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UNITED STATES ARMY
COMBAT DEVELOPMENTS COMMAND

DIRECTORATE OF ORGANIZATION

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

ACN 18610

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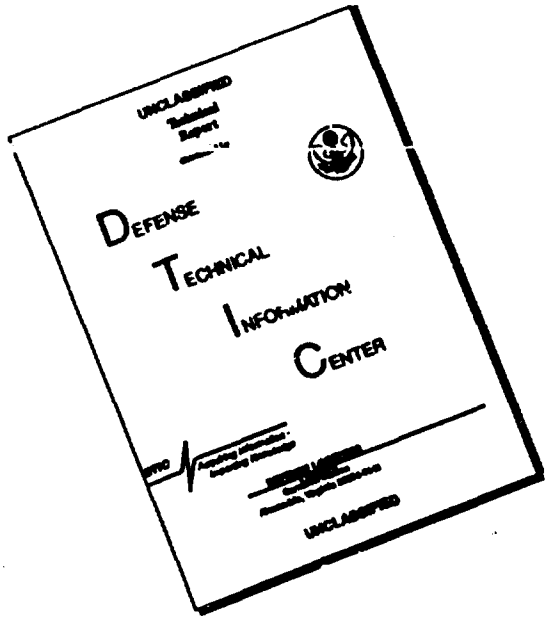

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13. ABSTRACT

Phase I concentrated on ways to improve the system for updating the TOE data bank and published tables.

DD FORM 1 NOV 68 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

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14 KEY WORDS	LINK A		LINK B		LINK C	
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Utilization of TOE						
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Increased Automation of TOE Development						
Development of TOE Changes						

PREFACE

1. The Directorate of Organization, United States Army Combat Developments Command initiated an in-house study of the current TOE system in February 1971. The study is being conducted in two phases. Phase I concentrated on ways to improve the system for updating the TOE data bank and published tables. Phase II will concentrate on ways of expanding the use of the computer in TOE development and bringing the TOE and TAADS systems into synchronization.

2. The study group acknowledges the assistance of and expresses appreciation to:

a. LTC Stephen Strauss and Mr. Robert Lader, OACSFOR, DA for their advice and assistance.

b. The USACDC Intelligence and Control Systems Group and the USACDC Engineer Agency for their participation in the testing of a new system for updating TOE.

c. Members of ADP/MIS Directorate for their technical advice and assistance in conducting the study and in the preparation of the Phase I report.

3. Phase II of the study is scheduled for completion by 1 Dec 1971. Recommendations resulting from Phase I of the study have been submitted to ACSFOR, DA for review and approval.

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SECTION I
INTRODUCTION

1. The Organization and Equipment (O&E) Division, Organization Directorate, HQ USACDC was tasked by the Study Directive at Appendix A to evaluate all phases of TOE development, to include the current system for updating the TOE data bank and published tables. In subsequent discussions the Director of Organization asked the O&E Division to establish how the TOE and TOE changes were used by Department of Army (DA) and by the major field commands.

2. During Phase I of the study, methods were examined for:

a. Expanding the use of the consolidated change table for updating the TOE data bank and published tables.

b. Expanding the use of ADP edit programs.

c. Automating the application of changes.

d. Increasing the use of automatic data processing in TOE development.

e. Reducing the scope and time required for area of interest (AOI) review.

3. Liaison has been established with the Computer Science Corporation (CSC) and the ADP/MIS Directorates' study group, which are jointly conducting a study on a Management Information System for CDC. Included in that study is a section on TOE automation. The proposals and ideas herein have been discussed with this group and with the Command Information Systems Division of the ADP/MIS Directorate.

4. Data for this study was collected by soliciting comments and recommendations for improving the current TOE system from ACSFOR, DA, the Army Security Agency (ASA), and TOE proponents within USACDC (see Appendixes B through M). Applicable regulations and

directives on TOE development have been reviewed. Meetings have been held with elements of OACSFOR, DA, USAMSSA, ASA, USACDC INCS Group, USACDC Engineer Agency, and USACDC ADP/MIS Directorate to discuss problems in the current system and proposals for resolving them. Letters were sent to ACSFOR, DA and the CDC Liaison Officers assigned to CONARC and overseas commands asking how TOE and TOE changes are being used. A test to evaluate the feasibility of a single change system for updating the TOE data bank and published tables has been initiated. The Engineer Agency is conducting a test, using Engineer G series TOE as the test vehicle. The results of the test, which will be completed in Nov 71, will be included in the Phase II study report.

SECTION II
ASSUMPTIONS

1. Present TOE format will not be modified extensively as a result of the TOE Automation Study or by VTAADS.
2. A system for updating the TOE data bank and published TOE will continue to be required.
3. DA will phase out the pre-G series TOE by Jul 73.

SECTION III
UTILIZATION OF TOE

1. Since the introduction of The Army Authorization Document System (TAADS) in 1967, many have questioned the need for a TOE system. Frequently, DA action officers indicate that the TOE is:

a. Only a point of departure for the initial MTOE, and that subsequent MTOE are the result of operational or geographic requirements, issue of new equipment, changes in DA prescribed strength ceilings, or other DA directed changes.

b. Used for forecasting personnel and equipment requirements in the out years, while the MTOE are used to forecast requirements for the near years.

2. To clarify the situation, a letter was dispatched to DA and the CDC liaison officers assigned to CONARC and the overseas commands asking how the TOE and TOE changes are being used. The questions posed and the substance of the replies received are outlined below:

a. The following questions were posed to DA.

1. How are the TOE Published and In-process files used by DA?

DA indicated that the TOE files are used by the Structure and Composition System (SACS), The Army Authorization and Document System (TAADS), the Force Accounting System (FAS), the Basis of Issue Plan (BOIP) system, the Battalion Slice Model, the Life Cycle Management Model (LCMM), and with the DCSPER, DCSOPS, and DCSLOG information systems. DA stated that the TOE files "provide a common data base and the standard language for reflecting TOE requirements, thereby establishing a base for interfacing with the DA Management Information System". In addition the TOE is used in the development of conceptual plans, in structuring forces, in projecting requirements, as a base for developing instructional materiel,

and for the readiness reporting system.

2. How frequently must the published files be updated?

Changes to the TOE data files should be recorded 90 days prior to the effective date. Currently, MOS changes are effective quarterly and LIN changes on a semi-annual basis.

3. How can the TOE and TAADS systems be brought back into synchronization?

"The reason that the TOE system is not used as the basis for current authorizations has been its inability to respond rapidly enough to the many factors which impact on authorizations that cause changes. Such factors include LIN, MOS, MACRIT, BOIP, and organizational changes generated from a variety of sources." To bring the TOE data base back into synchronization with TAADS requires:

(a) A TOE data base that is current and that applies applicable changes 90 days prior to the effective date.

(b) Use of edit and analysis techniques similar to those used for TAADS.

b. The following questions were posed to Force Development action personnel in CONARC and in the overseas commands.

1. For what purpose are TOE used in your command?

As the point of departure for developing an MTOE and for review and updating of MTOE.

2. What percentage of units are organized directly under a TOE?

Ten percent in USAREUR, 15% in Korea (EUSA), less than 1% in CONARC and USARV, and none in USARAL.

