(5)
DESCOM sends H528 microfilm to CONUS MACOM
(3)
If cmdty mgr unable to vali rqn contacts EARA for assistance
31
(5)
If EARA vali rqn
33
(30)
NICP fwd rqn item(s)
35
(2)
If EARA unable to vali rqn contacts DCSLOG for assistance
34
(5)
If DCSLOG vali rqn
36
(30)
NICP fwd rqn item(s)
38
(5)
If DCSLOG unable to vali rqn
37
(2)
Cmdty mgr rejects rqn & notifies instl
39

n, CONUS

APPENDIX D
Networks

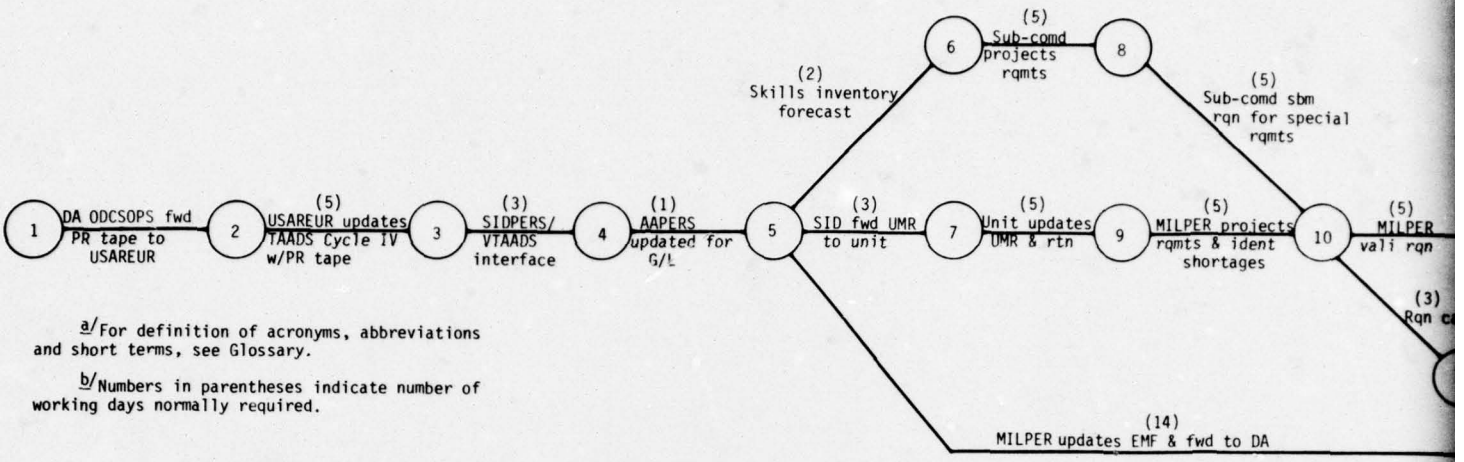
ANNEX XV
Personnel Requisition USAREUR

D-XV-1. PURPOSE. The Personnel Requisition process for USAREUR differs from that for CONUS. The network is oriented specifically to USAREUR and follows the activities which generate personnel requirements, forwards the requisitions to MILPERCEN, and processes the arriving theater replacements.

D-XV-2. DESCRIPTION. The USAREUR Personnel Requisition process is initiated with the transmittal of the Pass Records (PR) tape from DA ODCSOPS to USAREUR (arc 1-2). At USAREUR, Cycle IV of the VTAADS file is updated using the PR tape (arc 2-3). Once the SIDPERS/VTAADS interface has been accomplished (arc 3-4), the Active Army Personnel Reporting System (AAPERS) is updated reflecting gains and losses (arc 4-5). The SIDPERS Interface Division (SID) is responsible for preparing the Unit Manning Reports (UMR) which are then provided to the units (arc 5-7). These reports are updated by the units and returned to the SID, at which point the USAREUR Military Personnel Center (MILPER) projects what the requirements and shortfalls are likely to be (arc 9-10). The upper loop (from node 5 to node 10) describes how requisitions for E8's, E9's, and WACs are forcasted and requested. As the requisitions arrive at MILPER, they are validated and sent to DA (arcs 10-12 and 12-13, respectively). At the same time that the SID is forwarding Unit Manning Reports (UMR), MILPER updates the EMF and forwards this information to DA (arc 5-13). Requisitions received from USAREUR are reviewed by MILPERCEN (arc 13-14) and validated by the command managers (arc 14-15). If the requisition is approved for fill, then reassignment instructions are sent to the losing unit (arc 16-18) while assignment instructions are forwarded to MILPER (arc 16-19). A pinpoint assignment is determined by USAREUR (arc 19-20) and arrival information is passed to the 21st Replacement Battalion (arc 22-24). When the replacement arrives in Europe (node 24), the member is processed at the Replacement Battalion (arc 24-25) and sent to a receiving unit (arc 25-26). Then the replacement is processed through the Regional Personnel Center (RPC) (arc 26-27) and SIDPERS is updated to reflect the completed personnel action (arc 27-28).

D-XV-3. CRITICAL MILESTONES. The major milestone event in the Personnel Requisition process for USAREUR is the forwarding of the Pass Records tape from DA (node 2). This TAADS data forms the basis for the activities which follow and timely, accurate information can improve the submission of personnel requisitions.

D-XV-4. LINKAGE TO OTHER NETWORKS. The only linkage with other authorization management processes occurs at node 2 when the Pass Records tape is supplied from the TAADS Documentation process.



a/For definition of acronyms, abbreviations and short terms, see Glossary.

b/Numbers in parentheses indicate number of working days normally required.

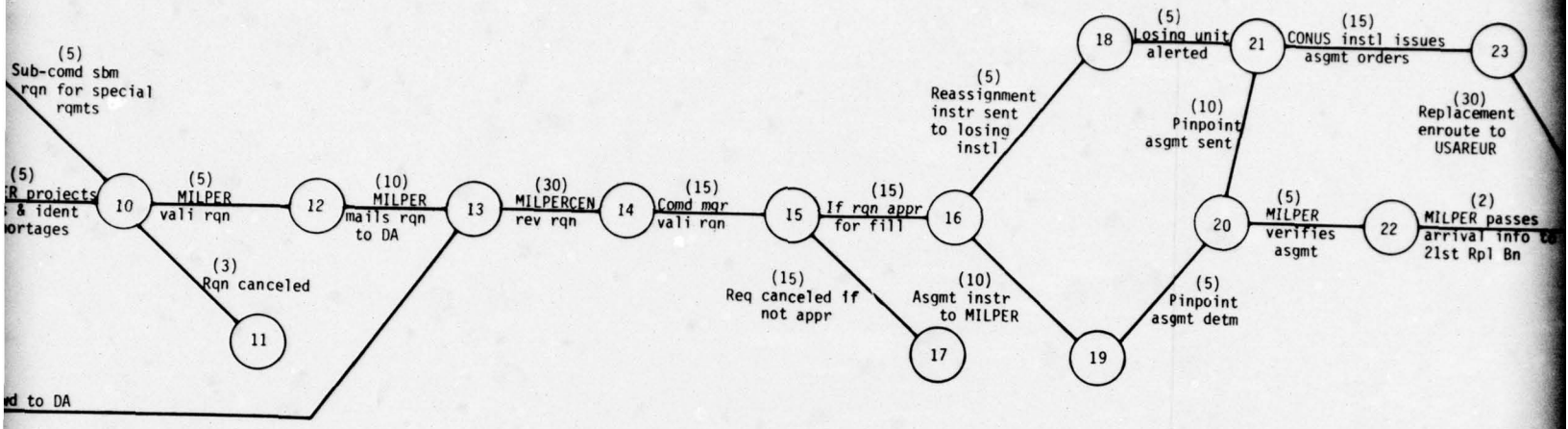
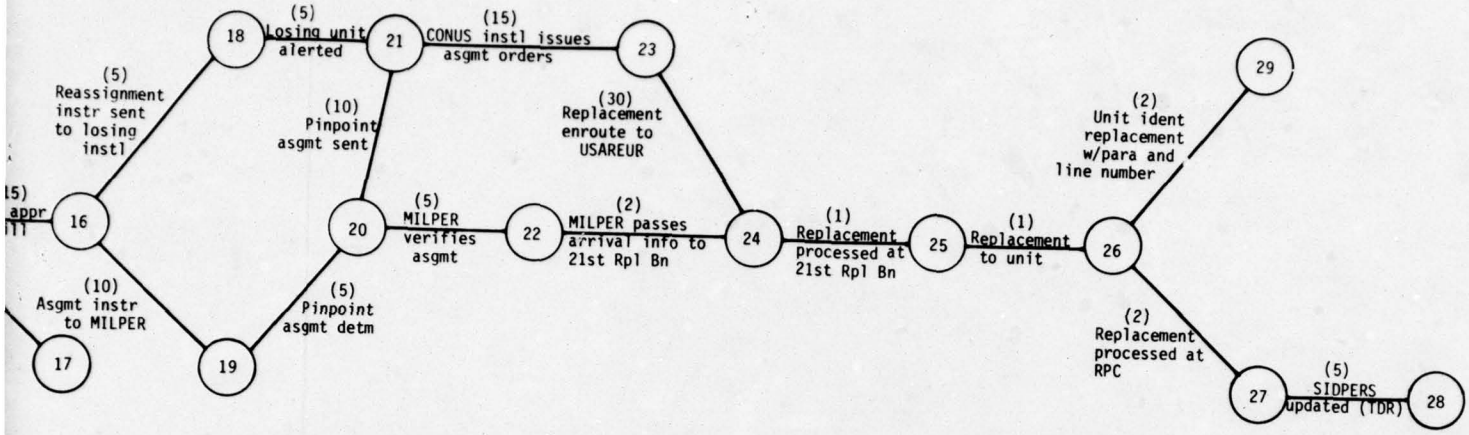


