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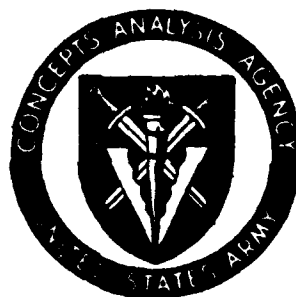
STUDY REPORT  
CAA-SR-83-3

AD

**MANAGEMENT OF MTOE EFFECTIVE DATES  
BASED ON EQUIPMENT AVAILABILITY,  
PHASES I AND II  
(MTO DATES - I AND MTO DATES - II)**

DAI31342

JULY 1983



PREPARED BY  
FORCE SYSTEMS DIRECTORATE  
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A methodology and computer program have been developed to assist the ODCSLOG in evaluating the adequacy of the (TAEDP-generated) equipment fill of Army units. The program provides for calculation and display of unit readiness over a seven- fiscal year planning period. Design features have been implemented to focus on the evaluation of units (MTOE) scheduled for activation as of designated (effec- tive) dates and the evaluation of units impacted by changes recorded in the Consolidated Change Table (CCT).		

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20. (continued)

Provision is also made to redistribute equipment among units to improve the rating of some units at the expense of reduced ratings for other units. The redistribution is carried out using a specification for unit up-rate and unit down-rate prescribed by the model user. Display of the results of the redistribution, identifying both the units by Unit Identification Code (UIC) and line item numbers (LIN) of the equipment involved, are generated for user reference

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MANAGEMENT OF MTOE EFFECTIVE DATES BASED ON EQUIPMENT AVAILABILITY

PHASES I AND II

(MTO DATES-I and MTO DATES-II)

July 1983

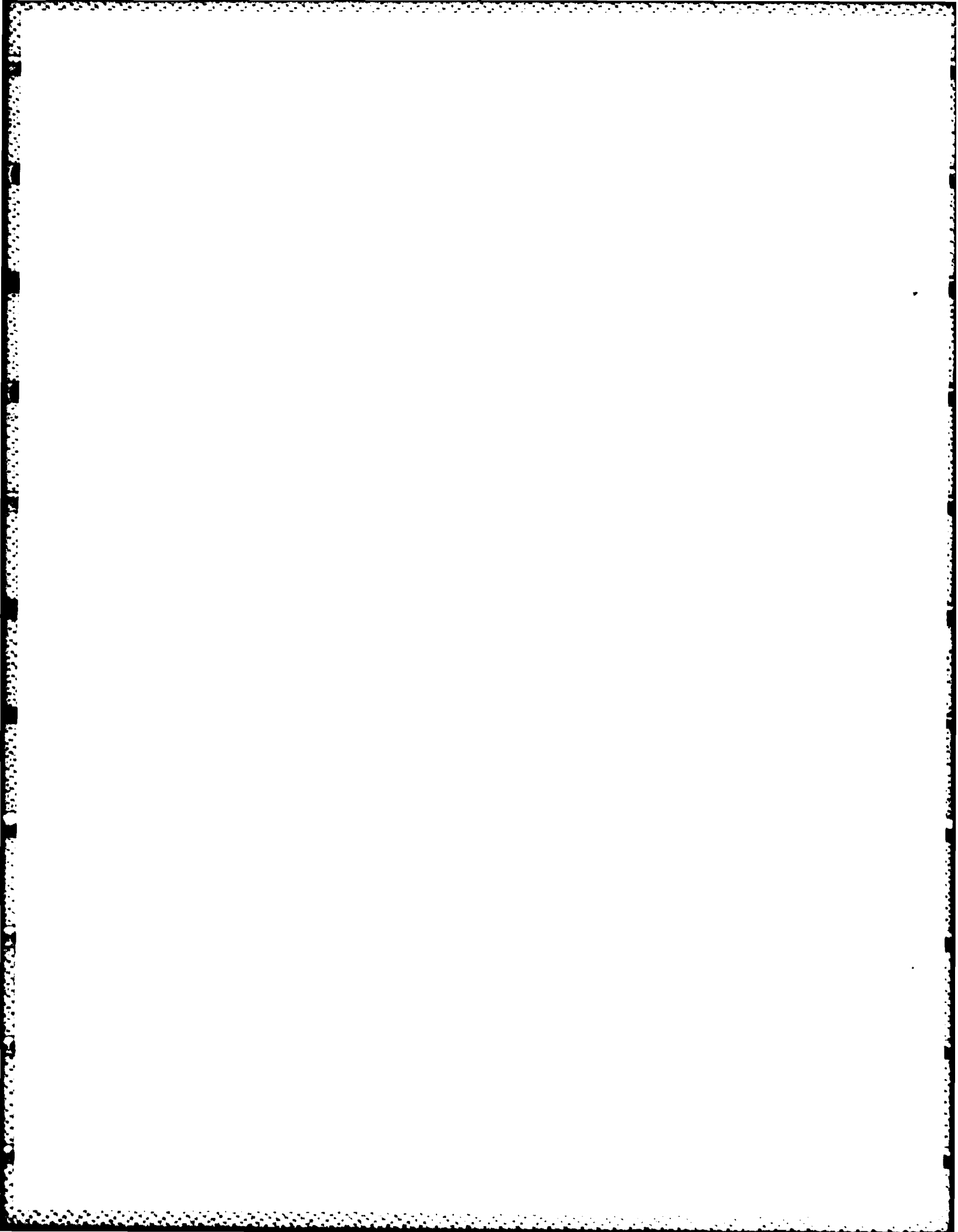
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Prepared by

Force Systems Directorate

US Army Concepts Analysis Agency  
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DEPARTMENT OF THE ARMY  
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REPLY TO  
ATTENTION OF:

CSCA-FSL

29 July 1983

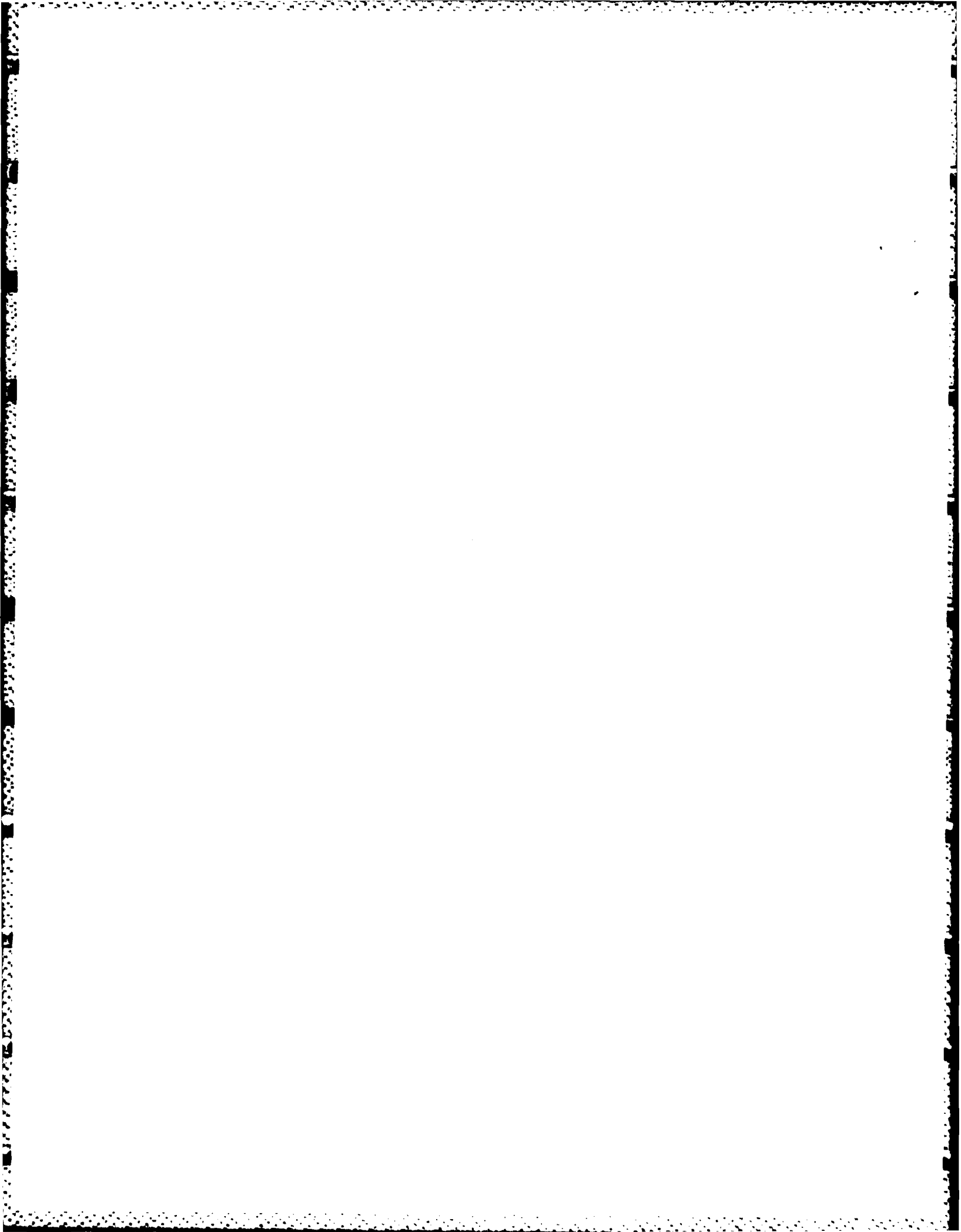
SUBJECT: MTO DATES Study

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

1. Reference letter, DALO-PLF, 18 January 1983, subject: Management of MTOE Effective Dates Based on Equipment Availability, Phase II (MTO DATES II).
2. The Deputy Chief of Staff for Logistics requested that the US Army Concepts Analysis Agency (CAA) develop a computer model which would aid in assessing unit readiness based on available equipment on a programmed effective date. Additionally, CAA was requested to develop several model enhancements to provide analytical capabilities that did not previously exist, for example, examination of the impact of implementing proposed equipment redistributions.
3. The model (E-DATE Model) and enhancements have been installed at USA Logistics Evaluation Agency (LEA) and are operational from the remote terminal facility recently installed within the ODCSLOG work area at the Pentagon.
4. This report describes the study approach, the model and the model enhancements. The final model documentation is being prepared under contract in four separate volumes, and is to be available during October 1983.
5. In accordance with AR 5-5, this Agency requests that the study sponsor provide a written evaluation of this report.

Incl  
as

*David C. Hardison*  
DAVID C. HARDISON  
Director





**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for MTOE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY EFFORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).

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

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## INTRODUCTION

The MTO DATES Study was conducted for the Director of Plans and Operations, Office of the Deputy Chief of Staff for Logistics (ODCSLOG). The study was concerned with improvement of ODCSLOG's ability to predict reliable effective dates for MTOE changes and unit activations based on equipment availability.