3. When CDC publishes a scheduled or consolidated change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?

Any changes published by CDC are considered but not automatically applied. If the change increases strength, the change must be

considered within the theater troop ceiling. If it involves equipment changes or increases in strength, a new MTOE must be submitted.

4. Will the theater orientation of the H series Armored, Infantry, and Infantry (Mechanized) Division TOE reduce the scope and total number of MTOE actions within your command? If so, to what degree?

Scope of changes in MTOE based on H-series tables will be reduced. However, mission requirements, strength ceilings, and local administrative and logistical requirements will continue to generate MTOE actions.

5. If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than a MTOE?

Yes. However, changes in manpower constraints could force many to return to a MTOE as a means of selectively applying reductions.

6. What percentage of revisions to the MTOE are the result of in-country requirements, and what percentage are the result of DA directives on personnel and equipment?

Twenty-five percent of MTOE actions are caused by in-country requirements and 75% are caused by DA actions. Frequency of DA directed changes causes unnecessary turbulence and confusion in the field.

3. Based on the replies outlined above, it can be concluded that the TOE files are required as a base for in-putting organizational data into the DA Management Information System. TOE must be maintained in a timely manner in order to insure an accurate projection of requirements and to serve as a driving force for the authorization system. Less than 15% of the TOE units are organized directly

under a TOE. The current authorization system, DA strength ceilings, and local mission requirements make it necessary to publish detailed MTOE documents for a majority of the units in the Army. Copies of the DA and liaison officer responses are at Appendices B through H.

SECTION IV

UPDATING OF TOE

1. The TOE data bank requires continuing update to insure that ADP runs using this file as a source of information reflect accurately the personnel and equipment requirements of the Army in the field. Updating of the data bank and published tables is now accomplished by publication of a consolidated or a scheduled TOE change.

2. The consolidated change table reflects DA directed changes that are applicable to many TOE. These include DA directed MOS, grade, branch, LIN, and one-for-one equipment changes. Since consolidated changes contain only changes directed by DA, they do not require DA staffing and approval. A consolidated change currently requires 4-6 months to develop and prepare for publication. CDC currently publishes an average of two consolidated changes per year.

3. Scheduled TOE changes cover a broad spectrum. For example, changes in organizational concept, personnel increases, and introduction of equipment that affects a unit's mission, mobility, capability, or basis of allocation, all would be incorporated in a scheduled TOE change. These changes are developed, justified, reviewed, and staffed in the same manner as a new or revised TOE. A scheduled change currently requires about nine months to prepare, publish and distribute.

4. A check of one hundred G series TOE published in 1966-67 showed that only 25% of them had been updated by a scheduled change. The other 75% had been updated by consolidated changes.

5. Having two systems for updating published TOE is redundant and uneconomical. A new system which combines the best features of both and which is responsive to DA requirements is needed as soon

as possible. Such a system must provide for:

a. Update of the TCE data file on a continuing basis.

b. Publication of hard copies changes on a semi-annual basis to insure timely update of the published tables.

c. The expedited development, processing, and review of changes requiring DA approval.

6. Continuing update of the TOE data bank can be achieved by establishing a "suspense jacket" or transaction file in the TOE for storing changes. Such a file would be identified by prefix "99". DA directed and approved changes would be entered in such a file on a continuing basis. The changes in this "suspense jacket" would be reflected in the monthly tape that is extracted from the published file and furnished USAMSSA. DA could use the data in the "suspense jacket" in its computations. This proposal was discussed informally with ACSFOR and USAMSSA representatives on 5 May 71. Programs such as FAS, SACS, and TAADS would require modification to accomodate such a change in the TOE file. Cost and time required by USAMSSA to modify these programs would be estimated after CDC's proposal has been approved by DA.

7. The published tables require update on a scheduled basis. Publication of hard copy changes would be accomplished on a semi-annual basis. Cut off dates of 30 June and 31 December appear to be the most feasible. The 31 December cut off would provide a hard copy change to all applicable TOE prior to the DOD budget apportionment and the publication of the Program Operating Memorandum (POM). Hard copy changes require 45-60 days to process, publish, and distribute. Changes sent to TAG during January would be in the field by 1 April. They would therefore be available to the DA staff for the budget apportionment in April

or May and on 1 June when the POM is published. The POM provides budget guidance for the fiscal year starting 13 months later. MOS and LIN changes effective on 1 July and 1 January would also be in the field 90 days prior to their effective date (1 Apr and 1 Oct). Changes required on an expedited basis could be processed and published separately.

8. TOE changes that require DA review and approval would be submitted to ACSFOR as draft changes with an abbreviated narrative such as that used by CDC in developing the ASTRO and TRICAP division tables. Those changes that are approved by DA would then be entered in the suspense jacket and published in the next semi-annual change.

9. Adoption of this proposal would require changes to AR 310-31 and AR 611-1. Proposed changes are outlined at Appendix O and P. DCSPER's current system of scheduling effective dates for personnel changes on a quarterly basis should be brought into synchronization with the semi-annual system used for effecting LIN changes. Implementation of a semi-annual change system could start within six months of DA approval of the concept. Policy and procedures for a single change system will be developed based on the results of the test being run by the Engineer Agency.

10. This proposal would not impact on the life cycle management model outlined in AR 11-25 or in CDC Pam 11-25.

SECTION V
EDIT PROGRAMS

1. Edit programs provide a means of flagging errors in a TOE document. Such a program provides a means for comparing various elements of a TOE document against a reference data base, and for flagging discrepancies, CDC currently uses some edit programs, but much of the review of TOE documents is still done manually.

2. A review of the edit programs used by DA in their review and staffing of MTOE indicates several potential areas for expanding the machine review of TOE. Edit programs developed by the Maintenance Agency and ICAS are also being examined for possible use in a more comprehensive edit program. The current edit programs used by CDC provide an ideal base for building a more comprehensive set of edit programs. The elements that should be included in a new set of edit programs are listed below:

a. Equipment edits.

(1) Using SB 700-20 as a base, check for obsolete LIN, standard B items, CTA items and expandables.

(2) Using AR 310-34, check for inclusion of standard items.

(3) Using PEMA Items Basic List (PIBL), flag DA controlled items.

(4) Using USAMSSA's Basis of Issue Plan (BOIP) tape, flag BOIP that should be applied.

(5) Using AR 725-1, build an edit tape that will flag sets and assemblages that must have secondary items identified as separate LIN.

(6) Incorporate current program for checking equipment remarks and personal items (Individual weapons, bayonets and gas masks.)

b. Personnel edits.

(1) Using the PERSINCOM tape check for obsolete and controlled MOS's.

(2) Using AR 570-2 check positions covered by MACRIT Edit programs currently available for cooks and supply clerks would be incorporated in this part of the edit program. MACRIT programs developed by the Maintenance Agency may also be incorporated.

(3) After edit programs have been developed and debugged, the program should be expanded to provide for automatic deletion and replacement of one-for-one LIN and MOS changes.

4. CDC's ADP/MIS Directorate has concurred in the feasibility of expanding the current set of edit programs. A request has been submitted to that directorate for the equipment portion of this program. An outline of the personnel portion of the edit program will be furnished NLT 15 Jul 71.

SECTION VI
INCREASED AUTOMATION OF TOE DEVELOPMENT

1. Other areas of TOE development that appear amenable to automation are listed below. These areas will be examined during Phase II of this study.

a. Narrative documentation for new and revised TOE, and TOE changes requiring DA review and approval.

b. Status reporting, and an automated control system.

c. Costing of personnel and equipment in TOE.