Figure D-XV-1. Personnel Requisition, USAREUR



sition, USAREUR

APPENDIX D
Networks

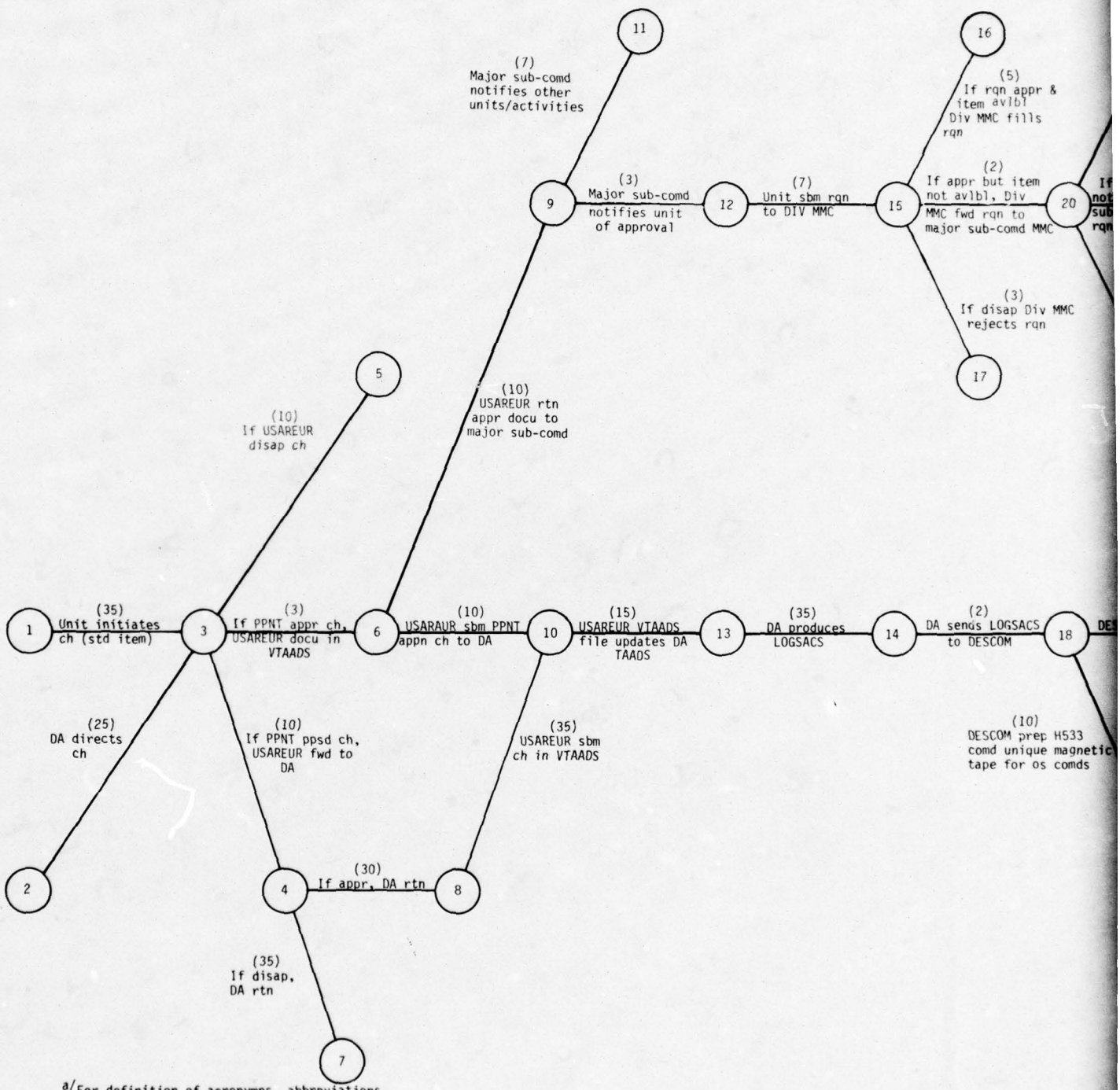
Annex XVI
Equipment Requisition USAREUR

D-XVI-1. PURPOSE. The purpose of the Equipment Requisition USAREUR process is to examine how equipment authorization changes are documented, and how the newly authorized equipment is obtained by the units in USAREUR.

D-XVI-2. DESCRIPTION. The Equipment Requisition USAREUR process begins with either a unit request for a change to its authorization document (arc 1-3) or a DA directed authorization change (arc 2-3). Regardless of the origination of the change, USAREUR either documents the change in VTAADS (arc 3-6), submits a proposed change to DA (arc 3-4), or disapproves the change request (arc 3-5). Approved change requests enter DA TAADS at node 10 and are incorporated in the LOGSACS produced by ODCSOPS. Only those approved changes residing in the TAADS data base will be incorporated in the periodic production of LOGSACS. Following LOGSACS, the center portion of the network shows how the LOGSACS sent to DESCOM (arc 14-18) is used to produce the equipment validation report (H-530 product) (arc 18-21) which in turn is used by commodity managers to validate major item requisitions (arc 34-36). From node 33, USAREUR and CONUS elements submit Army Equipment Status Reports (AESRs) reflecting their on-hand equipment. AESRs information is also used by the commodity managers to validate requisitions (arc 34-38). With most changes (95 percent or greater are proponent approved), USAREUR returns an approved document to the unit submitting it (arc 6-9). The unit initiates a requisition (arc 12-15). That requisition may be filled by either the Division MMC (arc 15-20), the major sub-command MMC (arc 20-30), or the theater MMC (arc 30-35) providing the equipment is available for issue. If the equipment is not available within theater, a requisition will be submitted to the appropriate CONUS commodity manager for fill (arc 30-34). It is at node 34 that a unit requisition is either validated or a request for validation assistance is submitted to the Army Equipment Review Activity (EARA) and/or ODCSLOG (arcs 34-36 and 36-37, respectively). Upon validation, the NICP forwards the requisitioned item (arc 38-40).

D-XVI-3. CRITICAL MILESTONES. The critical milestone for this process is associated with the receipt of the LOGSACS by DESCOM (node 18). The LOGSACS data must reach DESCOM promptly to produce the necessary validation reports.

D-XVI-4. LINKAGE TO OTHER NETWORKS. The Equipment Requisition process is linked to the LOGSACS process at nodes 13 and 14.



a/ For definition of acronymns, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

Figure

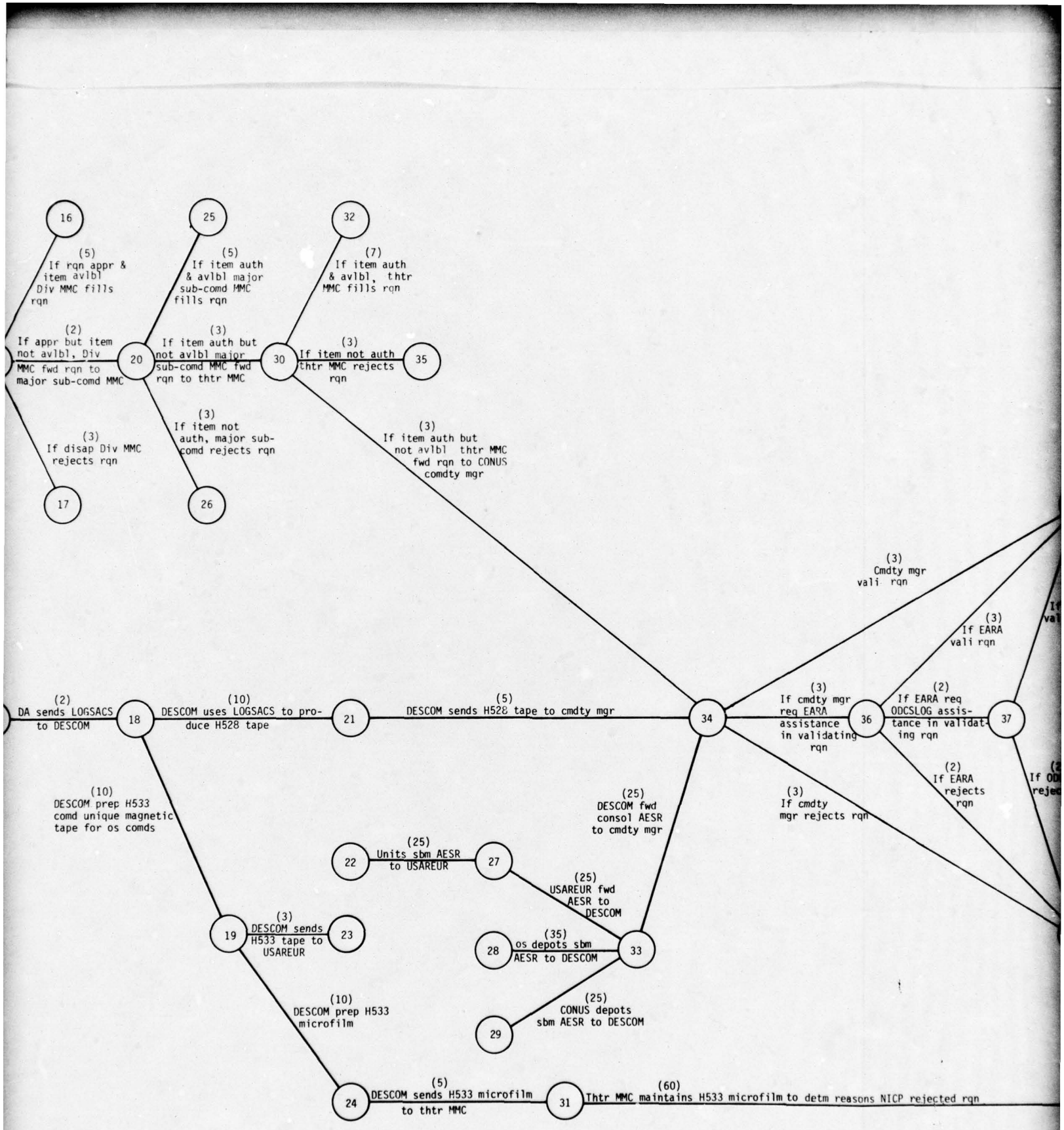
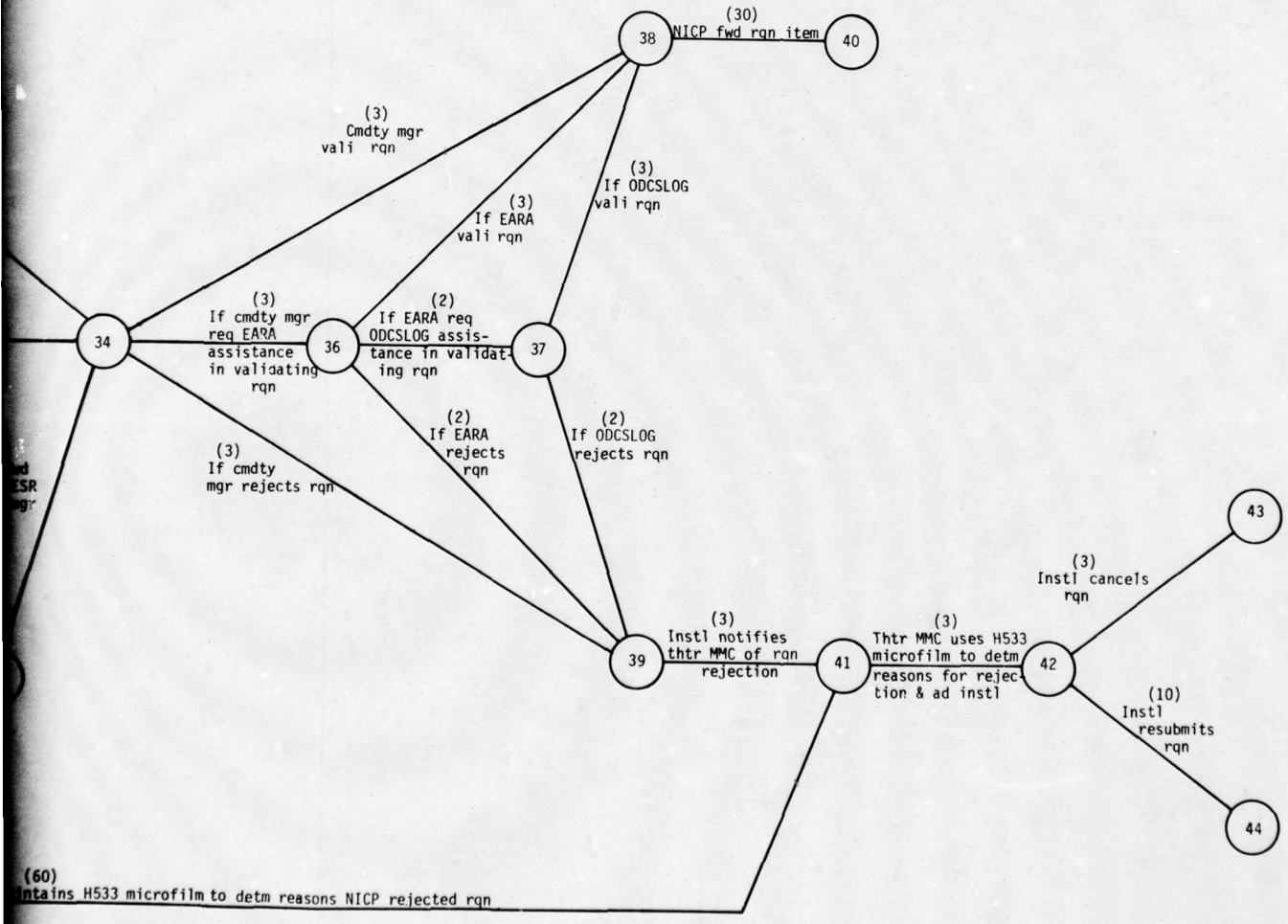


Figure D-XVI-1. Equipment Requisition, USAREUR


38
(30)
NICP fwd rqn item
40
(3)
Cmdty mgr
vali rqn
(3)
If EARA
vali rqn
(3)
If ODCSLOG
vali rqn
34
(3)
If cmdty mgr
req EARA
assistance
in validating
rqn
36
(2)
If EARA req
ODCSLOG assis-
tance in validat-
ing rqn
37
(2)
If EARA
rejects
rqn
(2)
If ODCSLOG
rejects rqn
(3)
If cmdty
mgr rejects rqn
39
(3)
Instl notifies
thtr MMC of rqn
rejection
41
(3)
Thtr MMC uses H533
microfilm to detm
reasons for rejec-
tion & ad instl
42
43
(3)
Instl cancels
rqn
(10)
Instl
resubmits
rqn
44
(60)
ntains H533 microfilm to detm reasons NICP rejected rqn