The DCSLOG is required, by AR 310-49 and CSR 310-44, to advise the Deputy Chief of Staff for Operations and Plans (DCSOPS) on the supportability of unit activations and MTOE changes based on availability of equipment assets. The study was conducted under four separate, but closely related, tasking documents. In essence, each of these evolved from its predecessor, and served to reorient the study toward development of a computer model. The model processes extracts of the data from the Total Army Equipment Distribution Program (TAEDP) and applies the unit rating criteria of AR 220-1, Unit Status Reporting System. The model provides a responsive means of using TAEDP as a basis to predict unit readiness (equipment-wise) on effective dates for proposed force structure actions.

The MTO DATES Study was conducted in two phases.

- a. Phase I was a short-duration problem definition phase to identify means of improving the responsiveness and validity of the existing procedure for predicting unit readiness on effective dates.
- b. Phase II accounted for the bulk of the study effort and accomplished the following objectives:
  - (1) Developed a computer model to process the TAEDP data used by ODCSLOG for planning equipment distributions to support proposed force structure changes and assisted in the installation of that model at the Logistics Evaluation Agency (LEA).
  - (2) Developed a number of model enhancements to provide ODCSLOG with new capabilities for analysis of the TAEDP data.


(3) Provided technical guidance to ODCSLOG with respect to preparation of input data and operation of the model at LEA via a remote terminal facility installed within the ODCSLOG work area.

The end product of the study was a computer model called the Effective Date (E-DATE) Model which is operational at LEA and accessible by ODCSLOG via a remote terminal in the Pentagon. Portions of the model were used for production runs as early as February 1983. The detailed documentation of the model is being accomplished under contract and will be published during October 1983 in four volumes. The volumes will contain the following information:

- a. Volume I - Functional Description for Executives. Executives in user and potential user organizations are provided an overview of the model and its operating environment, capabilities, and capacities.
- b. Volume II - User's Manual. This volume informs model users of the procedures for operating the model. It includes execution on the computer system, the preparation of inputs, the generation of outputs, and the warning messages.
- c. Volume III - Operator's Manual. This volume is designed for remote location model operation and provides details on running the model; e.g., identifying files accessed, output devices, job size and time, security requirements, and other matters related to the computer system operation.
- d. Volume IV - Program Maintenance Manual. A single volume is prepared which integrates the system specifications, program specifications, and program maintenance. The volume will address the overall and specific design of the model in its operating environment. The macro and micro aspects of coding, including variable definition and location within program elements, will be presented.

The following pages summarize the approaches and results of Phases I and II. The format used is to split each page with a reproduction of a vignette on the left and appropriate annotations on the right.

Phase I is described on the next six pages following the outline shown.

<p>MTD DATES PHASE I</p>	
<ul style="list-style-type: none"><li>• MTD DATES PHASE I OBJECTIVES</li><li>• PHASE I STUDY APPROACH</li><li>• PROBLEM DEFINITION</li><li>• PRELIMINARY ANALYSIS &amp; IN-DEPTH STUDY AREAS</li><li>• AUTOMATION DEMONSTRATION</li><li>• RECOMMENDATIONS FOR PHASE II</li></ul>	
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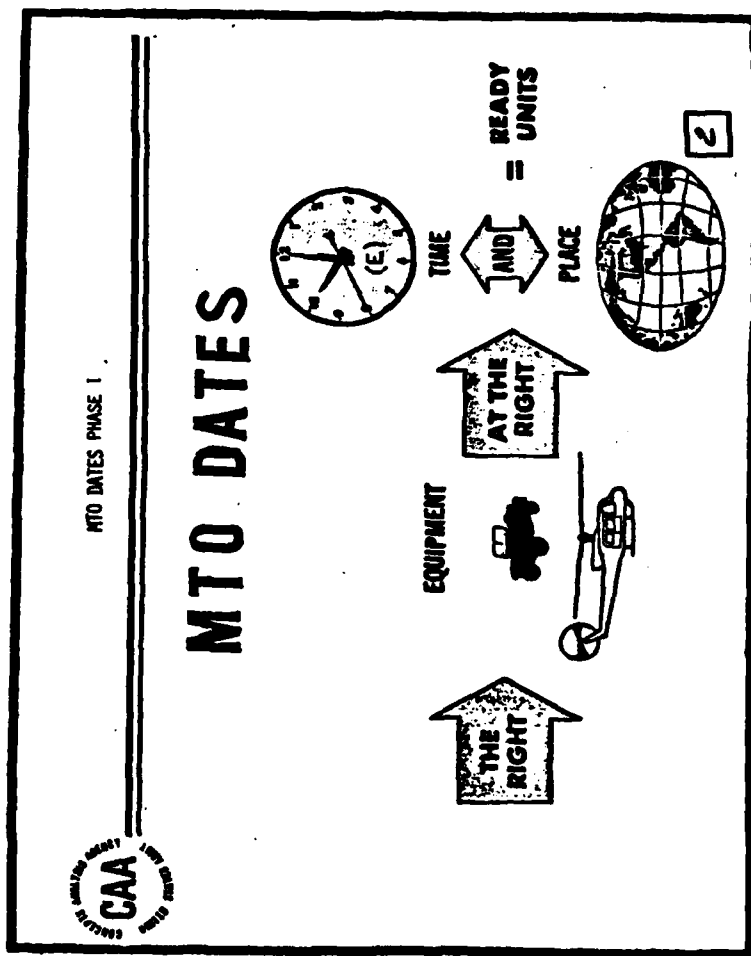
PHASE I OBJECTIVES

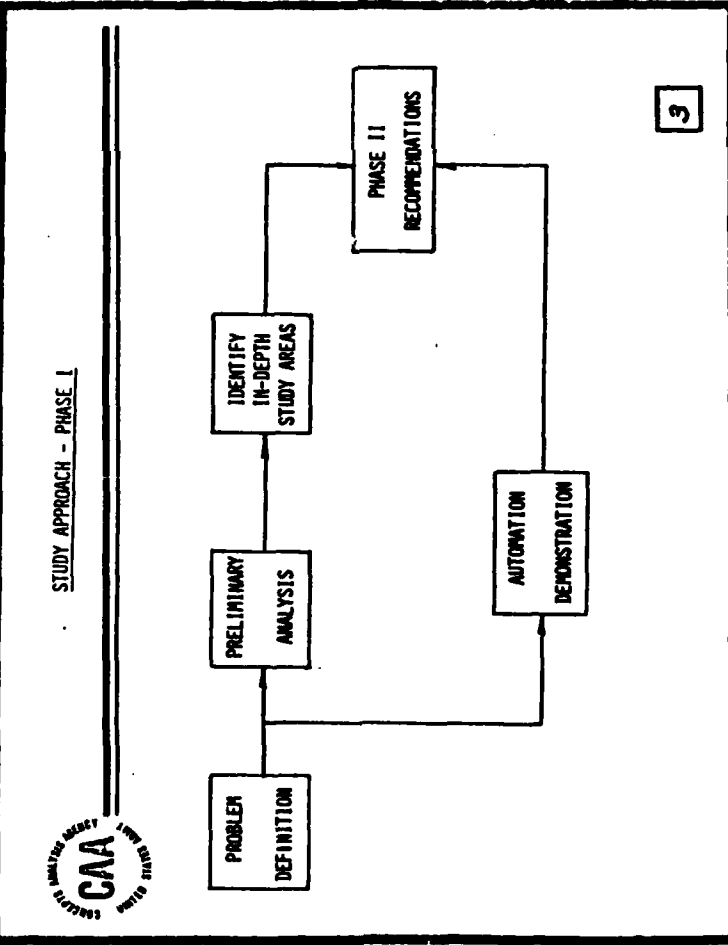
Phase I was a short-duration problem definition phase to identify means of improving the responsiveness and validity of the procedure used to predict unit ratings on effective dates for proposed force structure actions based on projected equipment availability. Due to the extremely short time constraint, and the complexity of the materiel acquisition and distribution process, it was necessary to limit objectives to:

(1) Identification of TAEDP problem areas for subsequent in-depth examination as a basis for development of prescriptive measures.

(2) Determination of the potential benefit of automating the manual process used by ODCSLOG to analyze TAEDP data.

The objectives and research of Phase I and the recommendations for Phase II are presented on the next five pages.





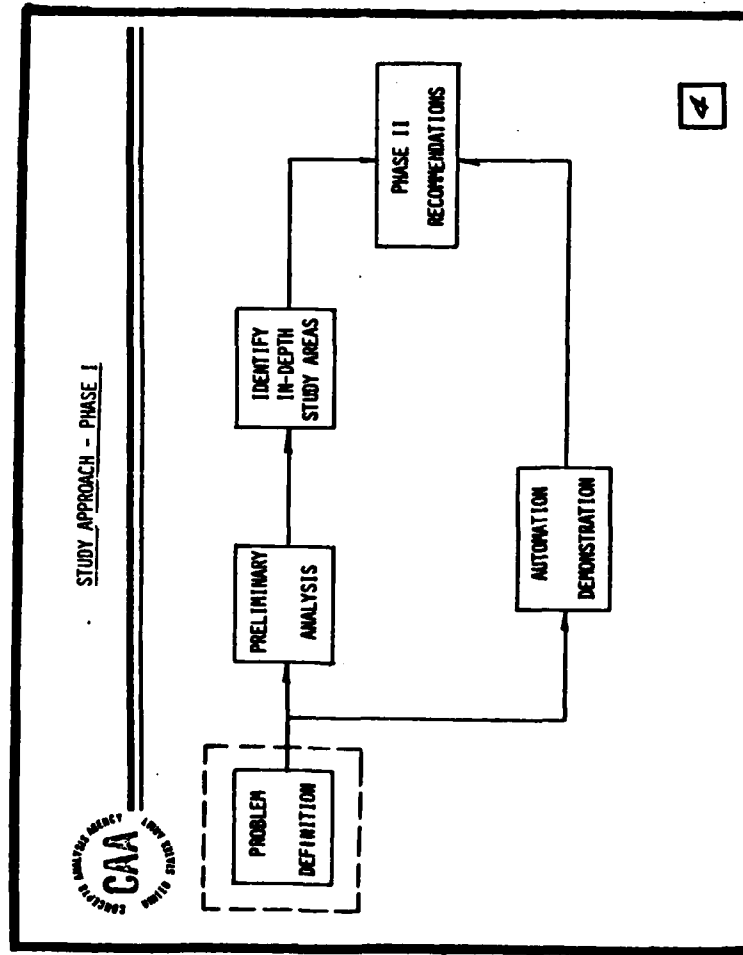
The sequence of the individual activities comprising the study approach is shown in this figure.

The activities are described in the next four pages with the particular activity being discussed identified by dotted lines around the appropriate blocks in the figure.