2. Several of the TOE proponents recommend that an attempt be made to automate the supporting narrative for TOE actions. Many of the entries in a draft plan TOE are based on an approved MACRIT, BOI, AR or special letter of authorization. Development of the edit program outlined in Section V will incorporate much of this information in the data base. For example, the program for checking MACRIT computations, the BOIP file to check the application of BOIP, and the program based on AR 725-1 which outlines the sets and assemblages which must have major components broken out will be in the data base when the new edit programs are completed. It is estimated that the computer could be used in the preparation of about 75% of the supporting narrative. The remaining 25% would have to be prepared manually.

3. An automated status reporting system appears feasible. Such a system could provide the status of TOE actions on a routine basis to include an audit trail of milestones that have been passed. A program recently developed by ADP/MIS Directorate should be tested during FY 72. Experience gained from this test could then be used to develop an automated control system. The test should be run in parallel with the manual (green card) system currently used by the

Organization Directorate for internal control of TOE. An automated control system would provide an ADP data base that could be used to determine quickly how much time is required to perform certain steps during the development process; identify TOE ahead of, on, or behind schedule; and provide status reports on a scheduled basis for supervisory and action personnel.

4. Appendix H of AR 310-31 requires submission of a personnel and equipment analysis with draft plan TOE submitted to DA. The analysis compares the new, revised or TOE change with a comparable TOE in the published file. This cost data is supposed to be provided as part of the supporting narrative. This requirement, however, has never been implemented because of problems in establishing realistic personnel and equipment costs. For example, personnel costs based on Appendix B to AR 37-2 will cost each man based on his grade or rank. No consideration is given to cost of training a man for his MOS career field. The same problem occurs in the area of equipment costs. The SB 700-20 is the most widely used reference for costing equipment; yet, it often reflects several costs for the same item of equipment. These different costs are based on the point in time that certain pieces of equipment were brought. DCSLOG uses acquisition cost when budgeting for new buys. Due to inflation these costs are often 25-30% higher than those listed in SB 700-20 for the same item of equipment. Efforts currently underway within the Army to cost personnel and equipment include the following:

a. ACSFOR and AVCSA are co-sponsoring an Engineer Strategic Studies Group (ESSG) effort to develop a computer model to cost personnel and equipment in a force by category (i.e., combat, combat support, combat service support, command and control,

intelligence, maintenance, supply, etc.)

b. Systems Analysis Group (SAG) is developing programs that will cost personnel and equipment for forces under consideration in the CONAF study. Currently, SAG has a program that will cost our some 400 major items of equipment. These 400 items normally cover 90% of the cost of equipping field Army units and 75% of the cost of equipping communications zone or STRATCOM units.

c. The Resupply Requirements for the Army in the Field (REREQ) computer programs being developed for CDC by Research Analysis Corporation (RAC) will include a capability to cost units or forces based on data drawn from DA approved sources.

d. The Command Information System Study being conducted for CDC by Computer Science Corporation (CSC) will include techniques for extending and accumulating personnel and equipment costs that are acceptable to DA in their design of a CDC Management Information System. The ESSG, SAG, or REREQ programs now under development may well provide the means for costing personnel and equipment in the TOE.

e. Organization Directorate is monitoring all these costing efforts with a view toward selecting the best one for use in evaluating new or revised TOE and TOE changes.

SECTION VII
AREA OF INTEREST REVIEW OF TOE ACTIONS

1. Elements of USAMC and CONARC currently review new and revised TOE and scheduled TOE changes as follows:

a. During Center Team review of the draft plan TOE or TOE change.

b. During area of interest (AOI) review.

c. After publication of the TOE or TOE change. (Post publication review).

2. This multiple review of scheduled changes to TOE is time consuming and redundant. Often the change is outdated before it is published. Elimination of AOI review of TOE changes would:

a. Reduce reproduction costs. Currently 60 copies of a proposed change are reproduced. Elimination of AOI would reduce this to eight copies.

b. Reduce review time for proposed changes by approximately 30 days. CONARC and EARC review currently requires about 60 days (this includes reproduction and distribution time). Elimination of AOI would cut review time to an average of 30 days, which is the time required for DA staffing and approval.

c. Result in a reduction of the time required to prepare and process applicable changes to TOE.

3. A majority of the AOI comments on TOE changes deal with:

a. Incorrect LIN and MOS's. These errors in the future should be identified by the new edit programs that are now under development.

b. Nomenclature of tool sets and breakout of secondary items of equipment. These errors should also be flagged by the new edit program.

c. Recommendations for personnel and equipment increases. Such recommendations are based generally on the often parochial views of the reviewer. These recommendations frequently cannot be

adopted because of personnel and equipment constraints.

4. DA studies conducted of the TAADS system indicate that the majority of the headquarters reviewing MTOE actions concentrated on an editorial review of LIN, MOS, nomenclature, and job titles. Since computer programs have been developed by DA to review, flag, and in many cases correct such errors, review by intervening headquarters became meaningless and redundant. If the TOE system is to become more responsive to change, similar action must be taken to eliminate unnecessary review of TOE changes. AOI review of new and revised TOE would be continued. Ways to further expedite review of these TOE actions will be considered during Phase II of the study.

SECTION VIII
DEVELOPMENT OF TOE CHANGES

1. CDC is currently working to eliminate a nine month backlog of DA directed changes to TOE. Consolidated Change Table 300-48, which will be completed by 1 July 1971, will incorporate all of DA directed changes that have an effective date through 1 Oct 71.

2. The current backlog of consolidated changes can be attributed to this:

a. Priority placed on H-series TOE during CY 70.

b. Increase in scope. Prior to July 69, the consolidated change updated only the personnel section of the TOE.

c. Technical problems encountered when CDC assumed responsibility for ADP support of TOE from USAMSSA.

d. Manual and administrative procedures used in preparing and processing consolidated changes.

3. Personnel who have worked primarily on consolidated change tables over the past few years have done a tremendous job in spite of the low priority assigned to this task. To make any new system for updating TOE effective will require recognition in the TOE schedule of the workload placed on the desk officers, more responsive ADP support of changes, and a minimum of three people to process changes.

4. A single change system would function as follows:

a. Input for DA directed changes would originate within the Organization Directorate. Changes involving the organizational concept, PEMA equipment and strength increases could originate at either proponent agency/institute or Hq, CDC. The latter type changes if developed at Hq, CDC would be coordinated with the proponent agency/institute.

b. Development and processing of DA directed changes.

(1) Organization Directorate would obtain a worksheet which reflects the basic TOE with all published changes applied, a retrieval which identifies the paragraph and line of all TOE affected by DA directed changes, and an edit printout flagging items which the desk officer should review.

(2) The desk officer would post the worksheet and one record copy with applicable changes. This would include any administrative errors identified during post publication review. The TOE schedule would allow the action officer one man day for every ten TOE the action desk is responsible for.