UR

3

APPENDIX D
Networks

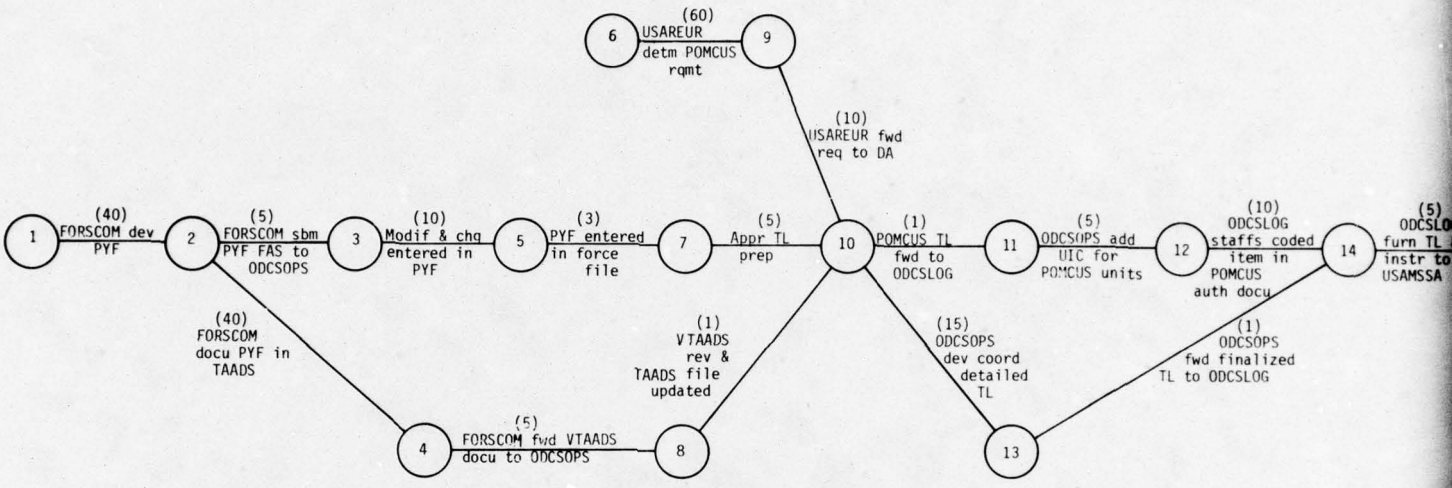
Annex XVII
POMCUS TAADS

D-XVII-1. PURPOSE. The POMCUS TAADS process involves the generation of authorization changes to POMCUS and the implementation of those changes at the Combat Equipment Group Europe (CEGE) storage sites.

D-XVII-2. DESCRIPTION. The POMCUS TAADS process is initiated with FORSCOM's development of the Program Year Force (PYF) (arc 1-2). FORSCOM submits the PYF through FAS to ODCSOPS (arc 2-3) and simultaneously begins documenting the force in TAADS. ODCSOPS enters changes to the PYF prior to insertion in the force file (arcs 3-5 and 5-7, respectively). The FORSCOM TAADS documents are forwarded to ODCSOPS for review and updating of DA TAADS (arcs 4-8 and 8-10, respectively). Independently, USAREUR determines POMCUS requirements and forwards these to DA (arcs 6-9 and 9-10). At DA, a POMCUS troop list is prepared and sent to ODCSLOG where POMCUS UICs are added and coded items in the authorization documents are staffed (arcs 10-11, 11-12, and 12-14, respectively). At the same time that ODCSLOG is adding UICs for POMCUS units and staffing POMCUS authorization documents, ODCSOPS is developing a coordinated detailed troop list which is subsequently forwarded to ODCSLOG (arcs 10-13 and 13-14, respectively). ODCSLOG must then provide USAMSSA with both the troop list and the necessary instructions to produce the authorization requirements for each POMCUS unit (arcs 14-15 and 15-16, respectively). The DA staff will then review the file provided by ODCSLOG and obtain the necessary validation (arcs 17-18 and 18-20, respectively). With the return of an approved POMCUS TAADS file to USAMSSA, tape copies are sent to FORSCOM, USAREUR and DARCOM (arcs 22-24, 22-26, and 22-23, respectively). USAREUR then forwards the POMCUS information to the Combat Equipment Group Europe (CEGE) where computer programs are used to compare what is in the authorization documents with what is physically in the storage sites (arcs 26-27, 27-28, and 27-29, respectively). An analysis of the results of these comparisons permits CEGE to identify equipment adjustments that will be needed (arcs 28-31, 29-31, and 31-32, respectively). CEGE forwards comments to USAREUR and DA on the current equipment situation (arc 32-34), while at the same time moving items within storage sites (arc 32-33). POMCUS excesses are turned in (arc 36-40) and requisitions are submitted for new pieces of equipment (arc 36-38). DA staff action on the comments forwarded by CEGE are analyzed (arc 34-35) and the appropriate changes directed for the next iteration of POMCUS TAADS (arc 35-39).

D-XVII-3. CRITICAL MILESTONES. The critical milestone event in the POMCUS TAADS network is the receipt of the updated POMCUS TAADS at CEGE (node 27). That event causes CEGE to begin adjusting the POMCUS equipment and timely receipt of the authorization changes is crucial to maintenance of POMCUS stocks.

D-XVII-4. LINKAGE TO OTHER NETWORKS. The POMCUS TAADS network is linked to the TAADS Documentation network through the program year force documents. This linkage is currently depicted once a year.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

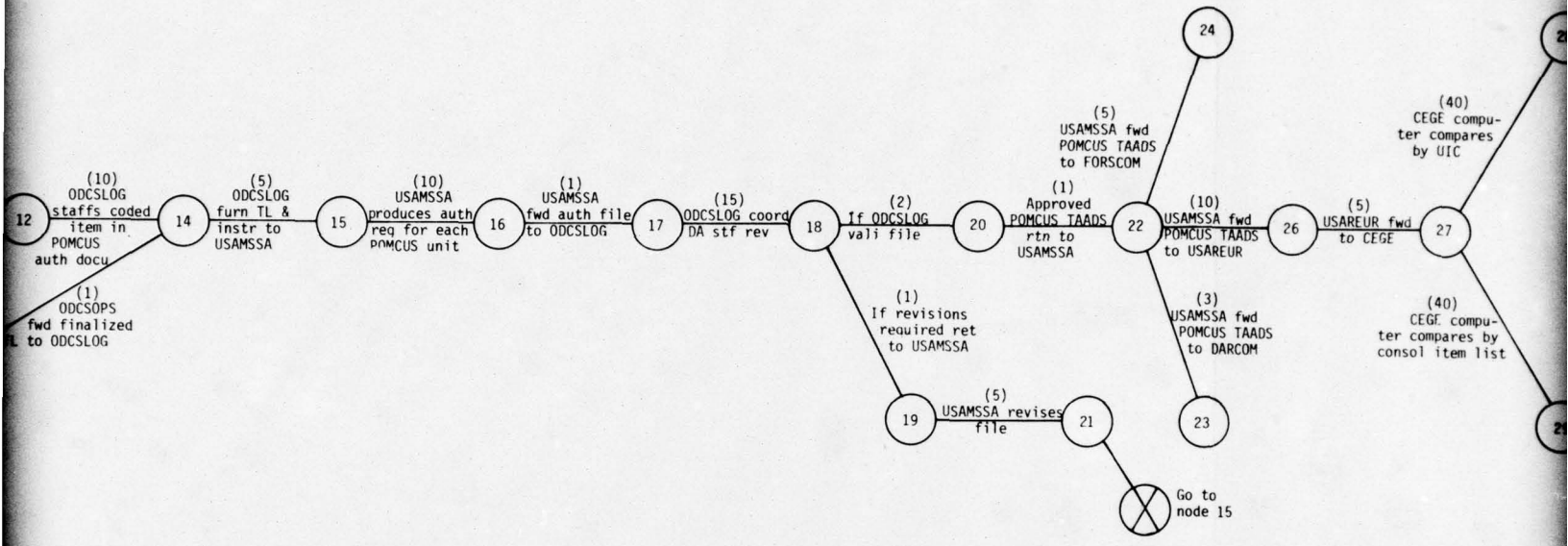
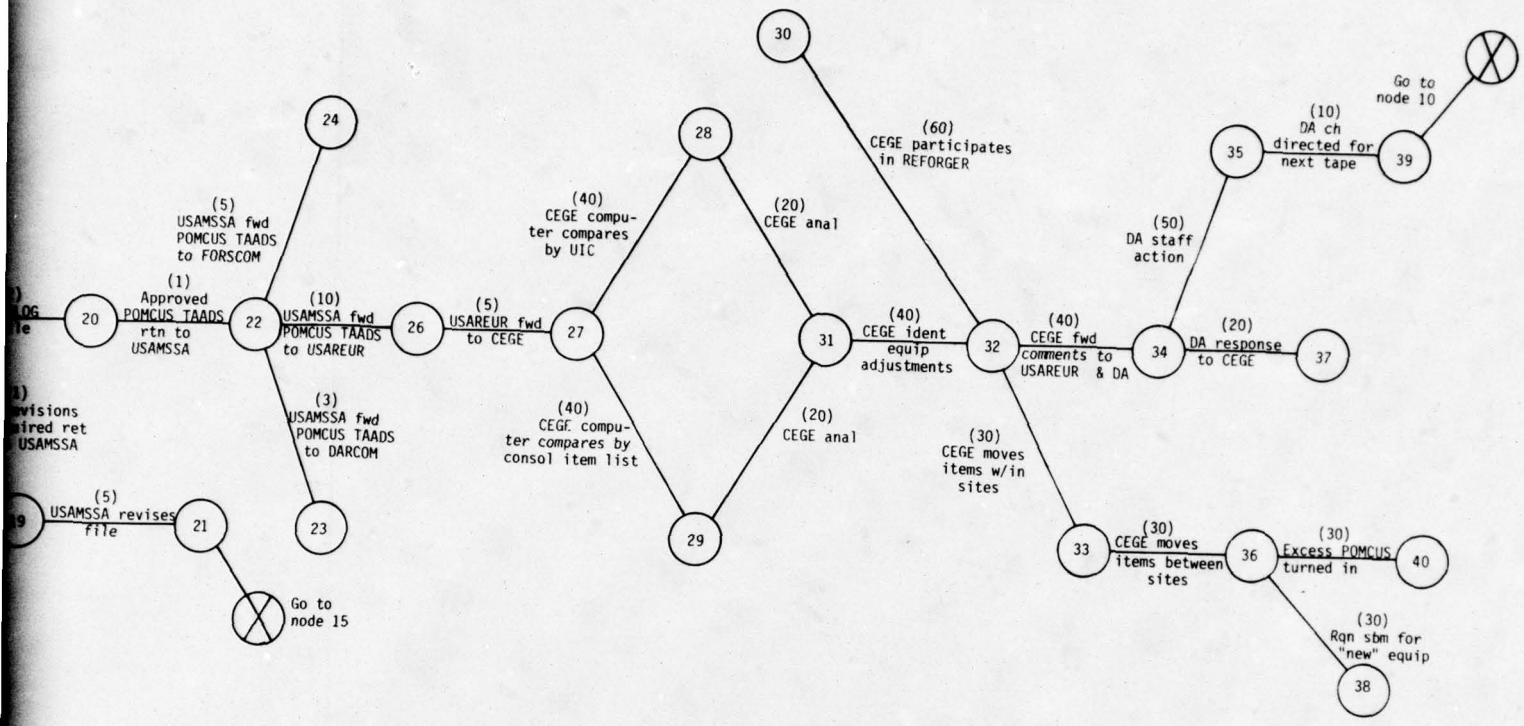


Figure D-XVII-1. POMCUS TAADS


20
(1)
Approved
POMCUS TAADS
rtn to
USAMSSA
22
(5)
USAMSSA fwd
POMCUS TAADS
to FORSCOM
24
(10)
USAMSSA fwd
POMCUS TAADS
to USAREUR
(3)
USAMSSA fwd
POMCUS TAADS
to DARCOM
23
26
(5)
USAREUR fwd
to CEGE
27
(40)
CEGE compu-
ter compares
by UIC
28
(40)
CEGE compu-
ter compares by
consol item list
29
(20)
CEGE anal
(20)
CEGE anal
30
(60)
CEGE participates
in REFORGER
31
(40)
CEGE ident
equip
adjustments
32
(40)
CEGE fwd
comments to
USAREUR & DA
34
(50)
DA staff
action
35
(10)
DA ch
directed for
next tape
39
Go to
node 10
(20)
DA response
to CEGE
37
(30)
CEGE moves
items w/in
sites
33
(30)
CEGE moves
items between
sites
36
(30)
Excess POMCUS
turned in
40
(30)
Rqn sbm for
"new" equip
38
(5)
USAMSSA revises
file
21
Go to
node 15

3

APPENDIX E
COMPUTER-BASED TOOLS

E-1. INTRODUCTION AND PURPOSE. This Appendix describes the computational capabilities of the computer-based operational tools acquired to support the Management of Change (MOC) schedule analysis. The principal operational tool for the schedule analysis was the OPTIMA 1100 Project Management System.* OPTIMA 1100 is a system of modular, automated routines which permit detailed time, resource, and cost analysis of networks defined under conventions such as those set forth in Chapter 3. This system operates on any UNIVAC Series 1100 computer, to include the CAA UNIVAC Model 1108. For the MOC study, the OPTIMA 1100 time analysis feature provided sufficient capability to support required timing, scheduling, and synchronization analysis of the diagrams.