Problem Definition

The problem definition was arrived at by:

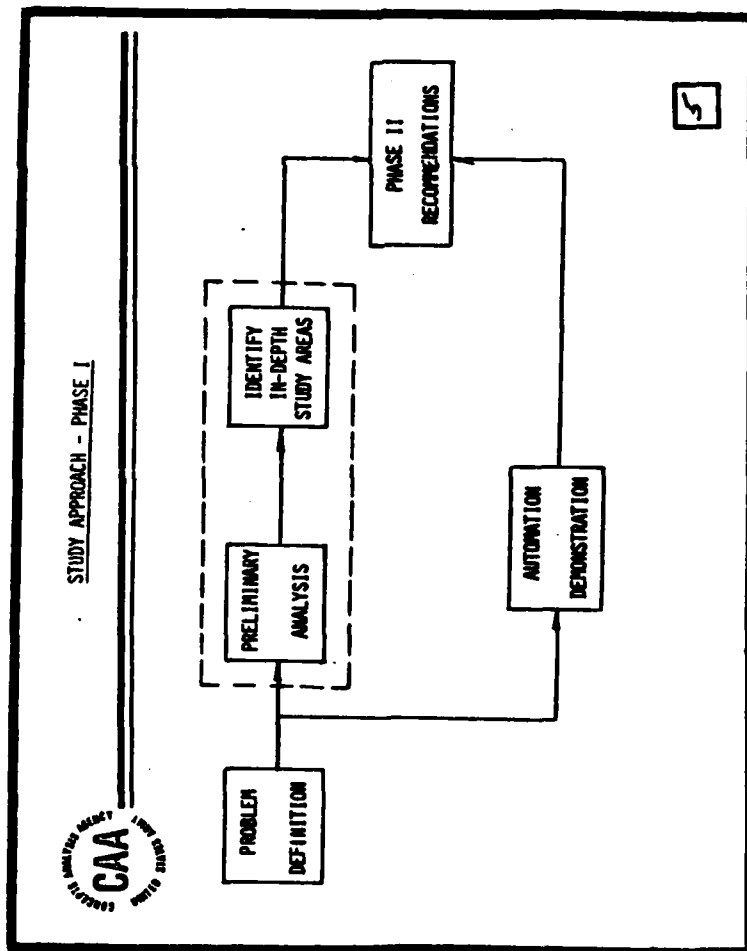
- Orientation briefings by proponents of the major data and management information systems from which the TAEDP data base is compiled. These systems are listed in Appendix C, Total Army Equipment Distribution Program (TAEDP).
- On-site discussions at action officer level with personnel at the Depot Systems Command (DESCOM), proponent for production of TAEDP. On-site discussions were also held at HQ, FORSCOM and HQ, TRADOC to obtain TAEDP user experience.
- Examination of related system development programs and equipment requirement reports, i.e., Vertical Force Development Management Information System (VFDMIS) and Consolidated Change Tables (CCT).
- Participation in a 2-week orientation and training session conducted by DA for a 21-man DAIG inspection team responding to a CSM that directed a review of problem areas associated with all aspects of force modernization.



Preliminary and In-depth Analyses

TAEDP was specified as the data source for the MTO DATES Study. It has been institutionalized by ODCSLOG as the basic planning tool for assessment of logistical support capability for proposed force structure changes.

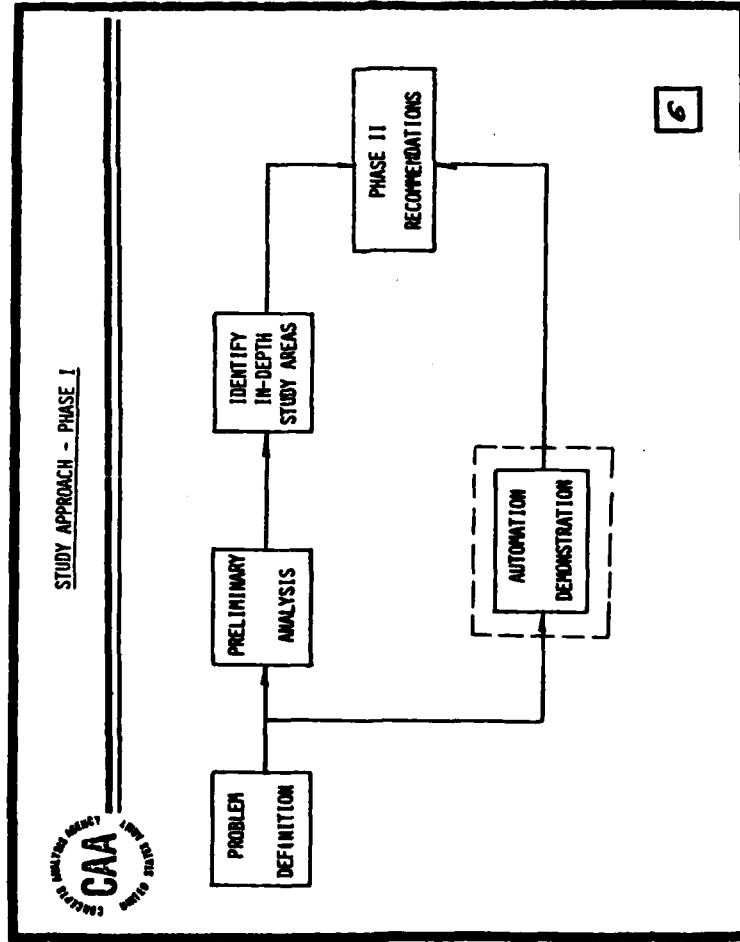
TAEDP is compiled from 24 major data and management information systems, i.e., the Structure and Composition System (SACS), the Army Authorization Documents System (TAADS), etc. Collectively, these systems provide information as to the total equipment requirement, the assets on hand, and projected asset increases over the 7-year TAEDP period. The computation subsystem makes necessary changes in format and asset assignment, and then distributes all available equipment to all Army claimants (both Active and Reserve) strictly in accordance with priorities established in the Department of the Army Master Priority List (DAMPL). TAEDP is described in more detail in Appendix C.

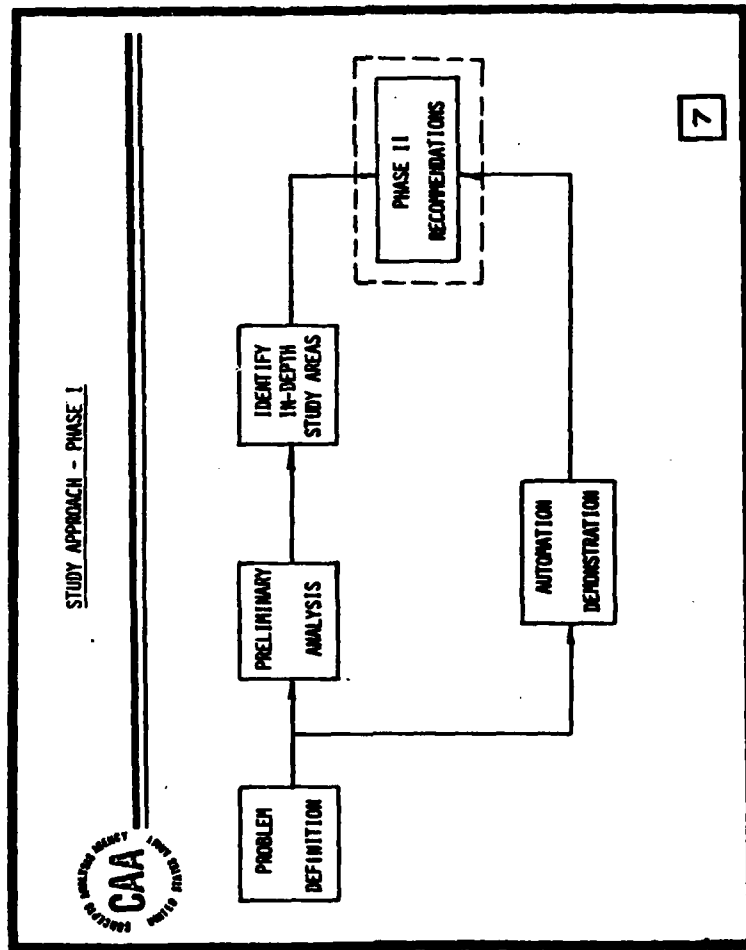


Automation Demonstration

A demonstration computer program was developed which used "dummy" data prepared in exactly the same format as that used in a data extract tape that is prepared and distributed as part of the normal TAEDP production cycle. The program was designed to access data required to determine the readiness status of a unit using the computational procedures contained in AR 220-1, Unit Status Reporting System.

A number of potential program enhancements to provide ODCSLOG with new analytical capabilities were identified. The feasibility and development of these were to be addressed in a follow-on effort. The enhancements developed in Phase II are shown on page 17.






Phase II Recommendations

Based on the insights gained during Phase I, the study team recommended that Phase II investigate the possibility of developing a means of ensuring that any decisions made that affect equipment as-set or procurement postures be immediately reflected in TAEDP data. Since such decisions were not wholly within the purview of ODCSLOG, it was also recommended that a Study Advisory Group (SAG) be established. Subsequent to study recommendations, a separate organization was established within ODCSLOG with a dedicated mission to improve TAEDP in all respects.

Additionally, it was recommended that the demonstration computer program developed in Phase I be expanded to process the total TAEDP data base and that a number of enhancements to that program be addressed.

Phase II is described on the next seven pages following the outline shown.