(3) After the worksheet has been reviewed it would be sent to the Data Processing Field Office (DPFO) for entry on the "suspense" or transaction file. The action desk would retain the record copy of the change.

c. Processing of changes requiring DA approval would originate as follows:

(1) Proponents would be provided four copies of about 25% of the TOE they are responsible for within 30 days of the cut off date of the last change. To this printout they would post any recommended changes in black ink that do not increase PEMA or personnel strength or which do not apply changes in the organizational concept. In green they would post changes that fall in the exception categories listed above. An abbreviated narrative would be provided for these items. When applicable, these changes would be coordinated with other elements within the command that are affected by the change. The worksheet would be forwarded to Hq, CDC in two copies.

(2) Upon receipt by this Hq, the proposed change would be reviewed. Those changes which do not require DA approval and which are concurred in by this Hq's would be entered on the suspense

file; those requiring DA approval would be reviewed, and if concurred in by this Hq's would be sent to DA for approval. Proponents would be encouraged to limit recommendations for organizational changes to new and revised TOE.

(3) Changes not requiring DA approval would be entered in the "suspense jacket".

d. As of 30 Jun and 31 Dec of each year, all suspense jackets containing changes would be cut off and hard copy printouts of a numbered change provided the Organization Directorate.

e. Each change would be reviewed by the action desk against the record copy. Those that are correct would then be processed for dispatch to TAG for publication. Changes not considered significant would be held in the suspense file. A new suspense jacket would be opened for those TOE which had a numbered change sent to TAG for publication. See Appendix N for a schematic outline of the new change system.

f. On an exception basis, changes requiring publication of a hard copy change on an expedited bases could be processed and sent to TAG separately.

g. TOE scheduled for review by proponents within a particular six month period would include all component tables of a division, separate brigade, groups or separate command.

SECTION IX
CONCLUSIONS

1. The TOE data bank and published tables are required as a base for inputting organizational data into the DA Management Information System. They must be maintained on a timely basis to insure an accurate projection of requirements and to serve as a driving force for the authorization system.

2. The present system for updating the TOE data bank and published tables by publication of a consolidated or scheduled TOE change is redundant and inefficient.

3. A single change system which updates the data bank on a continuing basis and published tables on a semi-annual basis appears feasible. Tests now underway with the Engineer Agency will identify any problem areas and assist in developing policy and procedures for a single change system.

4. The current system for applying DA directed personnel (MOS and grade) changes to TOE should be changed from a quarterly to a semi-annual system. A semi-annual system is now used for LIN equipment changes.

5. Current edit programs can be expanded so they can identify personnel and equipment errors, check for application of BOI, verify MACRIT computations, and flag controlled MOS and equipment. At a later time this program can be expanded so it will automatically delete obsolete one-for-one LIN and MOS's and enter the new information.

6. The preparation of supporting narrative, TOE status reporting and control systems, and an effective system for costing personnel and equipment should be considered during Phase II of this study. Standardizing position titles and standard remarks used in the TOE and MTOE systems also requires consideration.

7. Area of interest review of changes proposed by TOE proponents is redundant, uneconomical, and time consuming. Review of proposed changes should be accomplished at center team level.

SECTION X
RECOMMENDATIONS

1. That a letter be forwarded to DA recommending:

a. That a single change system be established within six months after DA approval of the concept.

b. That the requirement to conduct area of interest review of all TOE changes be rescinded, and that only changes with major personnel and equipment implications receive area of interest review.

c. That the effective dates for DA directed personnel changes be changed from a quarterly to a semi-annual basis.

2. That during Phase II of the study, effort be concentrated on:

a. Refining edit programs and procedures for a single change system.

b. Automation of supporting narrative.

c. Development of an effective costing system.

d. Standardizing position titles, abbreviations, and remarks used in TOE.

e. Liberalizing and simplifying procedures under which individuals may submit recommended changes to TOE.

f. Identification of ten areas in the TOE system in most need of improvement.

g. Bringing the TOE system and VTAADS into closer synchronization.

h. Review of procedures used in developing and processing for publication new and revised TOE, to include the feed back system and the procedures used to inform the field of changes in policy and procedure.

STUDY PLAN

APPENDIX A

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
CDCDO	Combat Developments Study Plan: "Quality Improvement of the TOE System

TO Chief, O&E Division FROM Director of Organization DATE 2 FEB 1971 CMT 1

Mr. Totolo/44524/dss

1. REFERENCES: See Inclosure 1.

2. PURPOSE:

a. To evaluate all phases of TOE development to include the current system for updating the TOE data bank and published tables.

b. To develop recommendations for improving the quality of TOE, to include consideration of methods for accelerating the preparation, processing and timely publication of changes.

3. TERMS OF REFERENCE:

a. Problem: In seeking methods to obtain greater efficiency and improvement in the TOE processing system, it is envisioned that data automation can be expanded to encompass additional phases of the development and processing system. In addition, greater productivity may be realized.

b. Problem background: See Inclosure 2.

c. Impact of Problem: See Inclosure 3.

d. Environment: TOE are developed for worldwide application. Selected TOE, however, are oriented toward specific theaters of operation or geographical areas of the world.

e. Study Objectives:

(1) To improve TOE processing procedures.

(2) To improve procedures for accelerating the preparation, processing and publication of separate and consolidated changes.

f. Scope: The study will consider and include, as appropriate:

(1) An appraisal of the level of effort and the type of new programs which must be undertaken in representative areas using the following documents:

(a) Applicable ARs.

(b) Applicable CDC policy and procedure for supporting documents.

(c) Life Cycle Management Model (DA/CDC).

(d) USACDC TOE Management Information System (ACN 16979).

(e) Current ADP Processing Procedures and Programming.

(2) An assessment of the Directorate of Organization capability to meet the requirements identified below:

(a) Consolidated Changes.

(b) Cost Analysis Data.

(c) Automated application of DA directed changes.

(d) Method to update pre "G" series TOE by automation.

(e) Relevancy of TOE format.

(f) Section I TOE-ADP vs MTST.

(g) A more responsive method for processing TOE at the action desks.

(h) TOE automation study in the light of TOE development procedures.

(i) Value of AOI review, and methods to expedite AOI review if required.

(j) Utilization of TOE analyst and administrative personnel.

(k) Automated application of MACRIT and BOI to TOE.

(l) Consider methods whereby consolidated change can be better utilized for updating TOE data bank and published TOE.

(3) Study conclusion, which will include as appropriate:

(a) Identification of changes necessary to provide the Directorate of Organization the capability to meet requirements of TOE processing.

(b) A more definitive description of the role and capability of the CDC ADP system.

(c) An analysis of the impact upon other support agencies as a result of a TOE improvement program.

(d) A tabular comparison of the current TOE system and the proposed system as an indication of the improvements realized through implementation of proposed changes to the system.

(e) Technique to compute workload and select the proper MOS(s) and standard of grade authorization to be included in TOE.

4. CRITERION: A comparison of resource savings and capability improvements which can be realized through implementation of the proposed changes against resources and capabilities of the current system.

5. Study recommendations will include but are not limited to:

a. Designing or tailoring a TOE processing system capable of accomplishing those tasks identified in paragraphs 3f(1) and 3f(2) above.

b. Identifying personnel requirements for implementation of the improved system.

c. Establishing new priorities.

d. Constraints:

(1) To cause the least turbulence when implemented.

(2) The analysis of ADP equipment shall be limited to existing hardware.

(3) TOE improvements should be realized without a major reprogramming effort.

e. Assumptions:

(1) DA will continue to look to this command for all TOE matters exclusive of MTOE and ASA TOE (32 series).