E-2. STRUCTURE AND CAPABILITIES OF OPTIMA 1100. The modular structure of OPTIMA 1100 permits the user to select parametrically the operational features required for prespecified computional procedures. Figure E-1 provides a general flow diagram of the available OPTIMA modules.** In the MOC schedule analysis, only the time processor, report generator and network drafting modules were used. The forms of computational analysis needed to support MOC are illustrated in Chapter 3, Table 3-3. Part of that Table is reproduced in Table E-1 to show how these operational and computational capabilities are satisfied by OPTIMA 1100. In several analytic areas, the OPTIMA 1100 system was uniquely qualified to provide the necessary technical support. For example, OPTIMA has the capability to accept fixed interim event completion times, and then through a series of forward and backward passes, to set start and finish times for all other activities; this proved to be an extremely powerful capability that was used in the analysis of MOC schedule alternatives (see Chapter 5). The view of OPTIMA 1100, as seen by the MOC study analysts and illustrated in Figure E-2 appears as a somewhat simplified version or subset of the total OPTIMA package of Figure E-1.

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*SPERRY UNIVAC, "OPTIMA 1100 Project Management System, Application Brief", UA0164, SPERRY-UNIVAC Division, Sperry Rand Corp., Blue Bell, PA 1976.

**SPERRY UNIVAC, "OPTIMA 1100 Project Management System, Programmer Reference", UP8382, SPERRY-UNIVAC Division, Sperry Rand Corp., Blue Bell, PA 1976.

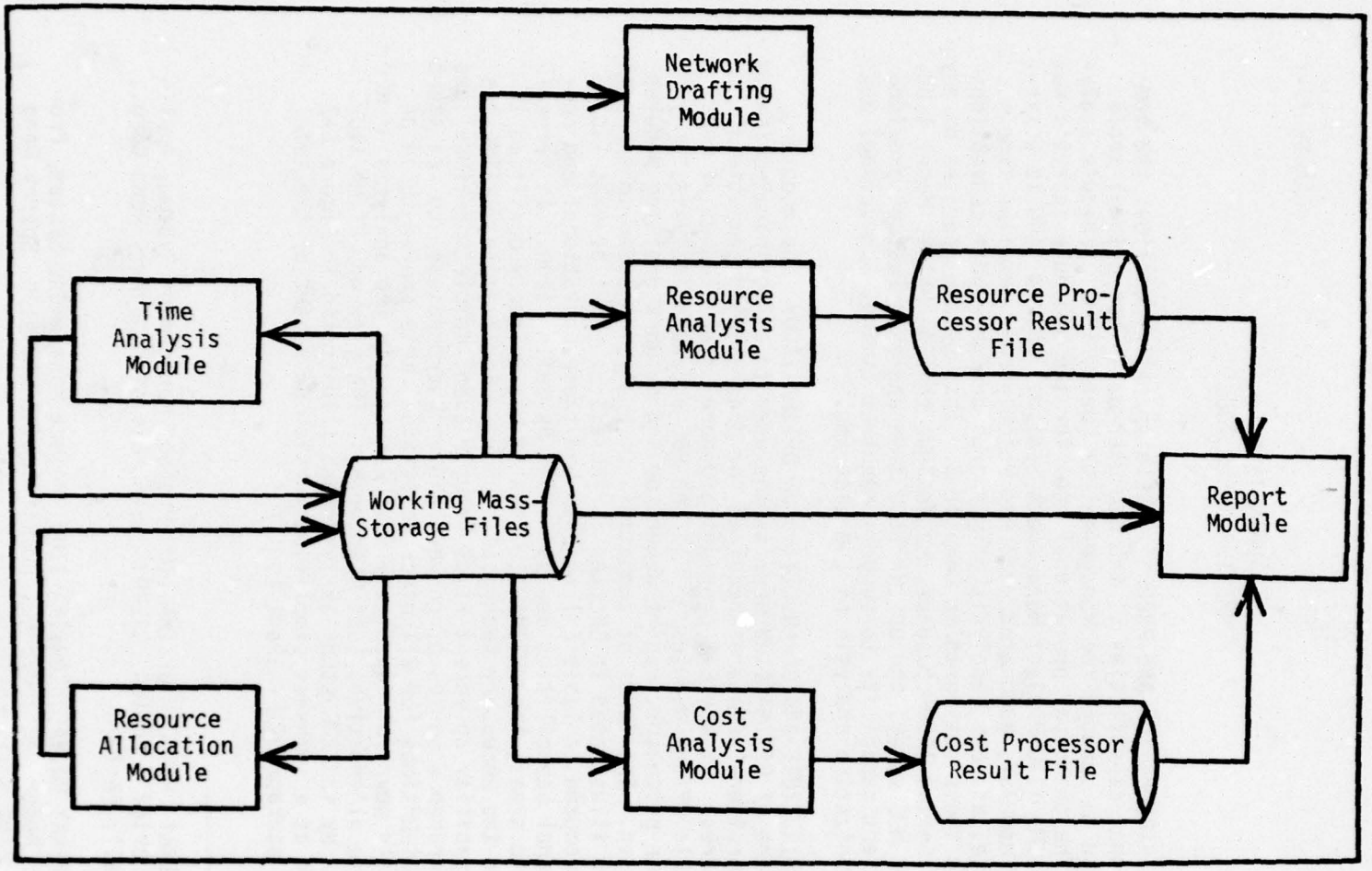
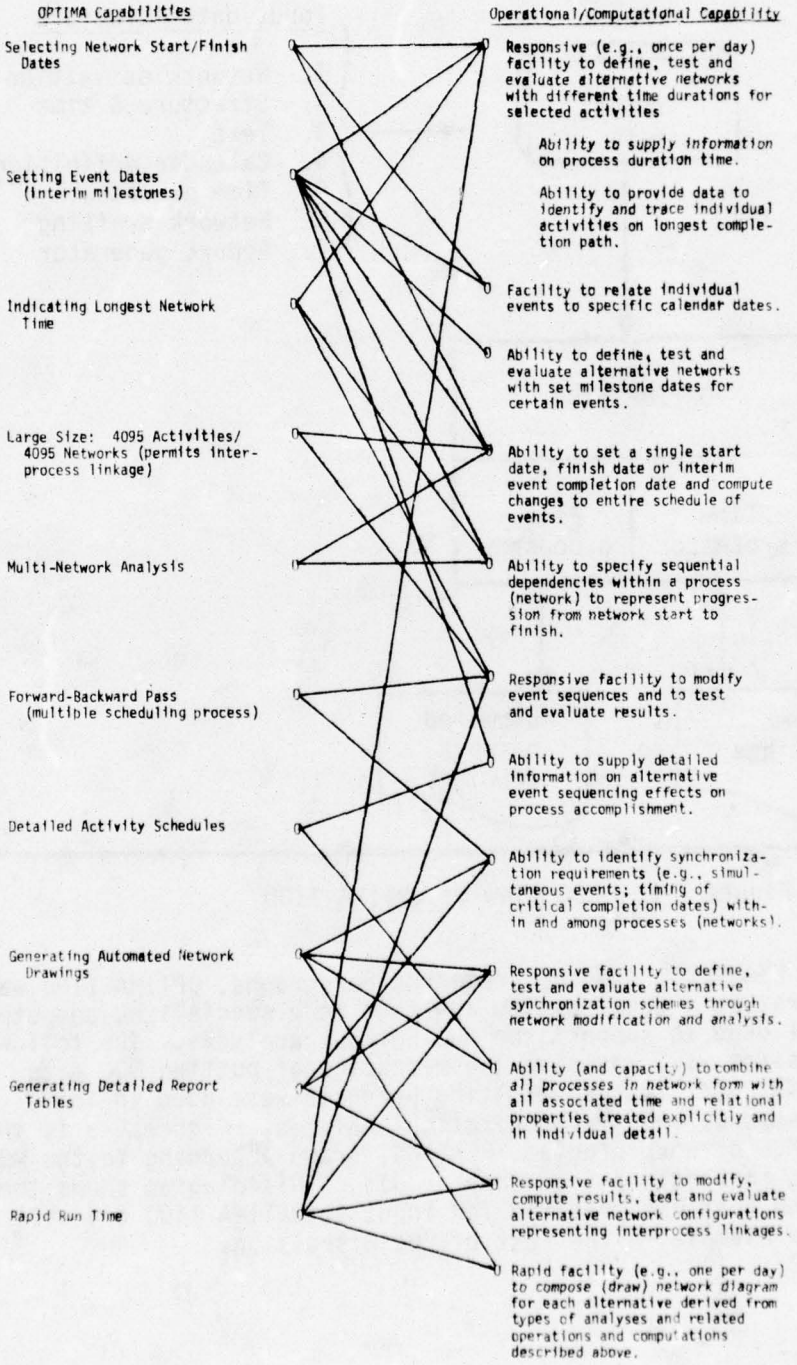