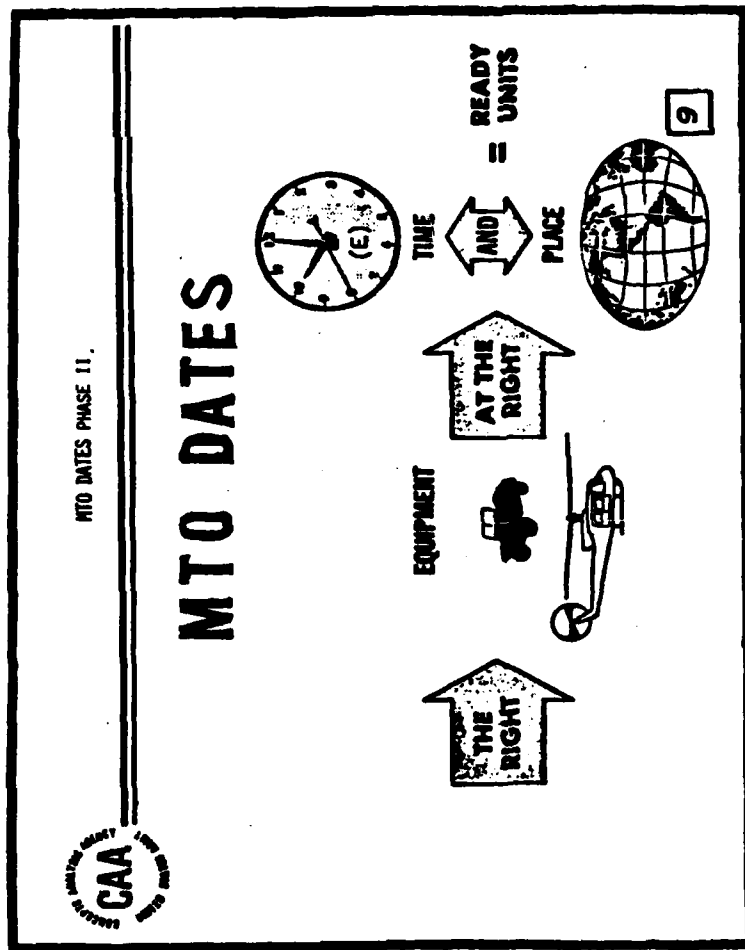
	MITO DATES PHASE II
•	MITO DATES, PHASE II OBJECTIVES
•	PHASE II APPROACH
•	E-DATE MODEL METHODOLOGY
•	E-DATE MODEL ORGANIZATION
•	MITO DATES DATA
•	E-DATES MODEL REDISTRIBUTION OPTIONS
•	SUMMARY OF PHASE II
	<b>8</b>

PHASE II OBJECTIVES

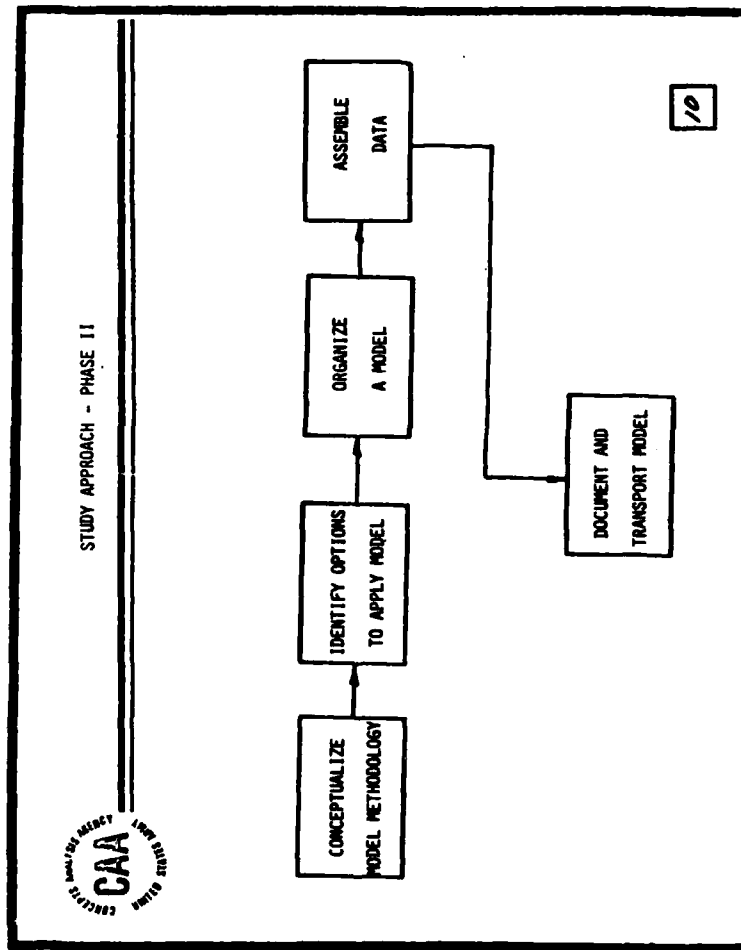
The objectives of Phase II were:

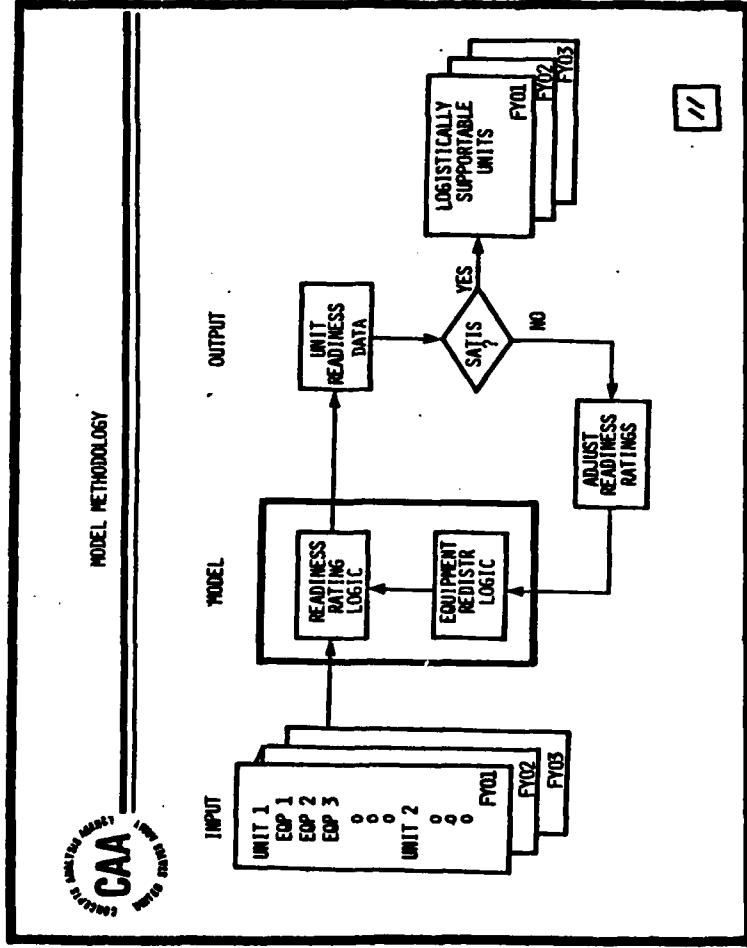
- (1) To expand the demonstration computer developed in Phase I into a model to process the total TAEDP data base and assist in its installation at LEA.
- (2) To address incorporation of the potential computer program enhancements identified in Phase I.
- (3) To assist ODCSLOG with respect to model input data preparation and initial use of the model via the remote terminal in the Pentagon.

The objectives, research, and results from Phase II are presented in the next seven pages.



The sequence of the individual activities comprising the study approach is shown in this figure.



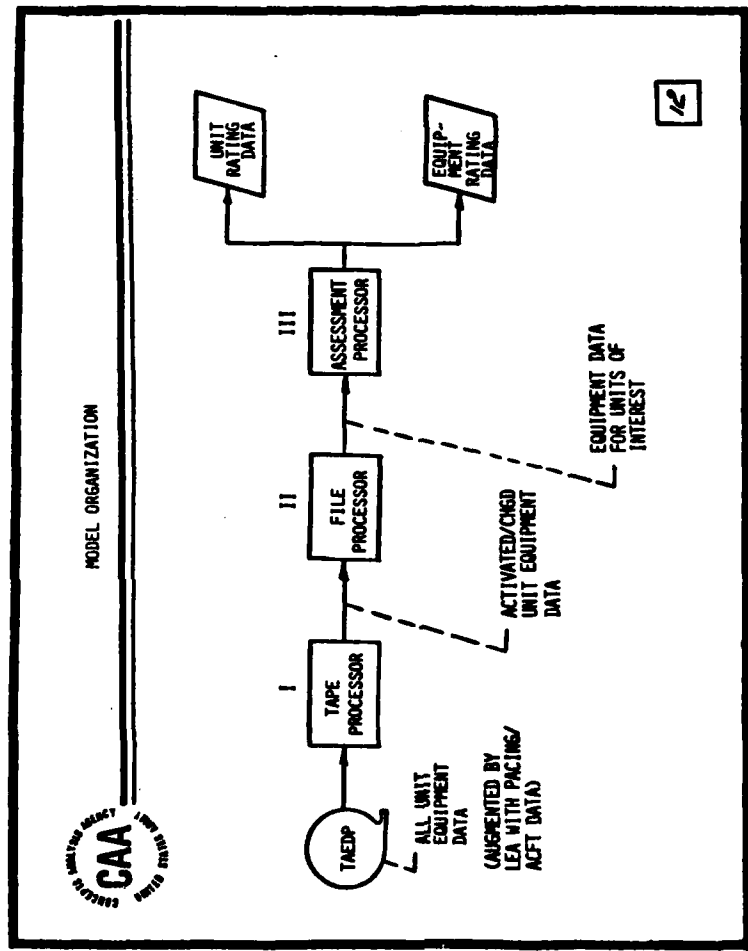


The input to the model is from TAEDP and includes, for the units of interest, the asset and requirement postures for each unit as well as changes to those postures over the 7-year TAEDP period.

The model applies the unit readiness rating logic and equipment redistribution logic selected by the analyst. The output is assessed with respect to individual unit ratings by fiscal year, and ratings within groups of units.

In the event ratings are not satisfactory, adjustments (redistribution) may be made by specifying new parameters to the model (redistribution options are shown in Appendix D).

This process may be repeated until the unit(s) of interest have attained the desired rating, or a decision is made to accept a reduced readiness level.

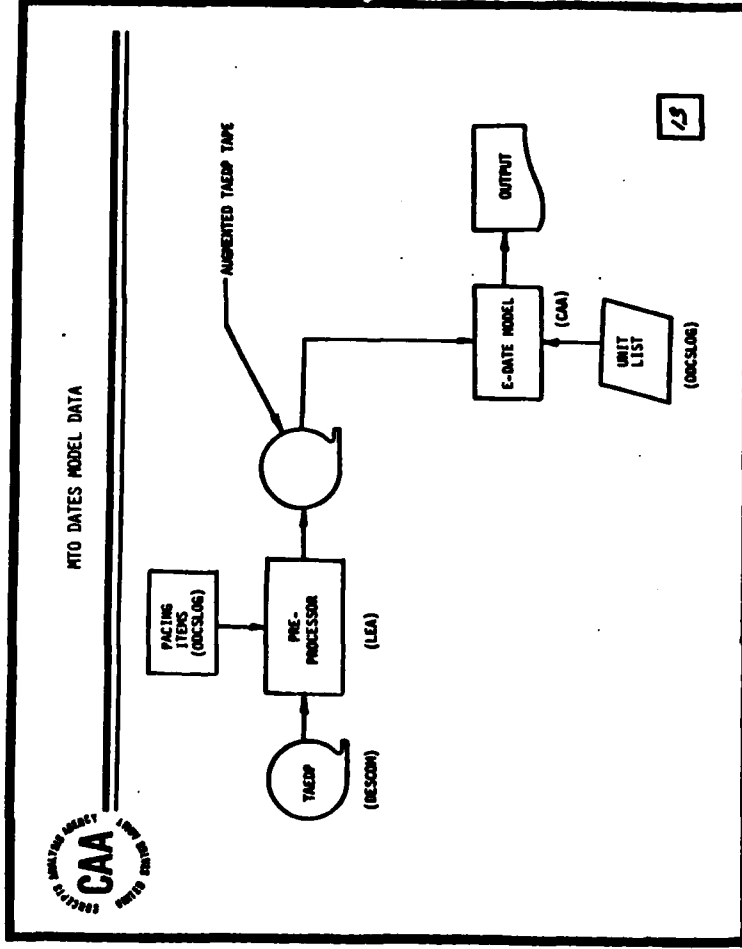


The E-DATE Model consists of three separate, free-standing processors that are exercised sequentially to produce the final rating (and re-rating) outputs.