(2) DA will investigate the source of cost listings and their possible application to TOE cost analysis.

f. Essential Elements of Analysis: See Inclosure 4.

g. Methodology: See Inclosure 5.

h. Alternatives: See Inclosure 6.

i. Measure of Effectiveness: The primary measures of effectiveness are the capabilities of CDC to:

CDCDO
SUBJECT: Combat Developments Study Plan: Quality Improvement of the TOE System

(1) Develop methods whereby consolidated changes can be better utilized for updating the TOE data bank and published TOE.

(2) Improve ability of command to maintain the TOE data bank and current TOE in an updated condition.

(3) Expand ADP to encompass all phases of TOE.

(4) Expedite the application of approved personnel and equipment changes in TOE.

h. Related actions:

(1) USACDC Management Information System, ACN 16979.

(2) USACDCCSG TOE Symposium, September 1969.

(3) USACDC Reserve Component Study, ACN 18007.

6. SUPPORT AND RESOURCE REQUIREMENTS: The study will be conducted as an in-house effort of the Directorate of Organization. The level of effort to be expended for the conduct of the study is estimated to be 6 man-months over a 3-month period.

7. ADMINISTRATION:

a. Study Schedule.

(1) Initial IPR - 23 March 71.

(2) Follow up IPR - o/a 21 April 71.

(3) A detailed schedule is contained at Inclosure 7.

b. Study Outline: See Inclosure 8.

c. Coordination and other communications: Coordination and communications will be accomplished as provided in USACDC Regulation 71-1. Coordination will be effected with:

(1) OACSFOR.

(2) USACDC ADP/MIS.

2 FEB 1971

CDCDO
SUBJECT: Combat Developments Study Plan: Quality Improvement of the TOE System

(3) USACDC Institutes/Groups and Agencies.

(4) USACDC Data Processing Field Office.

d. Study project officer: LTC W. O. Knowles.

8. CORRELATION: TOE Automation Study (ACN 16979) and Reserve Component Study (ACN 18007).

RIFFE

8 Incl
as

Cy furn:
Dir, ADP/MIS (3 Cys)
Chief, Auth Div (2 Cys)
Chief, P&P Div (2 Cys)

ADDENDUM

Paragraph 3f(2) is amended by adding a subpara (m) as follows:

"Consider methods, procedures and the practicability of utilizing consolidated change tables to reflect routine changes to TOE (i.e., change not involving an increase in personnel and PEMA costs)."

JAMES L. RIFFE, COL, GS
Director of Organization
43313

REFERENCES

1. C-1, USACDC PAM 71-16, Combat Development Study Writing Guide, 17 Jul 70.
2. AR 310-31, Management System for TOE (The TOE System).
3. AR 310-34, Equipment Authorization Policies and Criteria.
4. AR 310-49, The Army Authorization Document System (TAADS).
5. AR 570-2, O&E Authorization Tables - Personnel.
6. AR 611-01, Manual of Commissioned Officer Military Occupation Specialty. (MOS)
7. AR 611-112, Manual of Warrant Officers Military Occupation Specialty (MOS)
8. AR 611-201, Manual of Enlisted Military Occupation Specialty (MOS)
9. DA PAM 11-25, Life Cycle Management Model for Army Systems.
10. USACDC Reg 71-3, Combat Development Studies.
11. USACDC PAM 11-25, Life Cycle Management Model.
12. USACDC PAM 71-3, Management Information System.
13. USACDC 71-1, Force Development Doctrinal Study Program Handbook
14. MFR FOR: OACSFOR Director, Organization, Unit Training and Readiness.
15. Audit of TOE Processing Function, Directorate of Organization, 24 November 1969.

PROBLEM BACKGROUND

1. On 1 December 1970, a conference was conducted at the Directorate of Organization, to discuss possible improvement of TOE system. The conference was attended by representatives of ACSFOR, DA; ADP/MIS; and by the Director of Organization and members of O&E Division.

2. The following issues were discussed:

   a. Status and acceleration of consolidated changes.

   b. Cost analysis during development of TOE.

   c. Correction of costly/obvious errors in TOE.

   d. Automated TOE files.

   e. Quality improvement in TOE system.

3. Discussion: One of the proposals was to accelerate the consolidated changes. It was recognized that CDC is approximately three quarters behind in developing the consolidated change. Problem areas such as low priority, ADP machine difficulties and administrative errors were pointed out. Acceleration of consolidated changes requires the establishment of a high priority which must be reflected in the Program Schedule for Preparation and Processing of TOE. Informal information received from DA indicates that cost analysis will be included in future TOE. DA is investigating the source of cost listings and their possible application to TOE cost analysis. This would give DA a comparison of personnel and equipment costs between current and proposed TOE.

4. BOIP Automation - The processing of Basis of Issue Plans (BOIP) is currently a completely manual process. DA is placing increased emphasis on the accuracy and completeness of these Plans. Automated application of approved changes in MOS, LIN, BOIP and MACRIT should be applied to the applicable TOE by automated means. Programs need to be developed which would make the changes without manual effort by Directorate of Organization action personnel. Automation of BOIP is now under development. Also changes are being staffed to automate BOI system at DA level. These should be considered in the automation of TOE, particularly as to application of BOI plans.

5. At the conclusion of the conference it was agreed that USACDC-DO plan, during the second half of FY 71, a comprehensive study of the entire TOE system. Results and actions taken will be provided DA.

6. On 10 December 1970, DA forwarded CDCDO-OE a copy of a memorandum for OACSFOR Director, Organization, Unit Training and Readiness, subject: Quality Improvements for the TOE System. Based on this MFR, Colonel Riffe, Director of Organization, directed Chief, O&E Division, to submit a draft study plan on Quality Improvement of the TOE System to include all phases of the current TOE system.

Incl 2

IMPACT OF THE PROBLEM

1. At present time, there are approximately 700 TOE which this Command must keep current. By regulation, 30 days are allocated for initial preparation and 150 days for review and approval. However, normal processing of a TOE takes 350 days or longer.

2. The area which causes most concern is the apparent inability of ADP to automate all phases of TOE development and processing. A much more responsive ADP capability is required. Several years of experience have shown that:

a. To speed the development and processing of TOE a major overhaul of the system is necessary to eliminate duplication of effort and improve administrative handling of TOE.

b. The major "choke points" are the developmental directorates, ADP/MIS and ACSTOR, DA.

3. a. Consolidated changes are scheduled for quarterly publication and normally involve review of 700 to 800 TOE. These changes are in response to DA directives such as MOS and LIN changes. To produce a consolidated change requires considerable data preparation and machine time plus about 2 weeks of the USACDC-DO analyst time. During the past year and a half, time has not been programmed in the TOE development schedule for this work.

b. Currently USACDC is approximately three quarters behind in the application of consolidated changes to TOE. This represents approximately the same status as when USACDC assumed responsibility for the TOE System from USAMSSA in July 1969. Other priority projects such as H-Series and ASTRO TOE development have precluded a concentrated effort in this area of file maintenance.

c. An analysis of the prescribed TOE developmental process discloses that more time is allowed for the review and approval of the document than is allowed for its initial preparation.

4. Cost and manpower savings cannot be realized without changes in the current system.

ESSENTIAL ELEMENTS OF ANALYSIS

1. How can the use of consolidated changes be expanded to provide for a more timely update of published TOE? Consider procedural changes in the TOE system that would be necessary if all changes were applied by means of a semi-annual or cyclic consolidated change action.