Figure E-1, Data Analysis, Reporting, and Drafting Modules

Table E-1. OPTIMA Computational Support



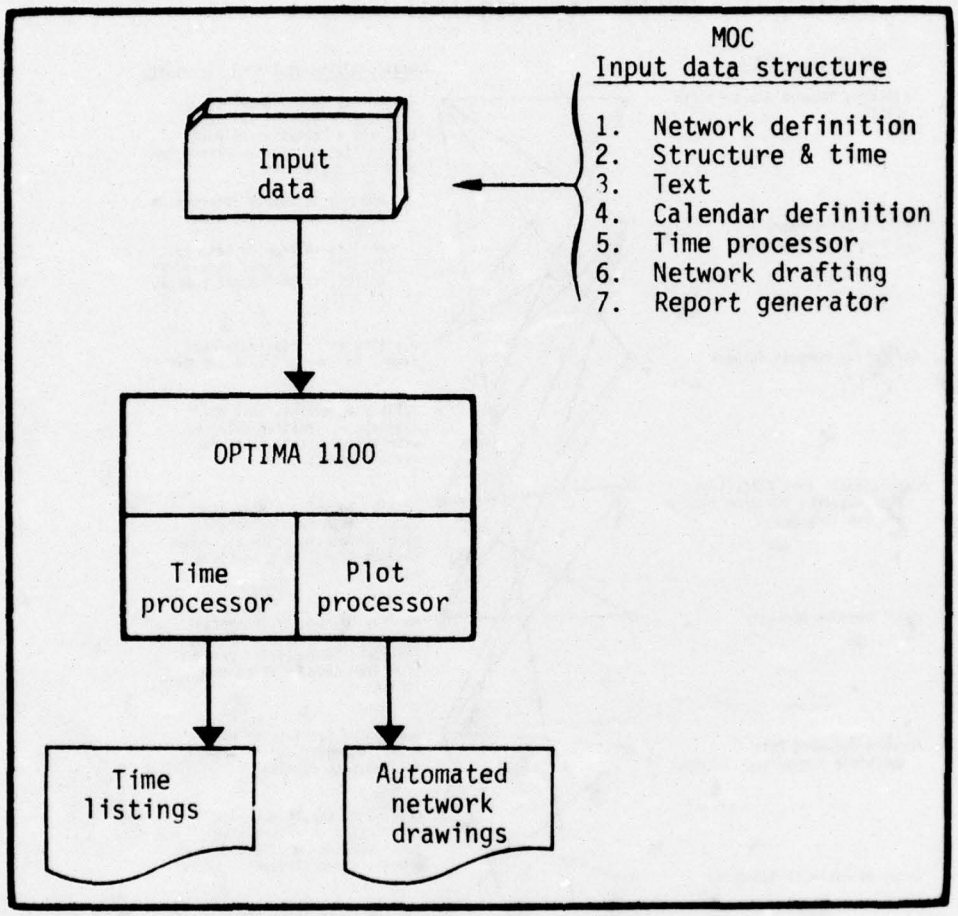
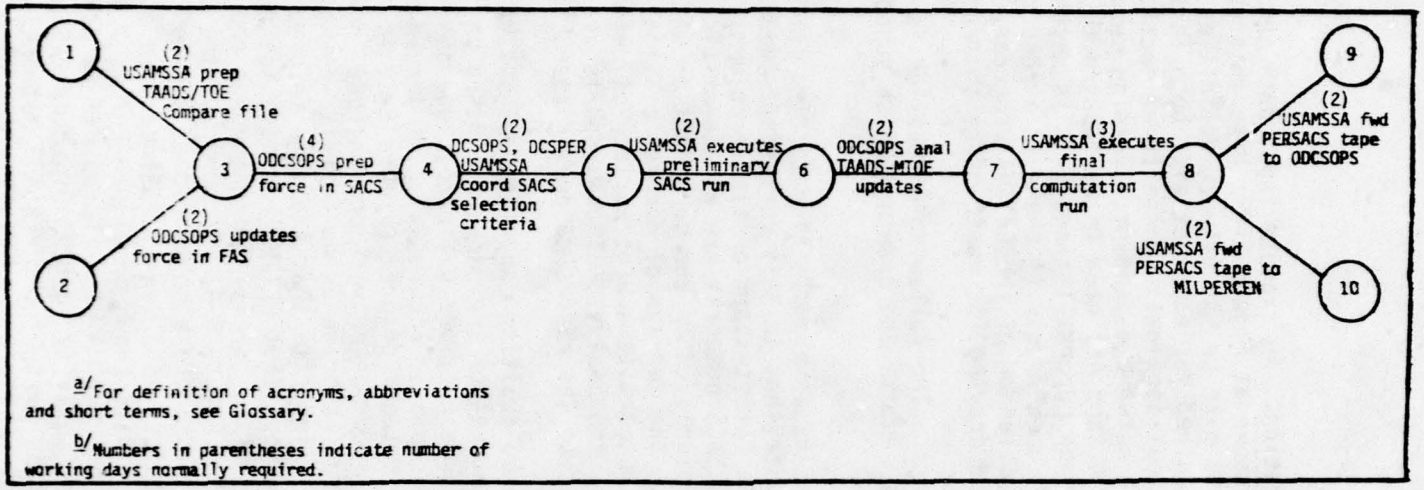


Figure E-2. MOC View of OPTIMA 1100

E-3. MOC EXAMPLES. In the preceding paragraphs, OPTIMA 1100 was viewed first as a total system and then as a specialized computer-based tool used to support the MOC network analysis. The following discussion will describe the mechanics of putting MOC data into OPTIMA, and how the resulting products were used in the study's temporal and synchronization analyses. Figure E-3 is the simplest MOC network diagram, PERSACS, drawn according to the MOC networking conventions (see Chapter 3). This diagram shows the information that was prepared for input to OPTIMA 1100 and will be used as an example in the rest of the discussion.



a/ For definition of acronyms, abbreviations and short terms, see Glossary.

b/ Numbers in parentheses indicate number of working days normally required.

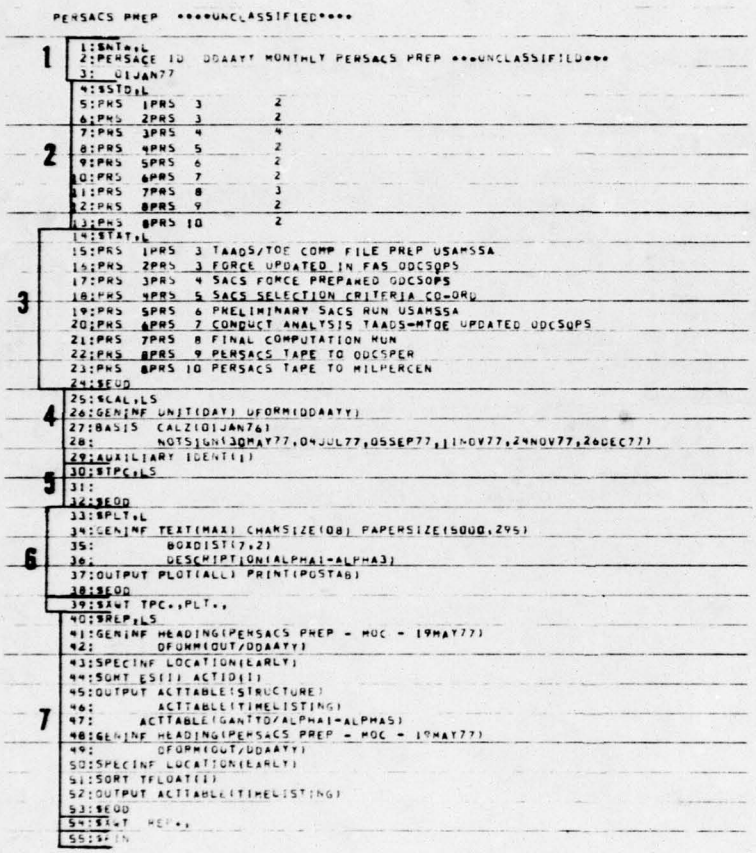
Figure E-3. The PERSACS Network

a. Input Preparation. An example input data set for the PERSACS network is shown at Figure E-4. Note that only three lines are required to make up the network definition section and that one line is required for each activity both in the Structure and Timing and the Text sections. These three sections are the only inputs that are network dependent. Heading cards in the report section (lines 41 and 48) need to be changed to place the appropriate headings on report listings. It is necessary to change sections 4 through 7 only if there is a requirement to change the internal calendar of the OPTIMA programs, modify the size of the automated drawing, or restructure the reports section.

b. Output Products. The following discussion is geared only to the OPTIMA output reports and drawings which supported the MOC scheduling analysis.

(1) In Figure E-5, an example time listing for the PERSACS network is given. Note that in this very simple example there is no information in the latest-start or finish columns since all activities of the PERSACS networks are on the critical path. Time information is also displayed in the bar chart or GANTT Diagram shown at Figure E-6. The "K" symbol denotes critical (path) activities. OPTIMA 1100 permits a wide variety of report formats based on the needs of the analyst. These reports are selected by the appropriate input to the report generator (see Figure E-4).

(2) The automated drafting capability of OPTIMA is one of the more powerful features of the package. Based on the input data displayed at Figure E-4, the OPTIMA package generated the PERSACS network plot shown in Figure E-7. It should be noted that the original PERSACS network diagram (Figure E-3) is drawn as Activity-on-Arc (AOA)--a common network convention. However, the OPTIMA-produced diagram is drawn as an Activity-on-Node (AON) network. Inspection will indicate that the same information is displayed in each case except that OPTIMA has associated a start and stop date to each activity. By following through the OPTIMA diagram while referring to Figure E-4, the power of the OPTIMA time processor becomes evident. Note on line 3 of Figure E-4 that the network start date was set at 1 Jan 77. Since this date falls on a weekend, the initial date shown in Figure E-7 is 3 Jan 77, a Monday. Each box in the OPTIMA plot represents an activity, so it therefore contains the activity identifier (here PRS precedes each number to identify it as part of the PERSACS network), the earliest start time, latest finish time, activity duration, and 18 characters of descriptive text.



```
PERSACS PREP  ***UNCLASSIFIED****
1  1:$NT.,L
   2:PERSACS ID  DDAAYY MONTHLY PERSACS PREP ***UNCLASSIFIED***
   3:  01JAN77
   4:$STD.,L
   5:PRS  1PRS  3        2
   6:PRS  2PRS  3        2
2  7:PRS  3PRS  4        4
   8:PRS  4PRS  5        2
   9:PRS  5PRS  6        2
  10:PRS  6PRS  7        2
  11:PRS  7PRS  8        3
  12:PRS  8PRS  9        2
  13:PRS  8PRS 10        2
  14:$TAT.,L
  15:PRS  1PRS  3 TAADS/TOE COMP FILE PREP USAMSSA
  16:PRS  2PRS  3 FORCE UPDATED IN FAS ODCSOPS
  17:PRS  3PRS  4 SACS FORCE PREPARED ODCSOPS
3 18:PRS  4PRS  5 SACS SELECTION CRITERIA CO-ORD
  19:PRS  5PRS  6 PRELIMINARY SACS RUN USAMSSA
  20:PRS  6PRS  7 CONDUCT ANALYSIS TAADS-MTOE UPDATED ODCSOPS
  21:PRS  7PRS  8 FINAL COMPUTATION RUN
  22:PRS  8PRS  9 PERSACS TAPE TO ODCSPER
  23:PRS  8PRS 10 PERSACS TAPE TO MILPERCEN
  24:$EOD
  25:$CAL.,LS
4 26:GENINF UNIT(DAY) UFORM(DDAAYY)
  27:BASIS  CALZ(01JAN76)
  28:       NOTSIGN(30MAY77,04JUL77,05SEP77,11NOV77,24NOV77,26DEC77)
  29:AUXILIARY IDENT(1)
  30:$TPC.,LS
5 31:
  32:$EOD
  33:$PLT.,L
  34:GENINF TEXT(MAX) CHARSIZE(08) PAPERSIZE(5000,295)
  35:       BORDIST(7,2)
6 36:       DESCRIPTION(ALPHA1-ALPHA3)
  37:OUTPUT PLOT(ALL) PRINT(POSTAB)
  38:$EOD
  39:$WT TPC.,PLT.,
  40:$REP.,LS
  41:GENINF HEADING(PERSACS PREP - MOC - 19MAY77)
  42:       OFORM(OUT/DDAAYY)
  43:SPECINF LOCATION(EARLY)
  44:SORT ES(1) ACTID(1)
  45:OUTPUT ACTTABLE(STRUCTURE)
  46:       ACTTABLE(TIMELISTING)
7 47:     ACTTABLE(GANTTO/ALPHA1-ALPHA3)
  48:GENINF HEADING(PERSACS PREP - MOC - 19MAY77)
  49:       OFORM(OUT/DDAAYY)
  50:SPECINF LOCATION(EARLY)
  51:SORT TFLOAT(1)
  52:OUTPUT ACTTABLE(TIMELISTING)
  53:$EOD
  54:$WT  REP.,
  55:$FIN
```

Key:

1. Network Definition
2. Structure & Timing
3. Text
4. Calendar Definition
5. Time Processor
6. Network Drafting
7. Report Generator