The Tape Processor selects the data of interest (unit activations, units impacted by CCT) from TAEDP tape and stores the data in separate files.

The File Processor accesses the Tape Processor files, selects a user-designated subset of the data, and reformats it for use by the subsequent Assessment Processor.

The Assessment Processor carries out the rating or redistribution as designated by the user and carries out additional redistributions as also designated by the user. The rating data is generated at both the unit (UIC--unit identification code) and equipment (LIN--line item number) levels.



Development of the MTO DATES model data was a joint effort of the Depot Systems Command (DESCOM), Logistics Evaluation Agency (LEA), and Concepts Analysis Agency (CAA).

DESCOM produces a data extract tape as a part of each TAEDP production cycle. Examination disclosed that this tape contains all data required by the E-DATE Model except information on pacing items. (Pacing items are defined as mission essential, and for rating purposes, had to be specifically identified.)


LEA developed a preprocessor to augment the tape by the addition of the missing data.

CAA developed a second preprocessor, to extract from the augmented tape all of the data required by the E-DATE Model, as well as the model itself.

MODEL REDISTRIBUTION OPTIONS				
OPTION	I	II	III	IV
INDIV UNITS	INDIV UNITS	RATING LEVEL	DWPL RANGE	UNIT GROUPS
PARAMETERS OF OPTION	UIC, FY	C-1 TO C-4	UPRATE RANGE, DOMINATE RANGE	MACOM, SRC ALO TYPE
COMMON PARAMETERS	UPRATE LEVELS TO BE ACHIEVED DOMINATE LEVELS ACCEPTABLE			

The model provides a number of ways to specify units to be up-rated and those that are acceptable for down-rating. Under Option I, individual units may be selected by fiscal year. Options II, III, and IV are used to specify two pools of units--one pool to be up-rated and one pool that is acceptable for down-rating. Each pool of units meets the specification (parameter of option) selected.

Any, or all, of the options may be used to specify the pool. Associated with each pool is the targeted (desired) C-level rating for the pool.



SUMMARY OF PHASE II

15

CURRENT TASKING

- BASIC MODEL (PROGRAMED UNIT ACTIVATIONS)
- CONSOLIDATED CHANGE TABLE (CCT) ENHANCEMENT
- ASSET REDISTRIBUTION AND UNIT SELECTION ENHANCEMENT (DAMPL, SRC, ALO, UNIT TYPES, MAGOM, ADDOM)
- INDIVIDUAL "BILLPAYER" UNIT ENHANCEMENT
- MODEL DOCUMENTATION

FUTURE TASKING

- UNPROGRAMED UNIT ACTIVATION ENHANCEMENT
- ITEM SUBSTITUTION ENHANCEMENT
- DOCUMENTATION UPDATE

Current Tasking

The E-DATE Model was installed at LEA and is operational from the ODCSLOG remote terminal.

The basic model determines the readiness rating of proposed unit activations. The CCT enhancement determines the impact of implementing MTOE changes contained in a 6-month consolidation. The "Billpayer" enhancement identifies units that have relinquished equipment during a redistribution, and the specific quantities of each specific item that were relinquished.

Model documentation is being accomplished under separate contract and should be available in October 1983.

Future Tasking

These two enhancements were requested by the DCSLOG, DA; however, both require considerable prerequisite work at DA level. For example, unprogramed units are not in the SACS file, and hence, not in TAEDP.

APPENDIX A  
STUDY CONTRIBUTORS

1. STUDY TEAM

a. Study Team

Mr. William T. Harkey, Study Director, Force Systems Directorate  
Mr. James J. Connelly

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Mr. J. H. Stauffer

CAA-SR-83-3

c. Depot Systems Command

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Mr. Thomas Cromack

APPENDIX B  
STUDY DIRECTIVE



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

REPLY TO  
ATTENTION OF

18 JAN 1983

DALO-PLF

SUBJECT: Management of MTOE Effective Dates Based on Equipment Availability,  
Phase II (MTO DATES-II)

Director  
US Army Concepts Analysis Agency  
8120 Woodmont Avenue  
Bethesda, Maryland 20814

1. PURPOSE: This directive provides for the continuation of a study group conducting subject study, and modifies the original Study Tasking Directive (DALO-PLF 8250471, 25 Mar 82).
2. STUDY TITLE: As above.
3. BACKGROUND. This study is a follow-on to an analysis conducted for the Director of Plans and Operations, ODCSLOG, during the period 17 October 1981 to 29 January 1982. The title of that analysis was Management of MTOE Effective Dates Based on Equipment Availability, Phase I (MTO DATES-I), and concerned improvement of ODCSLOG's ability to predict reliable effective dates for MTOE changes and unit activations based on equipment availability. MTO DATES-I identified a need to improve the responsiveness of the current process associated with equipment distribution planning. This phase is to address that issue.
4. DA STAFF PROPONENT: Office of the Deputy Chief of Staff for Logistics.
5. STUDY AGENCY: US Army Concepts Analysis Agency (CAA).
6. TERMS OF REFERENCE:
  - a. Problem: AR 310-49 and CSR 310-44 require the DCSLOG to advise DCSOPS regarding the supportability of unit activations and MTOE changes based on availability of equipment assets. The volume of changes dictates the need for an automated methodology to predict the most appropriate effective date (E-DATE) based on equipment availability. The manual procedure used thus far is too cumbersome and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years. The Total Army Equipment Distribution Program (TAEDP) has been institutionalized by ODCSLOG as the basis for management of the process of providing logistical support for MTOE changes and unit activations. The TAEDP data base is compiled from numerous data sources and is controlled by numerous complex and interactive processes. The validity of the TAEDP data base, at any point in time, is dependent upon the content and timeliness of

**DALG-PLF**

**SUBJECT: Management of MTOE Effective Dates Based on Equipment Availability,  
Phase II (MTO DATES-II)**

these data/management information systems. In addition, the current application of TAEDP information to determine the supportability of force structure actions is essentially a manual process.

**b. Purpose:**

(1) To install a CAA-developed computer model (Equipment Distribution Program Assessment Model-EDPA) at the Logistics Evaluation Agency (LEA) to provide a capability to process TAEDP data produced by the Depot Systems Command (DESCOM). This capability will permit ODCSLOG to predict effective dates/unit readiness for MTOE changes and unit activations based on TAEDP data.

(2) To provide technical guidance to ODCSLOG with respect to computer model input data preparation and operation of the EDPA model via the remote terminal facilities to be installed in ODCSLOG.

**c. Objectives:**

(1) To expand the computer program demonstrated for ODCSLOG in Phase I of the MTO DATES Study into a model to process the TAEDP data base, and to provide technical assistance to the LEA in installing this model at LEA.

(2) To address incorporation of the enhancements identified in Phase I as desirable additions to the model.

**d. Study Scope:**

(1) The capability of the computer program developed in Phase I will be expanded to process the TAEDP data base produced by DESCOM.

(2) Accomplishment of the enhancements will be dependent upon feasibility determinations to be made by the study agency and time constraints of Phase II.

(3) The study agency will provide technical guidance to ODCSLOG with respect to integration of input data into a data base in a format suitable for access by the EDPA model.

(4) The study agency will assist ODCSLOG in orientation of personnel with respect to operation of the model from the remote terminal facilities.

**e. Limitations:**

(1) The computer program, developed as a demonstration in MTO DATES-I, which is to be expanded and installed at LEA, will process TAEDP data produced by DESCOM. The reliability of the output from this program will be commensurate with the input data.

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SUBJECT: Management of MTOE Effective Dates Based on Equipment Availability,  
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(2) The assistance to be provided by the study agency concerning data input preparation and model operation will be limited to technical guidance and consultation. Requirements for data availability, data base development and model operation will be provided by the proponent agency.

- f. Time Frame: Current.
- g. Assumptions: None.
- h. Essential Elements of Analysis (EEA):

What measures can be taken to improve the utilization of existing data sources -- Total Army Equipment Distribution Program (TAEDP), Consolidated Change Tables (CCT), and the Army Modernization Information Memorandum (AMIM) with respect to:

- (1) Selection of criteria for assessment of logistic supportability?
- (2) Automation of data handling to expedite the assessment process?
- (3) Procedures for evaluation of logistic supportability alternatives?

- 1. Environmental/Threat Guidance: Not applicable.

#### 7. RESPONSIBILITIES:

The proponent agency will:

a. Prepare and provide to LEA, a data file of pacing and aircraft item data (by SRC).

b. Assure that authoritative support and coordination is made available to the study agency from:

- (1) Depot System Command (DESCOM)

To provide TAEDP data extract tapes for normal distribution to the Logistics Evaluation Agency (LEA).

- (2) Logistics Evaluation Agency (LEA):

To augment TAEDP data extract tapes with pacing and aircraft item information. This will require development of appropriate program to access the file of pacing and aircraft item data (by SRC) and incorporate this data into the basic TAEDP information.

DALO-PLF

SUBJECT: Management of MTOE Effective Dates Based on Equipment Availability,  
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8. REFERENCES:

- a. Total Army Equipment Distribution Program (TAEDP).
- b. Management of MTOE Effective Dates (MTO DATES).
- c. AR 5-5, the Army Study System.

9. ADMINISTRATION:

a. Support:

(1) Funds required for TDY, per diem, overtime, etc., are the responsibility of each study participant.

(2) Milestone Schedule:

- Install model at LEA to assess programed unit activations oven seven-year period covered by TAEDP data base - Completed
- Assist ODCSLOG with delivery of workable pacing and aircraft item data file - Completed
- Develop and install model at LEA to assess impact of MTOE Consolidated Change Table (CCT) - 11 Feb 83
- Assist ODCSLOG with model demonstration via remote terminal facility - \*(see Note)
- Develop and install Asset Redistribution Enhancement with "Bill-Payer" unit selection options - 11 Mar 83
- Develop and install redistribution identification enhancement (individual "Bill-Payer" units and item shortfall summary) - 15 Apr 83
- Final study report - 29 Apr 83
- Final model documentation - 30 Jun 83

\* NOTE - Providing terminal installation is completed within the study timeframe, this assistance will be limited to a maximum of three professional staff days (PSD).

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**SUBJECT: Management of MTOE Effective Dates Based on Equipment Availability  
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**b. Control Procedures:**

(1) The study agency will provide the proponent with a monthly progress status report on installation of the computer model at LEA.