2. What can be done within the Directorate of Organization to improve the quality as well as reduce the development time for TOE?

3. Review allocation of personnel resources within Directorate of Organization now used to accomplish TOE analysis and administrative processing. Consider, for example, impact on action desks for supplemental requirements such as studies, materiel actions, coordinating overall development of TOE.

4. What changes in ADP support would be required in order to accomplish a more timely update?

5. Review AOI and DA staffing procedures to include:

   a. Current practice of conducting AOI concurrently with DA staffing.

   b. Necessity for conducting AOI on separate changes.

6. Impact of changes to TOE system in an effort to standardize TOE and to reduce developmental time.

7. Review current procedures for in-house review of TOE, documenting of changes, and feedback system to proponent on changes made as a result of review by CDC HQ's AOI, and DA staffing.

8. What procedures used to develop, review, and process ASTRO Division tables might be applied to all TOE actions?

METHODOLOGY

1. This study will employ quantitative and qualitative techniques to determine TOE quality improvement. The initial step in the analysis is to provide for identification and development of a TOE system applicable to TOE for worldwide and theater of operation use, recommending changes to the procedures currently outlined in AR 310-31, May 70.

2. Estimates will be established to determine the manpower effort by the O&E Division to accomplish the quality improvement requirements. The study will document in detail provisions for a practical yet responsive TOE processing time policy.

3. Restudy the TOE format design and data contents (to include ADP processing). To improve and accelerate the procedural and decision process, TOE analysis and controls will be studied. (This includes study of the program schedules, priorities and reports.) To insure compatibility with other systems, changes to ARs governing these systems will be recommended.

4. Examine the feasibility of publishing consolidated change semi-annual rather than quarterly, reducing the requirement from 4 to only 2 consolidated changes a year.

5. An analysis of resource costs will be carried out to determine the magnitude of resource costs savings which can be realized through improvement of the TOE system.