Figure E-4. The PERSACS Input Data Set

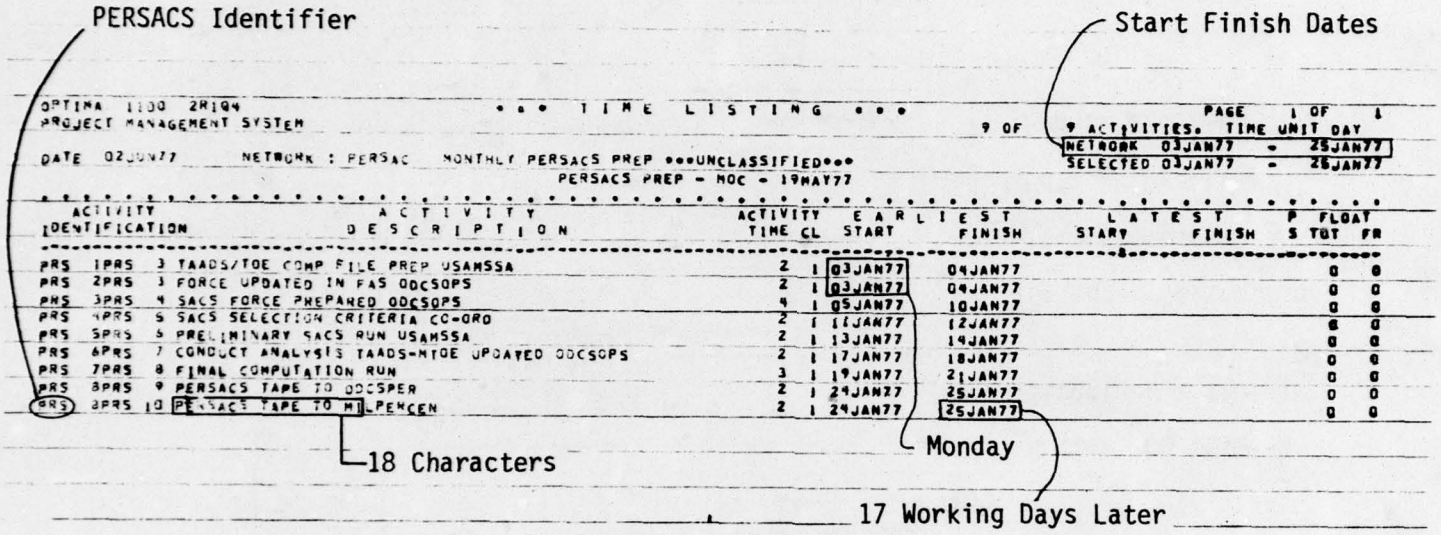


Figure E-5. The PERSACS Time Listing

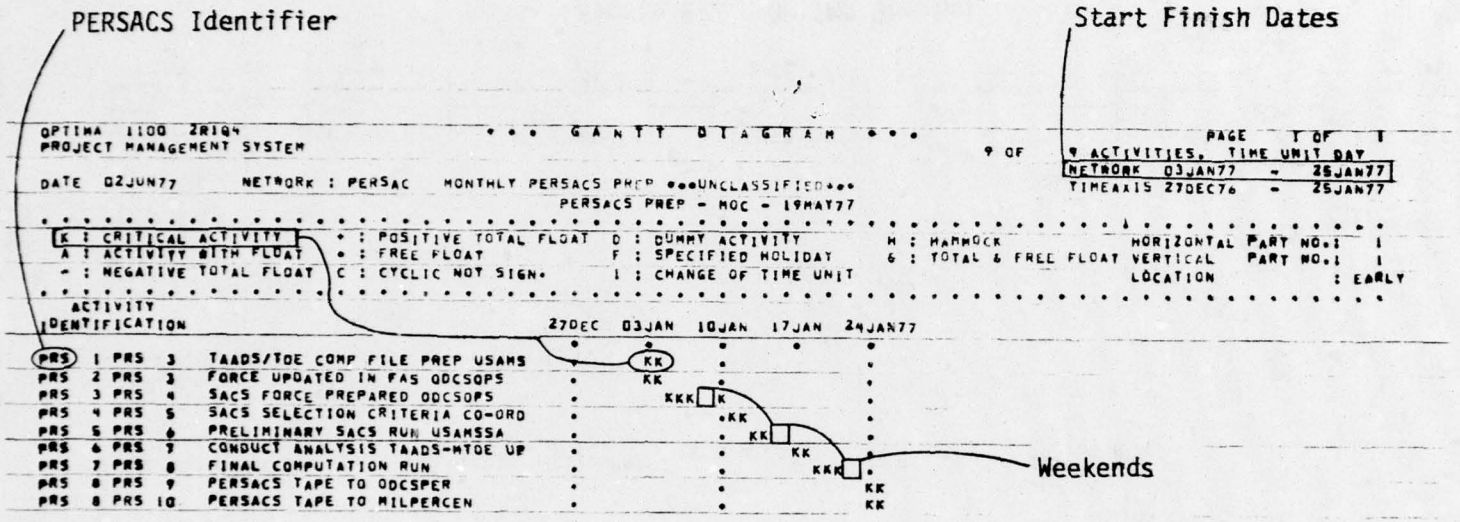


Figure E-6. The PERSACS GANTT Diagram

SPERRY UNIVAC
OPTIMA 1100
2R1Q4 (19MAY77--08 51 07)

NETWORK - PERSAC
MONTHLY PERSACS PREP ***UNCLASSIFIED***

PAGE 1

GROUP 1

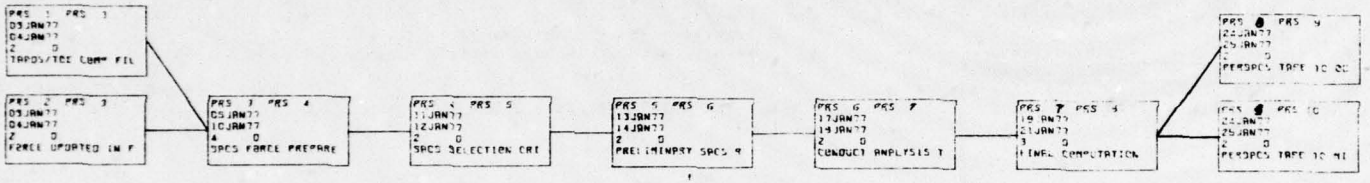


Figure E-7. OPTIMA Drawing

E-4. SUMMARY. The UNIVAC OPTIMA 1100 system is a powerful computational tool which supported the MOC analysis. The system's ability to handle very large networks (up to 4095 activities), analyze schedule and sequence problems, and produce graphic displays made it uniquely suited to the temporal and synchronization analysis requirements of this study. The capability of the OPTIMA 1100 system supported the quantitative analysis of the authorization management schedules described in Chapter 5. This capability provided insights into the relative merits of the schedule alternatives developed to reduce authorization change turbulence in the field. OPTIMA 1100 satisfied in an efficient and facile manner the specific requirements of the MOC study analysis.

APPENDIX F
ANNUAL TAADS DOCUMENTATION PROCESS

F-1. INTRODUCTION. This Appendix describes the annual TAADS Documentation network which was used in the MOC Base Case schedule (see Chapter 5, paragraph 5-2). A section of this network which covers a three month period is discussed in detail in Annex VIII of Appendix D. This Appendix contains the full yearly cycle of the TAADS process, and the interactions with the other key management processes as they occur during the year.

F-2. DISCUSSION. In this diagram, the activities of the TAADS process are shown starting in March and extending through the end of the following March. The process captures the documentation that results from authorization change guidance, and provides information on authorizations to other management processes. The following discussion indicates the frequency and schedule of the other authorization management processes linked with the annual TAADS process.

a. PERSACS. The PERSACS process links to the TAADS annual network once each month. Activities on arcs 4-7 and 6-7 are also the initial activities (arcs 1-3, 2-3) in the PERSACS process. Therefore PERSACS links to the TAADS network at nodes 4, 6; 14, 15; 24, 25; 34, 35; 44, 46; 54, 56; 64, 66; 74, 76; 84, 85; 94, 95; 104, 105; and 114, 116.

b. Personnel Requisition. The Personnel Requisition process for both CONUS and USAREUR connect to the annual TAADS network once each month. The sending of the Pass Records (PR) tape to the MACOMs (arc 4-5, etc) is the initial activity in each personnel requisition network. Therefore both personnel requisition networks link to the annual TAADS at nodes 4, 14, 24, 34, 44, 54, 64, 74, 84, 94, 104, and 114.

c. LOGSACS. The LOGSACS process is linked from the TAADS network quarterly at nodes 14, 15; 44, 46; 74, 76; and 104, 105.

d. Equipment Requisition. The Equipment Requisition processes for both CONUS and USAREUR are linked to TAADS through the LOGSACS processes at the nodes indicated above.

e. ARPRINT. The Training Program Development network is linked to TAADS through the PERSACS on a quarterly basis during the months of April, July, October and January (that is, at nodes 14, 15; 44, 46; 74, 76; and 104, 105).

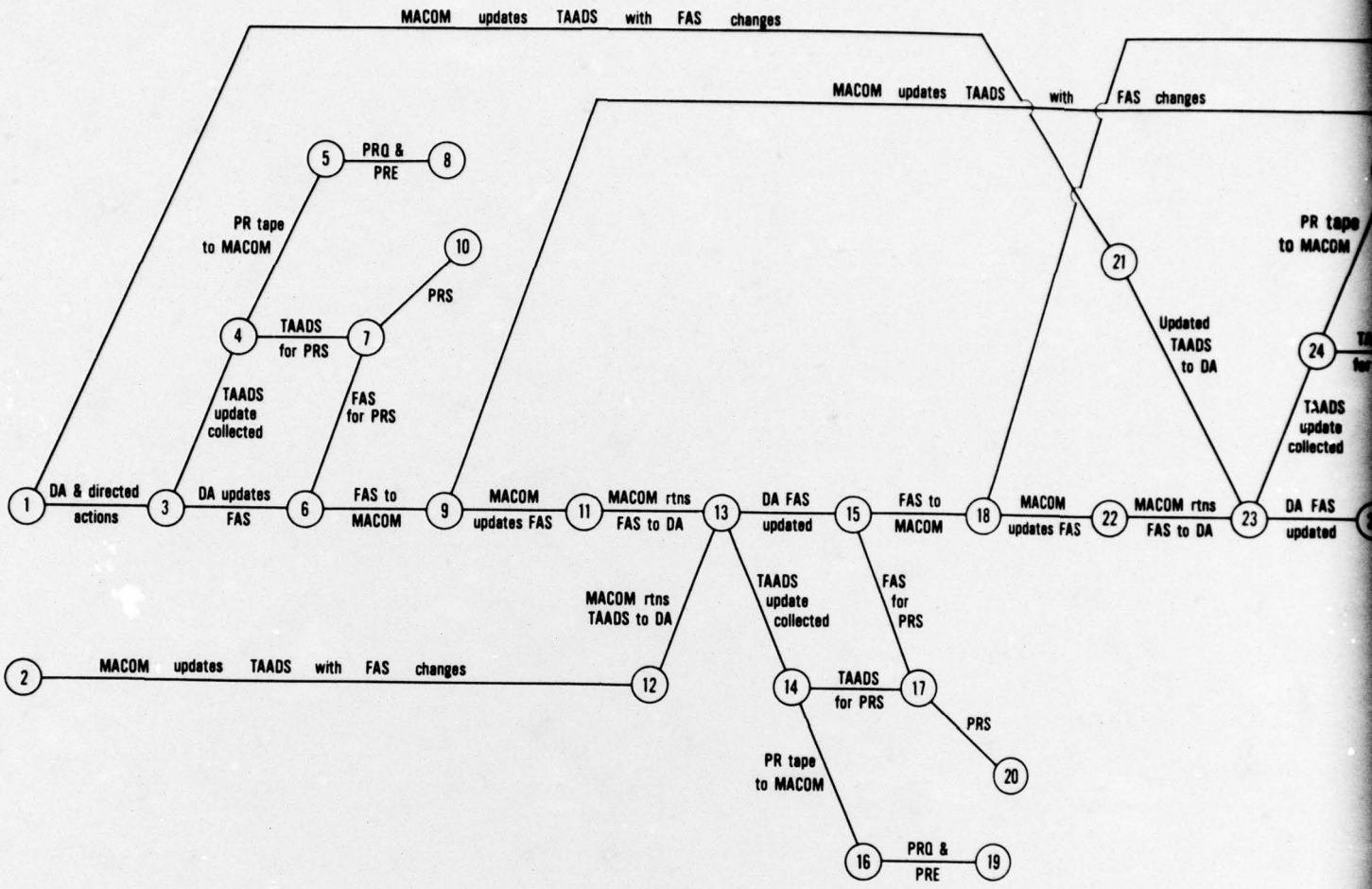
f. PBG. The PBG events are indicated as they occur in May, October, and January for guidance; the documentation of the PBG enters TAADS in April.