(2) A responsive point of contact from the following organizations will be designated by the study proponent:

ODCSLOG  
ODCSOPS  
ODCSRDA  
ODCSPER

DARCOM  
FORSCOM  
TRADOC

**c. Modification of Prior Tasking Directive:**

Tasking directive, DALO-PLF 8250471, 25 Mar 82, is hereby modified.

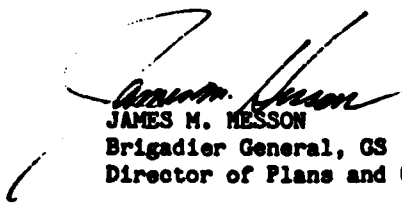
**d. Coordination:**

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

**e. Evaluation:**

Study proponent will prepare a written evaluation of study results in accordance with AR 5-5.

**FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:**

  
JAMES M. HESSON  
Brigadier General, GS  
Director of Plans and Operations

## APPENDIX C

## TOTAL ARMY EQUIPMENT DISTRIBUTION PROGRAM (TAEDP)

C-1. The Total Army Equipment Distribution Program (TAEDP) has been institutionalized by ODCSLOG as the data base that will be used as the planning tool to assess Army's capability to provide equipment requirements for proposed force structure actions. The TAEDP data base is a composite of all Army assets and programed requirements, both on-hand and projected over the 7-year period (current, budget, and POM years) covered by each production of TAEDP. The data base is produced quarterly by the Depot Systems Command (DESCOM), Letterkenny Army Depot, Chambersburg, Pennsylvania. Prior to development of the E-DATE Model during the MTO Dates Study, the assessment of TAEDP data was essentially a manual process. That process was too cumbersome, and simply answered the question whether or not a proposed force structure change could be made in a given fiscal year; it did not provide a range of options over subsequent years.

C-2. The TAEDP data base is compiled from the following major data and management information systems; one of these (continuing balance system expanded (CBS-X)) is, in turn, compiled from 14 additional data systems:

- System for Automating Materiel Plans for Army Materiel (SAMPAM).
- Total Army Authorization Documents System (TAADS).
- Procurement Data Base (PDB).
- Phased Equipment Modernization (PEM).
- Continuing Balance System Expanded (CBS-X).
- Structure and Composition System (SACS).
- Depot Stock Records (DSR).
- SB 700-20 (Army Adopted/Other Items Selected for Authorization/List of Reportable Items).
- SB 710-1-1 (SSN System and Replacement Factors).
- POMCUS (Prepositioned Requirements).
- Maintenance File Maintenance (MFM).

Collectively, these input systems provide information to the TAEDP integrated data base in the categories shown in Figure C-1.

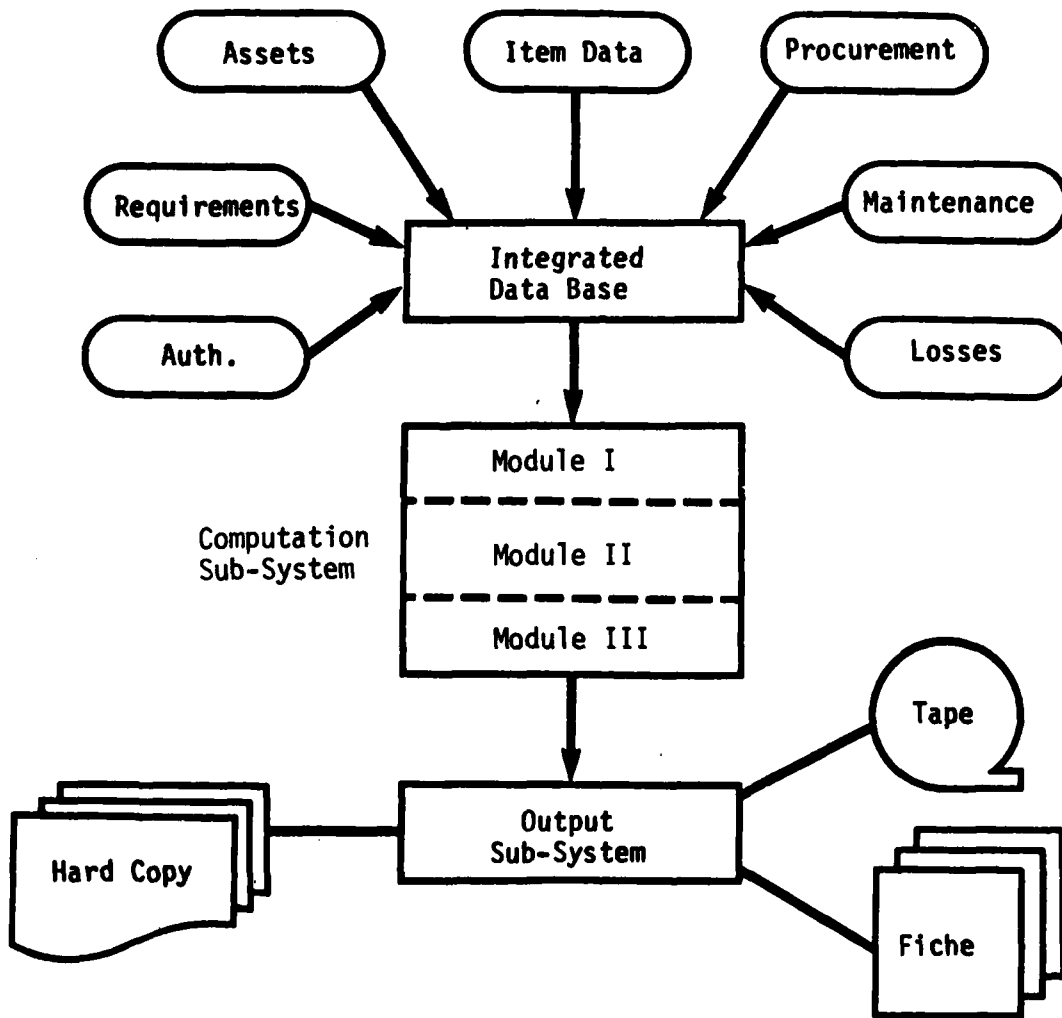


Figure C-1. Total Army Equipment Distribution Program (TAEDP)

C-3. The heart of the TAEDP process is the computation subsystem. As illustrated in Figure C-1, that subsystem consists of three modules.

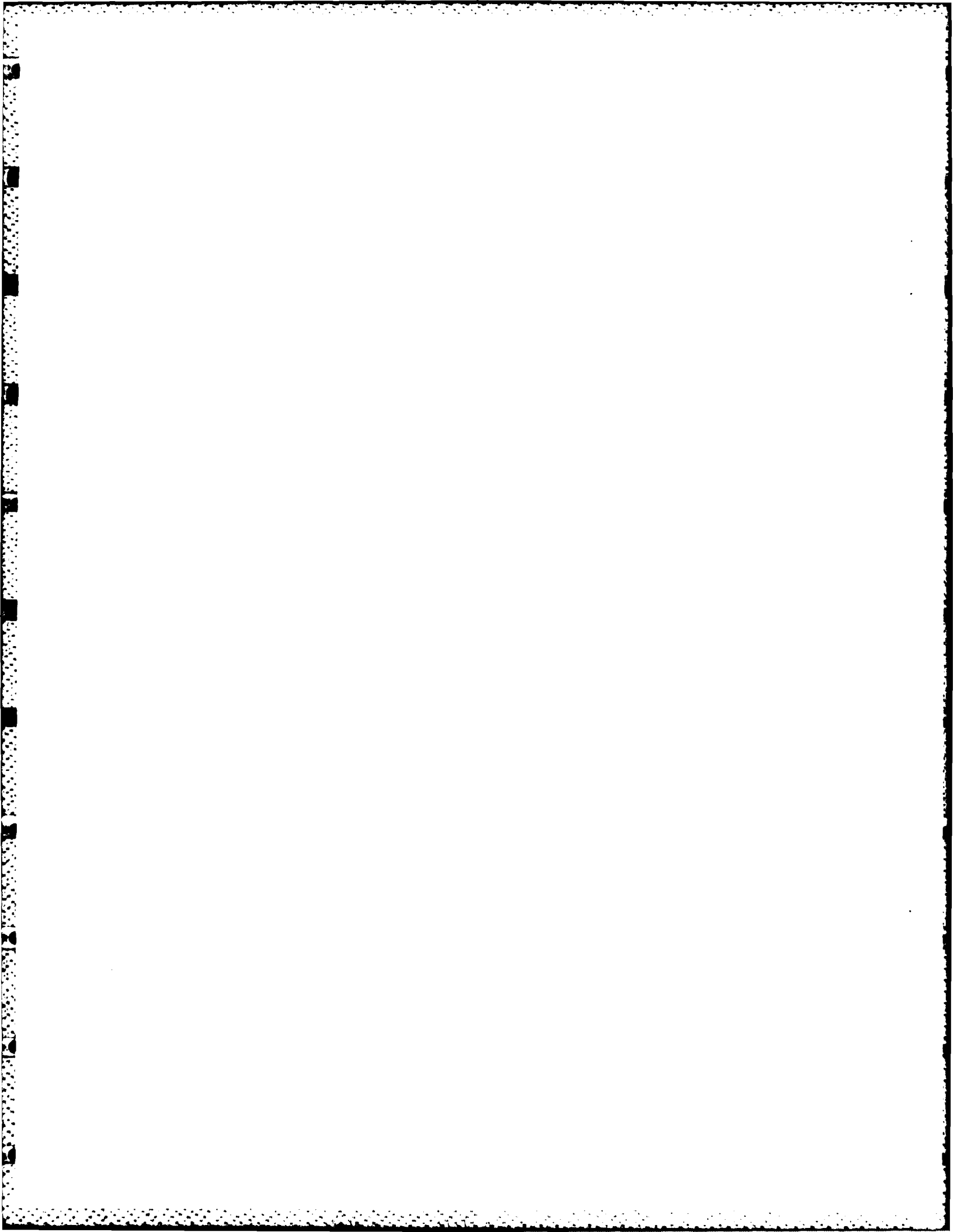
a. Module I. The first module performs what might be termed "house-keeping" chores, i.e., formatting, cross-referencing, verification of line item numbers (LIN), etc.

b. Module II. The second module performs what is referred to as "cross-leveling" by the logistics community. It makes a "paper" assignment of the excesses of the unit to the shortfalls of another. This process is constrained to similar units at the same organizational level--like units within the same major Army commands (MACOM), for example.

c. Module III. After the corrections and adjustments of Modules I and II have completed, the third module distributes all assets (both on-hand and projected) to all Army claimants, both Active and Reserve. Distribution is made strictly in accordance with priorities established in the Department of the Army Master Priority List (DAMPL).

(1) During each TAEDP production cycle, the DESCOM also produces a TAEDP data extract tape, which contains, in accessible form, all data used in the compilation of TAEDP. The purpose of this tape is to afford all TAEDP users access to the basic data so that each can develop proprietary computer programs to contain special purpose reports or outputs, if desired. This extract tape is the basic input to the E-DATE Model developed during the MTO DATES Study. Examination revealed that the extract tape contains all of the data required by the E-DATE Model for the unit rating process, except for information on "pacing" items of equipment and aircraft items. Computational procedures for the rating process, including those pertaining to pacing items, are contained in AR 220-1, Unit Status Reporting System.