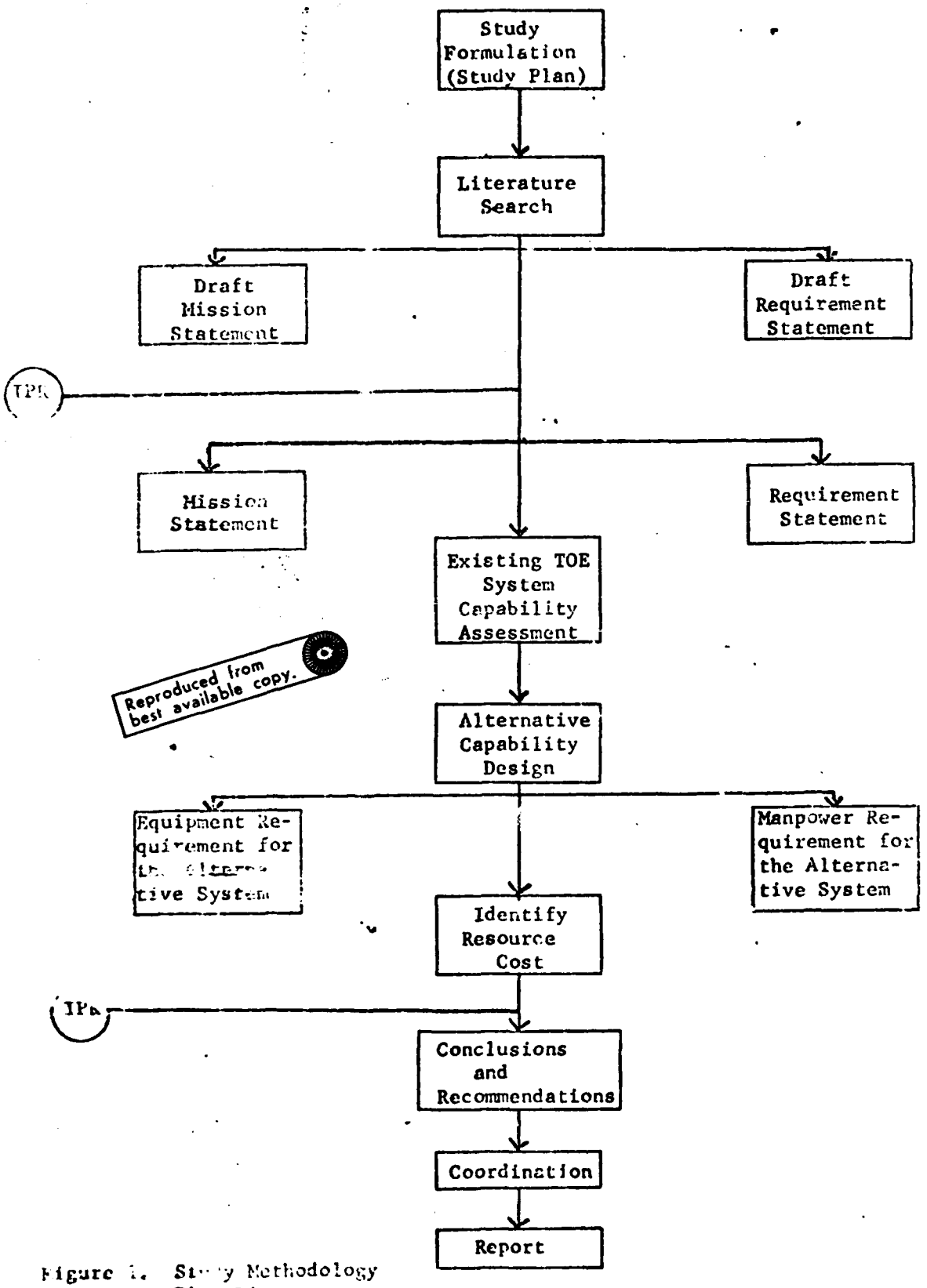

Figure 1. Study Methodology Flow Diagram

ALTERNATIVES

1. Retain the current TOE system, but reduce the manpower effort at the action desk.

2. Retain the current system but replace current software with private contractors.

3. Restructure the present system. Use MT/ST rather than ADP for hard-copy printout.

4. Any additional alternatives which appear feasible as a result of an examination of the above.

Incl 7

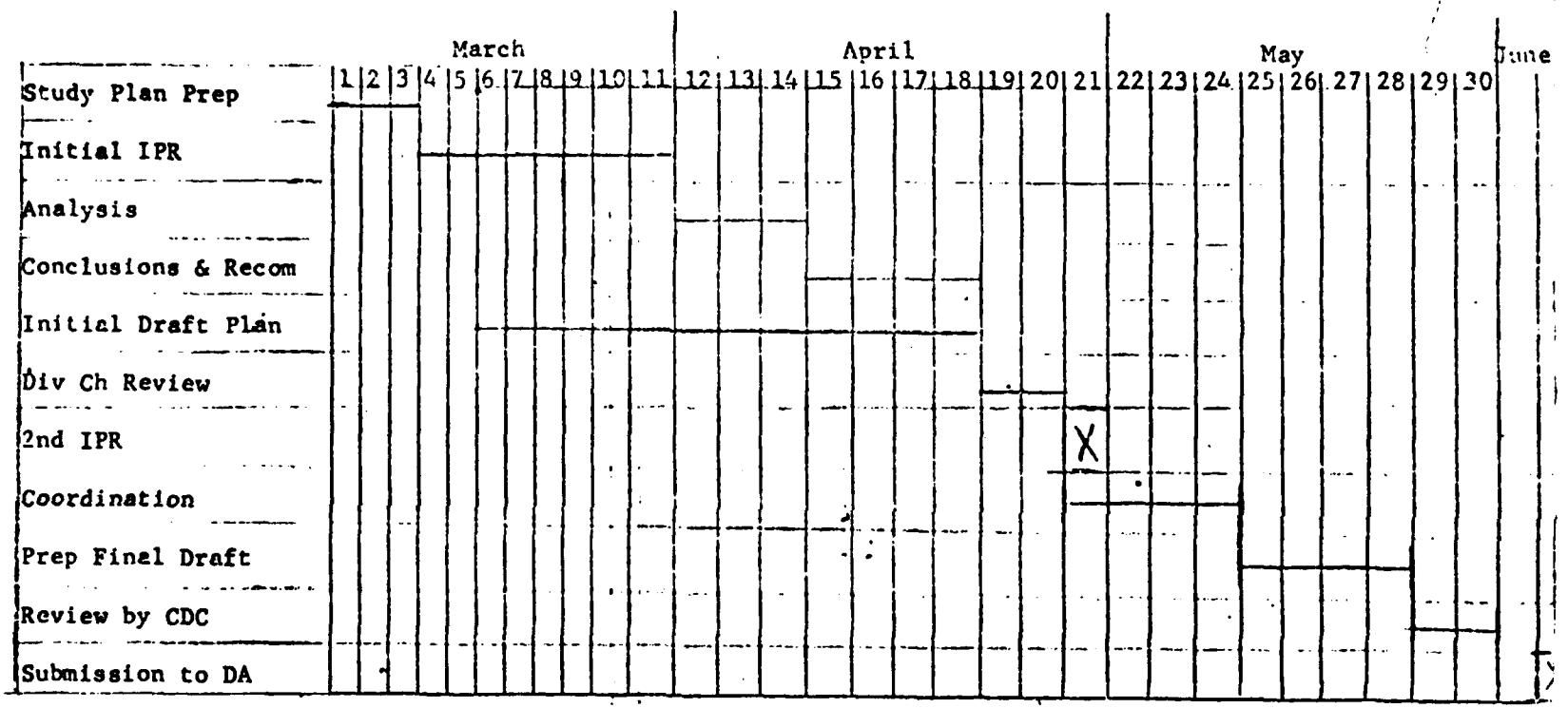

Figure 2, Study Phasing and Time Schedule

STUDY OUTLINE

1. Study Objectives.

a. To improve TOE processing procedures.

b. To improve procedures for accelerating the preparation, processing and publication of separate and consolidated changes.

2. Scope: The study will consider:

a. An appraisal of the level of effort and the type of new programs which must be undertaken in representative areas using the following documents:

(1) Applicable ARs.

(2) Applicable CDC Policy and Procedure Guides.

(3) USACDC Management Information System - ACN 16979.

(4) Life Cycle Management Model.

(5) Current ADP Processing Procedures and Programming.

b. An assesement of the Organization Directorate's capability to meet the requirements identified below:

(1) Consolidated Changes.

(2) Standard remark codes to include Additional Skill Identifier (ASI).

(3) Cost Analysis Data.

(4) Automatic application of DA directed changes.

(5) Relevancy of TOE format.

(6) A more responsive method for processing TOE at the action desks.

(7) TOE automation study in the light of TOE development procedures.

(8) Value of AOI review.

(9) Utilization of TOE analyst and administrative personnel.

(10) Automated application of MACRIT and BOI to TOE.

c. Study conclusion which will include as appropriate:

(1) Identification of changes necessary to provide the Organization Directorate the capabilities to meet the requirement of TOE processing.

(2) A more definitive description of the role and capability of the CDC ADP system.

(3) An analysis of the impact upon other support agencies as a result of a TOE improvement system.

(4) A tabular comparison of the current TOE system and the proposed system as an indication of the improvements realized through implementation of proposed system.

d. Army Regulations requiring revision on approval of the study:

AR 310-31, Management System for TOE (The TOE System).

AR 310-34, Equipment Authorization Policies and Procedures.

AR 310-49, The Army Authorization Document System (TAADS).

AR 570-2, Organization and Equipment Authorization Tables Personnel.

DA LTR: THE TOE SYSTEM

APPENDIX B

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

FOR OT OM TO (18 Mar 71) 1st Ind Mr. Lader/psw/78084
SUBJECT: The TOE System

HQ, DA, Office, Assistant Chief of Staff for Force Development, Washington, D. C. 20310

8 APR 1971

TO: Commanding General, United States Army Combat Developments Command, ATTN: CDCDO-OE, Fort Belvoir, Virginia 22060

1. The following answers are keyed to the questions raised in paragraph 4 of basic correspondence:

Question: "4a. How are the TOE published and In-process files used by Department of the Army?"

Answer:

a. These files are used as the hub of many DA systems. They are required to provide the common data and the standard language to reflect TOE unit requirements thereby establishing a base for interfacing with the DA Management Information Systems. The major DA information systems which use the TOE files and are dependent upon these files for data input are:

(1) The Structure and Composition Systems (SACS) (HQ DA policy and procedures manual available for detailed study and explanation of relationship to the TOE system).

(2) The Army Authorization Document System (TAADS) - (See AR 310-49 and related references contained therein).

(3) Vertical TAADS improved version of TAADS - (See final version of DFSR, 2 volumes).

(4) Force Accounting System (FAS) - (HQ DA manual available for detailed description).

(5) Basis of Issue System - (See AR 71-2).

(6) DCSPER, DCSOPS, DCSLOG information systems.

(7) Battalion Slice model. (HQ DA description).

(8) Force Planning Information System model. (HQ DA description).

(9) TOE Management System - (See objectives in AR 310-31).

(10) Life Cycle Management (See AR 11-25, DA Pamphlet 11-25, AR 71-1 and AR 705-5).

FOR OT OM TO (18 Mar 71) 1st Ind
SUBJECT: The TOE System

b. Each of the above systems are fully described in applicable Army regulations, HQ DA procedures manuals or other explanatory media unique to the system. Functionally the TOE files furnish a standard data base to control organizational structure and to provide the model as basis for the authorizations and requirements needed by Army units. The primary use of the TOE system in resource management is in the projection of authorizations and requirements in SACS computations. In TAADS, the TOE system provides the basis for activations, should provide the standard language and the basic requirements column used in MTOE, and serves as the standard for conversion from old to new series TOE. For planning purposes, the TOE files provide a basis for projected requirements in structuring various alternate forces such as in SACS computations where no MTOE exists but the unit is projected in force structures; and, by major commands in developing concept plans (see AR 310-49) as a preliminary stage to submission of MTOE summary documents. In addition, TOE are used for indoctrination and instructional purposes. They also serve as a basis for readiness system and other analytic comparisons.

Question: "4b. How frequently must the published files be updated?"