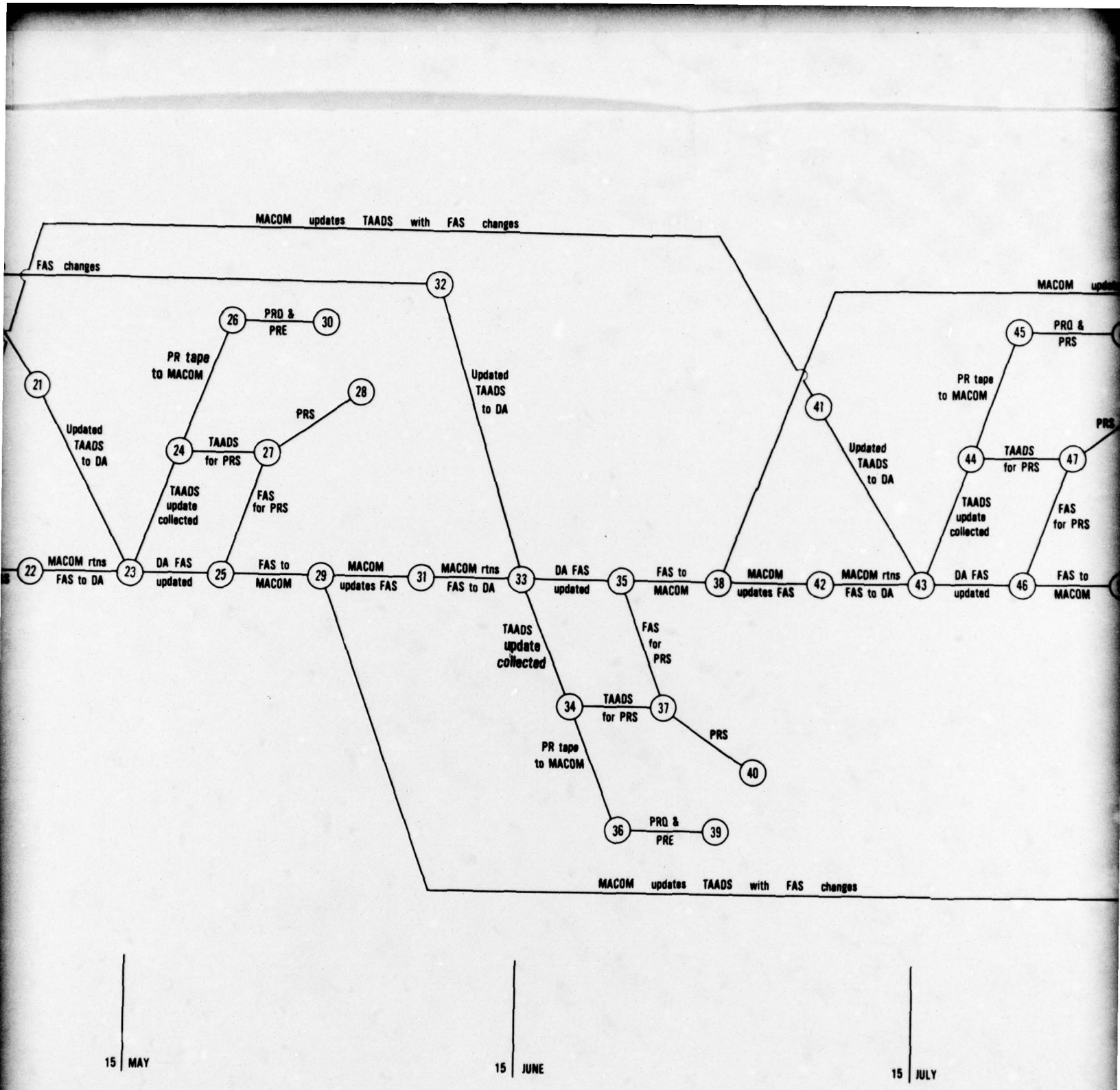
g. TOE Change. The Consolidated Change Table (CCT) published in March and September is documented in TAADS through nodes 61 and 122. Also linked to TAADS Documentation through the CCT are the Supply Bulletin, BOIP I and II, MOS Update and the Commercial Item network.

h. POMCUS TAADS. The POMCUS TAADS network is fed from node 66 in September.

i. IIQ/AAO. The IIQ/AAO process is fed from the POM LOGSACS about 5 December. That is the LOGSACS connecting to the annual TAADS network at nodes 74 and 76.

F-3. SUMMARY. The annual TAADS documentation network is composed of a series of periodic activities recurring over a one year cycle. TAADS is the central process to which all other authorization management processes are linked during the year. The accompanying fold-out is the network diagram of the annual TAADS Documentation process.


MACOM updates TAADS with FAS changes
MACOM updates TAADS with FAS changes
PRQ & PRE
PR tape to MACOM
PRS
TAADS for PRS
TAADS update collected
FAS for PRS
DA & directed actions
DA updates FAS
FAS to MACOM
MACOM updates FAS
MACOM rtns FAS to DA
DA FAS updated
FAS to MACOM
MACOM updates FAS
MACOM rtns FAS to DA
DA FAS updated
Updated TAADS to DA
PR tape to MACOM
TAADS update collected
MACOM rtns TAADS to DA
TAADS update collected
FAS for PRS
MACOM updates TAADS with FAS changes
TAADS for PRS
PRS
PR tape to MACOM
PRQ & PRE
15 MARCH
15 APRIL
15 MAY


MACOM updates TAADS with FAS changes
FAS changes
21
Updated TAADS to DA
22
MACOM rtns FAS to DA
23
DA FAS updated
24
TAADS for PRS
25
FAS to MACOM
26
PRQ & PRE
30
PR tape to MACOM
TAADS update collected
27
PRS
28
FAS for PRS
29
MACOM updates FAS
31
MACOM rtns FAS to DA
32
Updated TAADS to DA
33
DA FAS updated
34
TAADS for PRS
35
FAS to MACOM
36
PRQ & PRE
39
TAADS update collected
37
PRS
40
FAS for PRS
38
MACOM updates FAS
41
Updated TAADS to DA
42
MACOM rtns FAS to DA
43
DA FAS updated
44
TAADS for PRS
45
PRQ & PRS
PR tape to MACOM
TAADS update collected
47
PRS
FAS for PRS
46
FAS to MACOM
MACOM updates TAADS with FAS changes
15 MAY
15 JUNE
15 JULY