(2) Augmentation of the TAEDP data extract tape by the addition of pacing and aircraft item data was accomplished as a joint effort of ODCSLOG, LEA, and CAA. Since the designation of a pacing item is dependent upon various characteristics of the specific unit involved (i.e., unit type, capability, mission, etc), the designations were developed and coordinated at DA level and provided to LEA. CAA determined the specific, physical location in TAEDP data records required to make the data accessible to the E-DATE Model, and LEA developed a computer pre-processor program to insert the additional data at the required location.



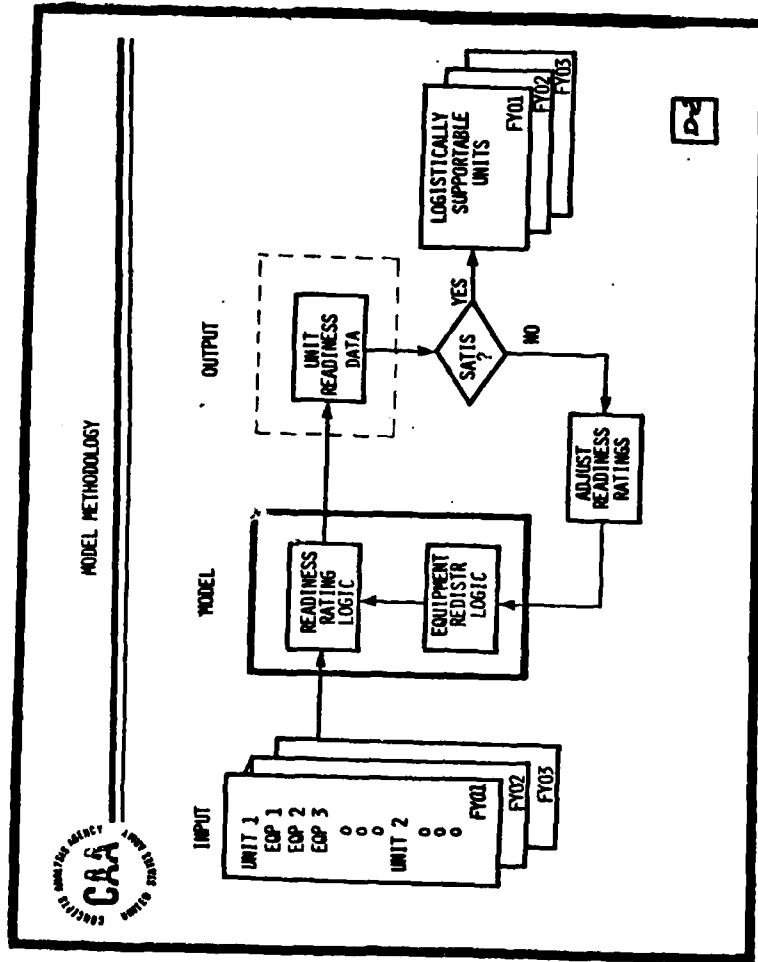


Unit Readiness Data

The unit readiness displays are generated as output from the E-DATE Model. They provide summary data on unit readiness and detailed data on individual items of equipment.

It is the task of the logistics staff officer to (a) carry out an evaluation of the significance of the unit ratings, (b) direct redistribution of assets to arrive at a preferred mix of ratings, and (c) assess the significance of the shifts of individual items of equipment.

The basis for the rating of the units is the rating criteria of AR 220-1, described next.




The assessment processor outputs reflect, in a variety of formats, the calculation of unit readiness based on the unit rating criteria defined in AR 220-1. The rating is applied to all reportable items of equipment in a unit, where reportable item is taken to be one with an equipment readiness code (ERC) of level A (i.e., primary equipment). For purposes of rating, the ERC-A items are further broken down in those items which are pacing (i.e., mission essential) and all other ERC-A items (i.e., nonpacing).

As shown in the table, to achieve a "C-1" rating, a unit must have at least 90 percent of its equipment, each filled to at least the 90 percent level. Simultaneously, the unit must have all (100 percent) of the pacing (mission essential) items of equipment filled to the 90 percent level. The lower levels of C-ratings correspond to the reduced levels of percentage fill as shown in the table. Since all (100 percent) pacing items must have the same rating to establish the unit rating, the lowest rated pacing item controls the rating of the unit. The application of these criteria to an example of unit equipment data is described next.

RATING CRITERIA (AR 220-1)		MINIMUM EQUIPMENT ON HAND	
RATING LEVEL	ALL ITEMS #ITEMS(ALL) %FILL(EA)	PACING ITEMS #ITEMS(ALL) %FILL(EA)	
C-1	90	90	100
C-2	90	80	100
C-3	90	65*	100
C-4		(LESS THAN ABOVE)	

\* 60% FOR AIRCRAFT

D-3




UNIT RATING EXAMPLE

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FY83    XXX0001    CO PETROLEUM SUP

LIN NR	NOMENCLATURE	PACING	RECD	PROJ ON	C-RATING
F39378	CRANE WHL MTD	NO	10	9	C-1
Q34308	RDD ST AW/6RC-160	NO	10	9	C-1
S20027	STLR LOW BED	YES	10	5	C-4
V12141	TANK PUMP	NO	10	9	C-1
X40831	TRK CGO 10T	YES	10	5	C-4
X40951	TRK MKR 10T	NO	10	9	C-1

UNIT C-RATING: C-4



This example illustrates the level of detail available in the output of the basic (rating) portion of the E-DATE Model. A rating is provided for each individual item of equipment, as well as an overall rating for the total unit. In the example, all of the nonpacing items are rated C-1 since 90 percent (9) of the requirement for each is on hand as required by AR 220-1. However, the overall rating is C-4 since only 50 percent of each of the two pacing items are present. (The regulation provides that at least 65 percent must be on hand for a rating higher than C-4.)

The application of the rating criteria to a number of units over the 7 fiscal years of data available from TAEDP is described next in the following six display formats.

UNIT EQUIPMENT READINESS - RATING SUMMARY

UNIT ID	NOVENCLATURE	FY83	FY84	FY85
XX0001	CO PETROLEUM SUP	C-4	C-3	C-2
XX0002	BN CENT AR DIV	C-4	C-3	C-2
XX0003	CO PETROLEUM SUP	C-4	C-3	C-2
XX0004	BN CENT AR DIV	C-4	C-3	C-2

D-5

The rating summary is the principal output of the E-DATE Model. It provides information on the rating of individual units over time and on the patterns of ratings of groups of units.

The variation of the rating over fiscal years reflected the impact of procurement on the availability of assets and consequent unit readiness.


In addition to these basic C-rating values, the E-DATE Model provides supplementary data about the rating on a separate display as described next.

The margin summary provides the logistics staff officer with additional information concerning the unit ratings. The information is represented by the two fractions (in parentheses) accompanying each unit rating.

The first fraction deals with nonpacing items. In the denominator is the total number of types of nonpacing items in the unit. In the numerator is the total number of types of nonpacing items controlling the rating, that is, those items marginally affecting the rating. The second fraction deals with the pacing items in the same manner.

As shown in the figure, none (zero) of the four nonpacing items are controlling the unit rating, but two (both) of the two pacing items are controlling the unit rating.


With the information provided by this display, the logistics staff officer is in a position to consider redistributing the unit ratings to achieve improvement in some units, while accepting a possible reduction in rating of other units. The model generates a display to assist in the redistribution process, as described next.



UNIT EQUIPMENT READINESS - MARGIN SUMMARY

UNIT ID	NOMENCLATURE	FY83	FY84	FY89
XX0001	CO PETROLEUM SUP	C-4 (0/4,2/2)*	C-3 (0/4,2/2)	C-2 (0/4,2/2)
XX0002	BN CENT AR DIV	C-4 ( )	C-3 ( )	C-2 ( )
XX0003	CO PETROLEUM SUP	C-4 ( )	C-3 ( )	C-2 ( )
XX0004	BN CENT AR DIV	C-4 ( )	C-3 ( )	C-2 ( )

\* -(NP-MARGIN/NP-TOTAL, P-MARGIN/P-TOTAL)



UNIT EQUIPMENT READINESS - WORKSHEET

UNIT ID	MONOENCLATURE	FY83	FY84	FY89
XX0001	CO PETROLEUM SUP TAEDP:	C-4	C-3	C-2
	TRIAL:	C-3	C-2	C-2
	NEXT :	C-	C-	C-
XX0002	BR CENT AR DIV TAEDP:	C-4	C-3	C-2
	TRIAL:	C-4	C-4	C-3
	NEXT :	C-	C-	C-
XX0003	CO PETROLEUM SUP TAEDP:	C-4	C-3	C-2
	TRIAL:	C-4	C-3	C-2
	NEXT :	C-	C-	C-

D-7

The worksheet provides the logistics staff officer with a means of specifying those units to be up-rated and those that are acceptable for down-rating in a redistribution being considered. These selections are transferred to a file for direct input to the model.

The display provides multiple lines of data for each unit. One line (TAEDP) gives the unit rating based on the original TAEDP data. Another line (TRIAL) gives the value of rating specified by the logistics staff officer. A last line (NEXT) has blank entries for the rating and is used as a worksheet on which to enter the unit rating specification.

The worksheet provides the basic means for directing the shifts in unit rating. Additional means for specifying the redistribution are discussed later (see descriptions of redistribution options).

As each redistribution is carried out, the E-DATE Model also generates data on the equipment transfers which occur, as described next.

The item transfer summary provides the model user with a summary display of the exchange of equipment among units that occurs during a redistribution. For each LIN involved in the exchange, it indicates:

For up-rated units, the number of each LIN that is short and the number of units in which those shortages exist.


For down-rated units, the number of each LIN that has been located within the Billpayer units and the number of Billpayer units.

The number of each LIN that is still short after the proposed transfer.

In identifying shortages, the E-DATE Model examines all units and accumulates all the shortages. In determining Bill-payers, the model examines the units specified for down-rating in inverse DAMPL order (i.e., lowest priority first) and continues to extract assets from these units until all shortages are satisfied or all the Billpayer units are exhausted. In addition to this summary display of equipment transfers, the E-DATE Model generates unit-by-unit details of the transfer as described next.

EQUIPMENT TRANSFER - ITEM TRANSFER SUMMARY									
FY83									
LIN	LIN NAME	SHORTAGES UNITS	QTY	BILLPAYERS UNITS	QTY	STILL SHORT	QTY	STILL SHORT	QTY
F99378	MIL CRANE	2	2	1	1	1	1	1	1
J09717	FUEL SYS	2	2	1	2	0	0	0	0
J43918	GENR SET	4	4	1	3	1	1	1	1


20



EQUIPMENT TRANSFER - SHORTAGE DETAIL

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FY83




LIN	LIN NAME	SHORT TOTAL		SHORTAGE DETAIL	
		UNITS	QTY	UNIT	QTY
F38378	MIL CRANE	2	2	S00001	1
				S00011	1
J04717	FUEL SYS	2	2	S00001	1
				S00002	1
J43918	GENR SET	4	4	S00001	1
				S00002	1
				S00003	1
				S00004	1

The Shortage detail provides the model user with a unit-by-unit display of each LIN shortage (as shown under "Shortage Detail").

In addition, it shows the number of each LIN that is short and the number of units in which those shortages exist. This is the same information shown in the Item Transfer Summary described on the preceding page.

A comparable level of detail is provided for Billpayer units as described next.



**EQUIPMENT TRANSFER - BILLPAYER DETAIL**

		FY83			
LN	LN NAME	BILLPAYER TOTAL UNITS	QTY	MR	UNIT
					BILLPAYER DETAIL QTY
F39378	MIL CRANE	1	1		B00001 1
J04717	FUEL SYS	1	2		B00001 1
J43918	GENR SET	4	4		B00001 1
					B00002 1
					B00003 1
					B00004 1

D-10

The Billpayer detail provides the model user with a unit-by-unit display of each LIN transferred from a unit selected for down-rating (Billpayer unit).

In addition, it shows the number of each Billpayer LIN and the number of Billpayer units that relinquished those items during the redistribution. This is the same information shown in the Item Transfer Summary (two pages before).

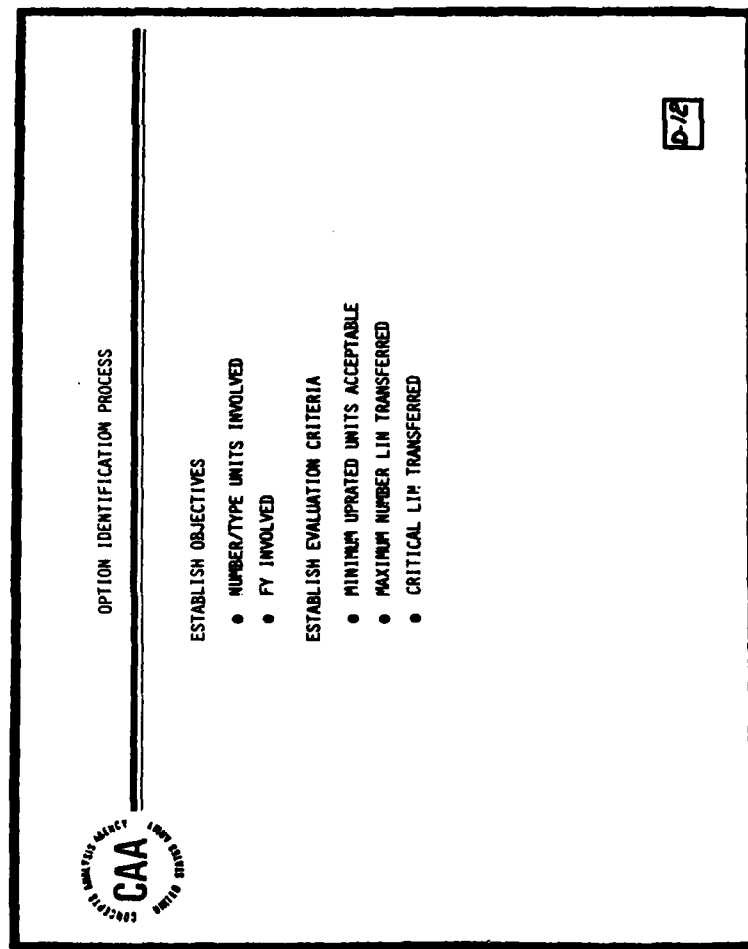
This completes the discussion of the various display formats generated by the E-DATE Model. The content aspects of the displays are described next.

MODEL REDISTRIBUTION OPTIONS			
	I	II	III
OPTION	INDIV UNITS	RATING LEVEL	DAMPL RANGE
PARAMETERS OF OPTION	UIC, FY	C-1 TO C-4	UPRATE RANGE, DOMINATE RANGE
COMMON PARAMETERS		UPRATE LEVELS TO BE ACHIEVED DOMINATE LEVELS ACCEPTABLE	
	IV		
	UNIT GROUPS		
	MACOM, SRC ALO TYPE		

D-11

The model provides a number of ways to specify units to be up-rated and those that are acceptable for lower-rating. Under Option I, individual units may be selected by fiscal year. Options II, III, and IV are used to specify two pools of units--one pool of up-rated units and one pool of units acceptable for down-rating. Each unit in the pool meets all of the selection criteria specified. Where a unit is individually specified by UIC and LIN (under Option I), this individual specification takes precedence (overrides) the pool specification (under Options II, III, and IV.

Associated with each pool is the trial (desired) C-rating for the pool. A summary of the process by which options may be identified is described next.



The process of identification of units under the options provided is one involving a broad understanding of the desired objectives of the redistribution. These objectives will include the number or types of units to be affected and the fiscal years of interest.

In addition, it will be necessary to deal with situations where either the desired redistribution was not completely achieved, in which case some criteria for minimum acceptability must be applied; or alternatively, a redistribution may be completely carried out, but excessive LIN transfers or transfers of critical LIN are involved, in which case criteria for assessing this involvement must be applied. In all cases, the unit identification process is essentially open-ended and will terminate when the judgment is made that the best outcome has been achieved in the present circumstances as reflected in the objectives and evaluation criteria.

This completes the overview of how the E-DATE Model will be applied.

## GLOSSARY

ALO	Authorized Level of Organization
AMIM	Army Modernization Information Memorandum
CAA	US Army Concepts Analysis Agency
CBS-X	Continuing Balance System - Expanded
CCT	Consolidated Change Table
CSR	Chief of Staff Regulation
DA	Department of the Army
DAMPL	Department of Army Master Priority List
DARCOM	Department of the Army Materiel Development and Readiness Command
DESCOM	Depot Systems Command
DSR	Depot Stock Records
E-DATE	Effective Date
E-DATE Model	Effective Date Model
EEA	essential element(s) of analysis
EOH	equipment on hand
ERC	equipment readiness code
FMS	foreign military sales
FORSCOM	US Army Forces Command
LEA	Logistics Evaluation Agency
LIN	line item number
MACOM	major Army command
MFM	maintenance file maintenance
MTO DATES	Management of MTOE Effective Dates Based on Equipment Availability

CAA-SR-83-3

MTOE	Modified Table(s) of Organization and Equipment
ODCSLOG	Office, Deputy Chief of Staff for Logistics
ODCSOPS	Office, Deputy Chief of Staff for Operations and Plans
ODCSRADA	Office, Deputy Chief of Staff for Research, Development and Acquisition
ODCSPER	Office, Deputy Chief of Staff for Personnel
PDB	procurement data base
PEM	phased equipment modernization
POMCUS	prepositioning of materiel configured to unit sets
PSD	personnel staff days
SACS	Structure and Composition System
SAG	Study Advisory Group
SAMPAM	system for automating materiel plans for Army materiel
SCR	substantive change report
SRC	standard requirement code
SSN	standard stock number
TAADS	The Army Authorization Document System
TAEDP	Total Army Equipment Authorization Plan
TDY	temporary duty
TOE	table(s) of organization and equipment
TRADOC	US Army Training and Doctrine Command
UIC	unit identification code
VFDMIS	Vertical Force Development Management Information System

Glossary-2



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for MTOE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY EFFORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for MTOE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY EFFORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for NTOE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY EFFORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for MTOE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY REPORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

(1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.

(2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

(1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.

(2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

(1) The study was confined to development of a model to process the TAEDP data as currently compiled.

(2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

(1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for WTC unit changes, activations, or conversions. The current procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY RESULT** was directed by Mr. William T. Harkey, Force Systems Director.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSO-PS).



**MANAGEMENT OF MTOE EFFECTIVE  
DATES BASED ON EQUIPMENT AVAILABILITY  
(MTO DATES) STUDY**

**ONE SHEET  
STUDY GIST  
CAA-SR-83-3**

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

- (1) Automation of the process of using information available in the Total Army Equipment Distribution Program (TAEDP) is essential if ODCSLOG is to be responsive concerning equipment availability for proposed force structure actions.
- (2) A computer model to process the TAEDP data will provide the logistics community with analytical capabilities that do not currently exist, e.g., consideration of all data over 7 years.

**THE MAIN ASSUMPTIONS** on which the work reported herein rests are as follows:

- (1) The data and management information systems from which the TAEDP data base is compiled are accurate and timely and thus contribute to the validity of the output of the model developed in this study.
- (2) Additional model enhancements will be developed to realize other benefits of automating the process of using TAEDP data.

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

- (1) The study was confined to development of a model to process the TAEDP data as currently compiled.
- (2) Examination of the data and management information systems that are inputs to TAEDP was not within the study scope.

**THE SCOPE OF THE STUDY** was to develop a model to assess Army-wide unit changes, activations, or conversions by processing TAEDP data.

**THE STUDY OBJECTIVES** were:

- (1) To automate the currently manual process of using TAEDP data as a basis to predict unit readiness on effective dates for proposed force structure actions based on equipment availability.

(2) To develop automated procedures to provide ODCSLOG with new capabilities for analysis using the TAEDP data.

(3) To install the model on the computer facility at the Logistics Evaluation Agency (LEA), and to orient ODCSLOG personnel on the use of the model and use of a remote terminal facility installed within the ODCSLOG work area.

**THE BASIC APPROACH** followed in doing this study can be described as follows: TAEDP was designated by the sponsor as the study data source. The data content of TAEDP was examined in detail and compared with information required to determine the readiness condition of a unit as defined by computational procedures contained in AR 220-1, Unit Status Reporting System. TAEDP data shortfalls were supplemented by a mutual effort of ODCSLOG, CAA, and LEA. Using FORTRAN (ASCII) computer programming, CAA then developed a computer program to process the augmented TAEDP data and produce time-phased readiness ratings for proposed unit activations. In addition, a number of model enhancements were developed to provide specific new analytical capabilities.

**THE REASONS FOR PERFORMING THE STUDY** are mainly as follows: ODCSLOG needs an improved method to assess the Army's capability to meet equipment requirements for RTGE unit changes, activations, or conversions. The manual procedure used thus far is too cumbersome, and simply answers the question whether or not a change can be made in a given fiscal year, and does not provide a range of options over subsequent years.

**THE STUDY SPONSOR** was the Director, Plans and Operations, ODCSLOG, DA.

**THE STUDY EFFORT** was directed by Mr. William T. Harkey, Force Systems Directorate.

**COMMENTS AND QUESTIONS** may be directed to CAA, ATTN: Assistant Director for Force Systems (CSCA-FS).

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