2

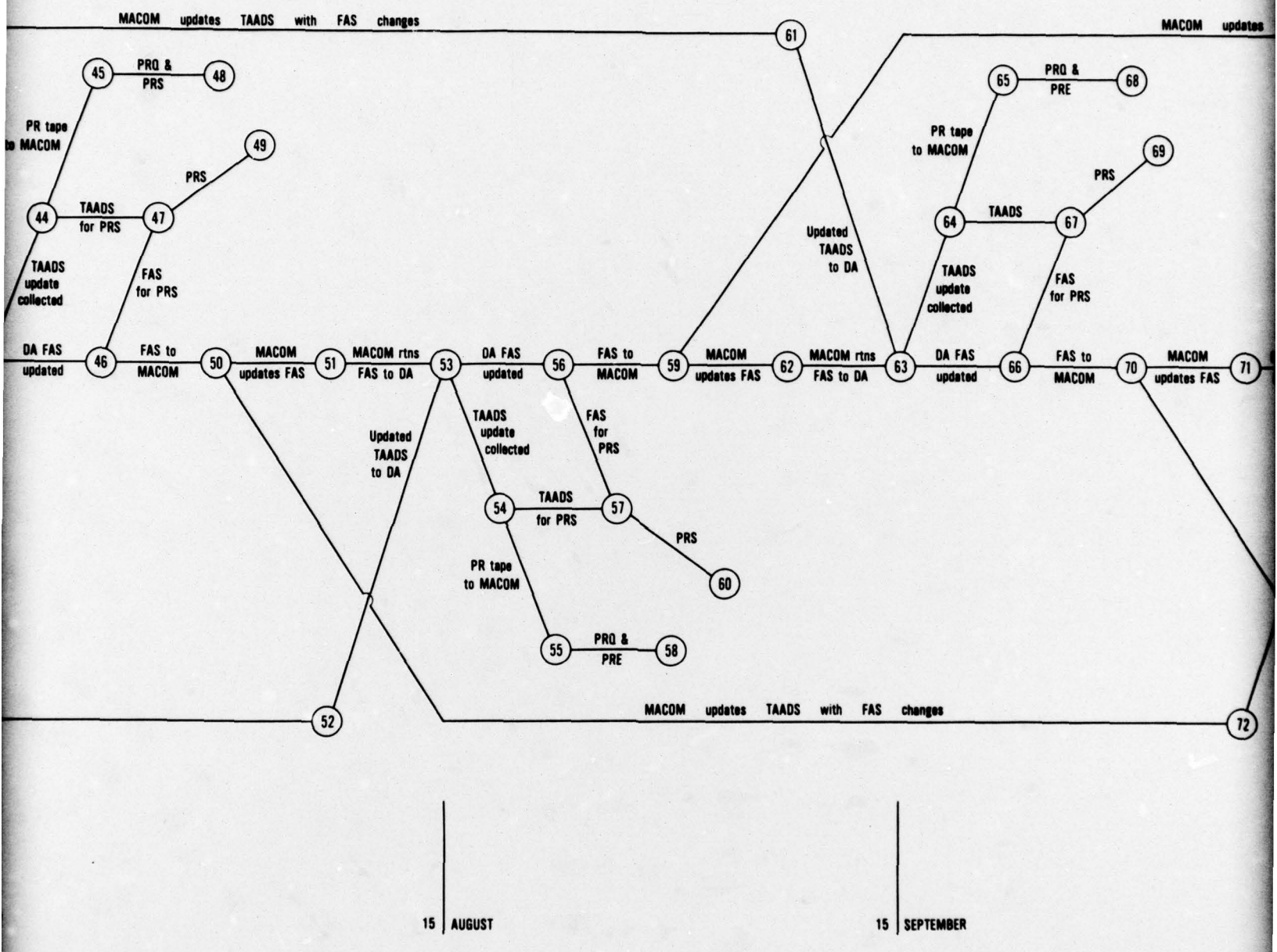
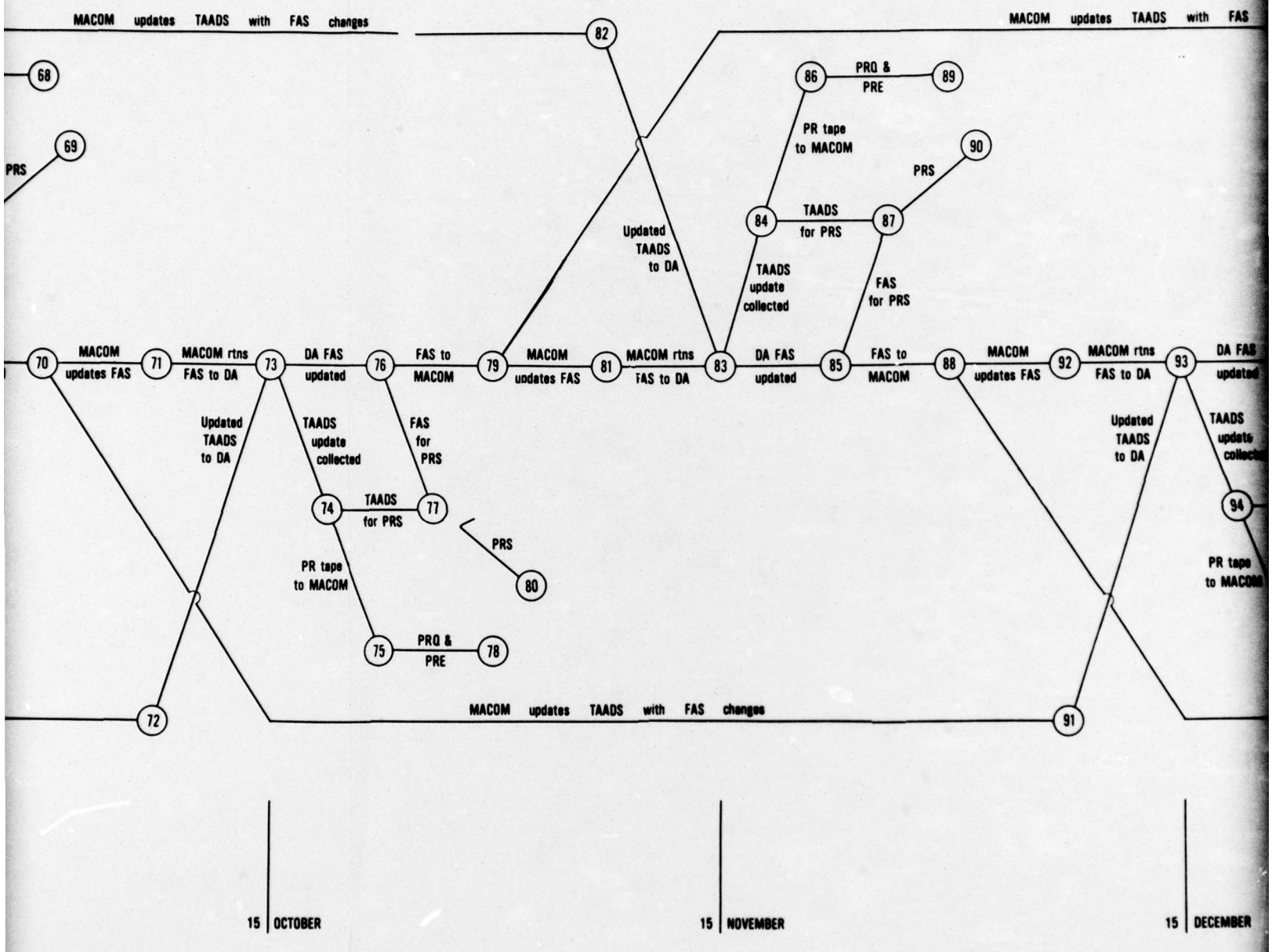
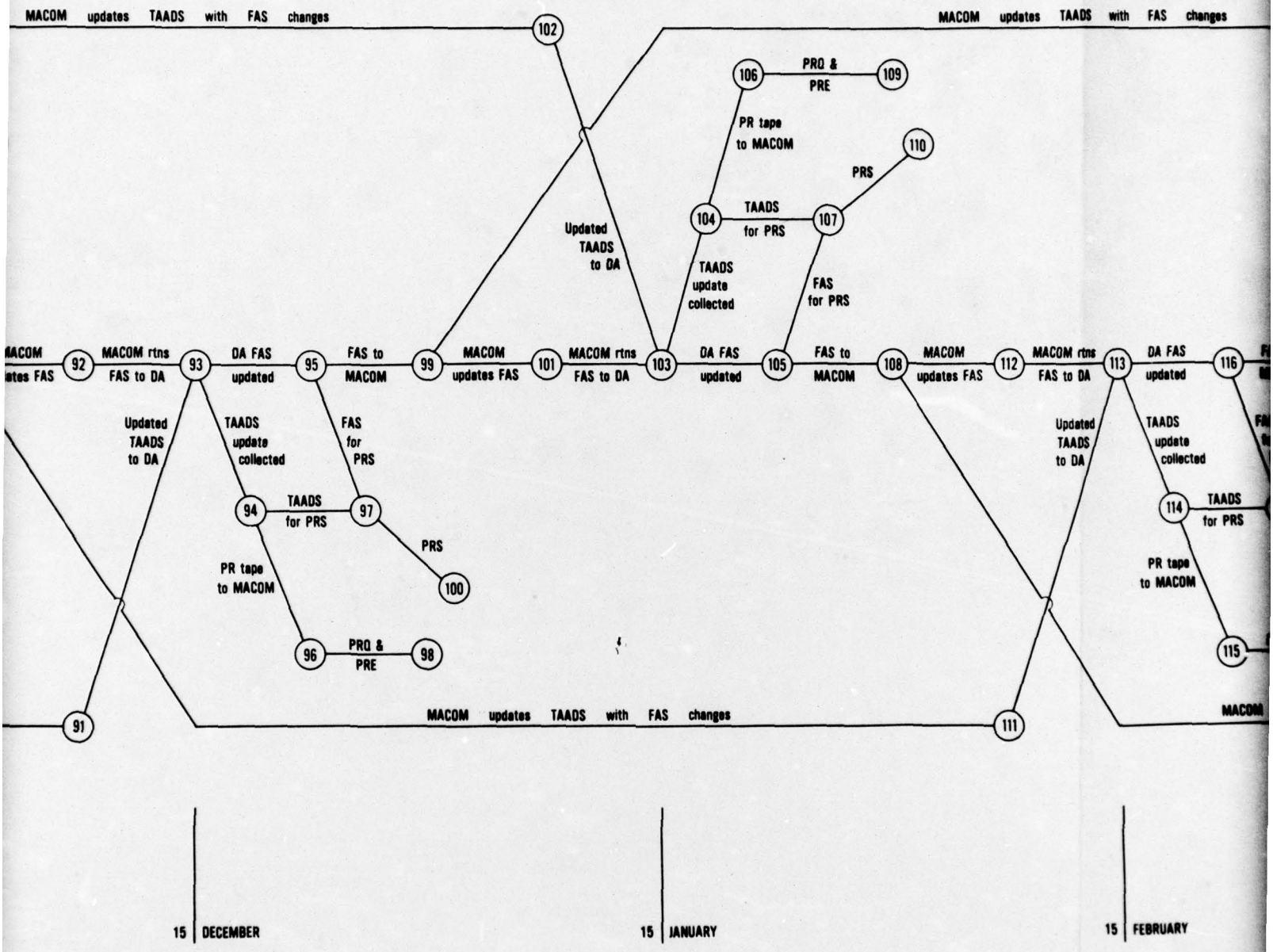


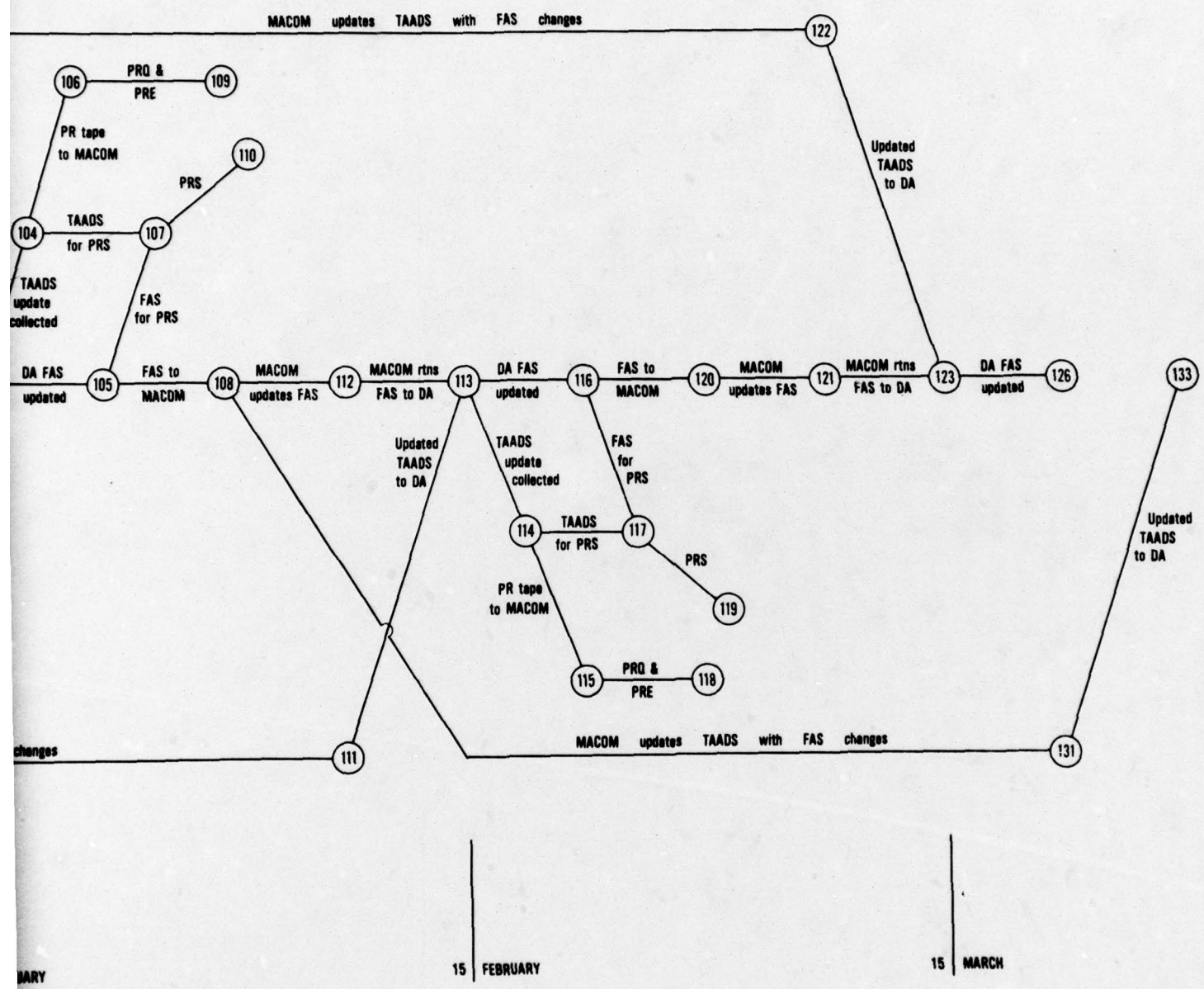
Figure F-1. Base Case: Annual TAADS Documentation



S Documentation


MACOM updates TAADS with FAS changes
102
MACOM updates TAADS with FAS changes
106
PRQ &
PRE
109
PR tape
to MACOM
110
PRS
104
TAADS
for PRS
107
Updated
TAADS
to DA
TAADS
update
collected
FAS
for PRS
MACOM
92
MACOM rtns
FAS to DA
93
DA FAS
updated
95
FAS to
MACOM
99
MACOM
updates FAS
101
MACOM rtns
FAS to DA
103
DA FAS
updated
105
FAS to
MACOM
108
MACOM
updates FAS
112
MACOM rtns
FAS to DA
113
DA FAS
updated
116
Updated
TAADS
to DA
TAADS
update
collected
FAS
for
PRS
94
TAADS
for PRS
97
PRS
100
PR tape
to MACOM
96
PRQ &
PRE
98
Updated
TAADS
to DA
TAADS
update
collected
114
TAADS
for PRS
PR tape
to MACOM
115
91
MACOM updates TAADS with FAS changes
111
MACOM
15 DECEMBER
15 JANUARY
15 FEBRUARY

5


MACOM updates TAADS with FAS changes
122
106
PRQ &
PRE
109
PR tape
to MACOM
110
PRS
104
TAADS
for PRS
107
TAADS
update
collected
FAS
for PRS
Updated
TAADS
to DA
DA FAS
updated
105
FAS to
MACOM
108
MACOM
updates FAS
112
MACOM rtns
FAS to DA
113
DA FAS
updated
116
FAS to
MACOM
120
MACOM
updates FAS
121
MACOM rtns
FAS to DA
123
DA FAS
updated
126
133
Updated
TAADS
to DA
TAADS
update
collected
FAS
for PRS
114
TAADS
for PRS
117
PRS
119
PR tape
to MACOM
115
PRQ &
PRE
118
changes
111
MACOM updates TAADS with FAS changes
131
BARY
15 FEBRUARY
15 MARCH