Answer:

a. The files should be updated sufficiently in advance of activations and effective dates established by the type of changes generated, i.e., MOS, LIN, BOIP, MACRIT and organizational changes and so as to be responsive to various levels of decisions required in improving resource management. In essence, changes to the TOE and data bank files should relate to plans, programing, and budget changes based on specific DA guidance. Also, the system for effecting changes must be responsive and flexible to react in some logical and reasonable length of time so as to be useful in decision processes.

b. Specifically, a desirable objective is to record changes to the TOE data bank files at least 90 days prior to established effective dates (e.g. quarterly for MOS, IAW AR 611-1; and, semi-annually for LIN based on publication of SB 700-20). The mechanical routine of providing monthly tapes of the TOE published and in-process files to the present users (e.g. USAMSSA, MIDA) is still a continuing requirement, in addition to furnishing such data to major commands to meet their specific requests.

Question: "4c. How can TOE and TAADS systems be brought back into synchronization?"

Answer:

a. TAADS is now used as the basis for current Army resources requirements. The reason that the TOE system is not used as the basis for current authorizations

FOR OT OM TO (18 Mar 71) 1st Ind
SUBJECT: The TOE System

has been its inability to respond rapidly enough to the many factors which impact on authorizations and cause changes. Such factors include LIN, MOS, MACRIT, BOIP, and organizational changes generated from a variety of sources. Up to now CDC has predominantly focused its efforts on producing files and TOE documents for major doctrinal changes and new series TOE rather than on routine revisions or changes. Consequently, CDC has been consistently behind in consolidated changes for G/H Series as well as for pre-G Series TOE. These situations have caused ACSFOR to create and maintain an updated "computational" TOE file for projection purposes. It has also led to the separation or independent parallel operation of TAADS and the TOE systems insofar as applying MOS and LIN changes.

b. To bring the TOE system back into synchronization with TAADS the following is essential:

(1) The TOE data base must be brought current and maintained so as to be ahead of the effective dates of the change action and in sufficient time to allow timely generation of MTOE changes at either field level or HQ DA.

(2) The TOE system should provide the basis (except for local changes for a specific unit) and system to generate changes to MTOE by ADP methods. It should adopt the same processing editing and analytic approaches prescribed for VTAADS in the recently developed DFSR. In this connection, the DFSR is modified as indicated by the changes contained in the attached inclosure 2.

(3) Attached at inclosure 3 is a situation statement regarding edit and analysis procedures required in the TOE ADP system; and, which should assist in bringing the TAADS/VTAADS and TOE systems into consonance.

2. Recently, ACSFOR sponsored a series of briefings regarding the automated uses and interface of the TOE system with other systems. These briefings were given to representatives from CDC and Computer Science Corporation as a rapid means of providing current policy, procedures and views and which should give a greater insight into the DA needs and usage of the TOE systems; and what still needs to be done in order to improve it.

FOR THE ASSISTANT CHIEF OF STAFF FOR FORCE DEVELOPMENT:

Frank D. Conant Jr.

WILLIAM E. McLEOD
Major General, GS
Director of Organization,
Unit Training and Readiness, OACSFOR

FRANK D. CONANT, JR.
Colonel, GS
Chief, Organization
Management Division
DT Directorate, OACSFOR

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DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FORT BELVOIR, VIRGINIA 22060

CDCDO-OE

18 MAR 1971

SUBJECT: The TOE System

Assistant Chief of Staff
for Force Development
Department of the Army
ATTN: FOR OT OM TO
Washington, D. C. 20310

1. Reference AR 310-31.

2. The Directorate of Organization, USACDC is conducting an in-house review of all phases of TOE development (Incl 1). The objective of the review is to develop recommendations for improving the quality of TOE, to include accelerating the preparation, processing, and publication of changes. Definitive information as to how the TOE are used by DA is required in order to define priorities for improving the system and to test a proposal for accelerating the update of the TOE data bank and published tables.

3. Paragraph 1-1c of the referenced AR states that the TOE system "interfaces with The Army Authorization Document System (TAADS)." Many members of the DA staff, however, have indicated that the TOE is:

a. Only a point of departure for the initial MTOE, and that subsequent MTOE are the result of operational or geographic requirements, issue of new equipment, changes in DA prescribed strength ceilings or other directed changes.

b. Used for forecasting personnel and equipment requirements in the out years, while the MTOE are used to forecast requirements for the near years.

4. Request answers to the questions listed below.

a. How are the TOE Published and In-process files used by Department of Army?

CDCDO-OE
SUBJECT: The TOE System

b. How frequently must the published files be updated?

c. How can the TOE and TAADS systems be brought back into synchronization?

FOR THE COMMANDER:

1 Incl
as

JAMES L. RIFFE
Colonel, GS
Director of Organization

Modifications to Detailed Functional Systems Requirement (DFSR)

for

The Army Authorization Document System (VTAADS)

Volume I (Draft 8 February 1971)

Reference page 2-12, Chapter 2, Part I

paragraph 2-8,

Added All of Sub-paragraph g(1), (2), (3)(a)(b) and (4)

will be activated under a specific level of organization based on the appropriate TOE.

(3) If the command does not have an appropriate MTOE, and desires to deviate from a TOE, a new MTOE may be submitted. This will require submission of a concept plan.

f. MTOE's are standardized by theater (proponent). The requirement for standardization between commands is an OACSFOR function.

ADDED TO DFSR

g. To further enhance the interface between the TOE system and VTAADS at the detail level, close coordination will be maintained between OACSFOR and the United States Army Combat Developments Command to insure that VTAADS and the TOE system are mutually supporting.

(1) In accordance with AR 310-49 and AR 310-31, USACDC will review MTOE changes with doctrinal impact and, as appropriate, publish a revision to the applicable TOE.

(2) The TOE system-VTAADS interface will allow TOE changes to be applied to MTOE at HQDA to the maximum extent feasible.

(3) The ADP system provided by USAMSSA and USACSC in support of VTAADS will minimally be capable of:

(a) Preparation of analysis reports required by TAADS managers for determining the impact of TOE changes on VTAADS.

(b) Automatic application of TOE changes or revisions at the detail level directly into VTAADS as directed by the TAADS functional manager.

(4) Common MOSC and LIN edits will be used to update both the TOE system and VTAADS.

Incl 2

Proposed modifications to DFSR, VTAADS (DRAFT VOL 1, 8 Feb 71)

(Note: Not included in the DFSR for VTAADS)

1. The attached Tab "A" is a suggested addition to the VTAADS DFSR which provides procedures for the periodic application of TOE changes to MTOE in the VTAADS system.

2. To incorporate this capability, as a minimum, provisions must be made in the VTAADS system to:

a. Overcome the incompatability in the sequencing of Section II, Personnel, line number changes.

b. Identify the source of change (TOE proponent or MTOE proponent).

3. This approach is to the application of TOE changes to MTOE in the TAADS system; it is not based on a detailed analysis of all adjustments required to the DFSR. Other alternatives are available which should be addressed in providing problems when developing specific procedures to be incorporated in future revision of AR 310-49.

1 Incl
TAB "A" (To be considered when developing detailed procedures in AR 310-49).

Proposed Modifications to DFSR, VTAADS (DRAFT VOL 1, 8 Feb 71)

Para 4-9.1 TOE Changes.

a. TOE changes are HQ DA approved doctrine, BOIP, MACRIT, MOS and LIN changes applied to TOE by USACDC subsequent to the production of a MTOE from a base TOE. Changes are defined to paragraph and line number for personnel and to paragraph and LIN for equipment.

b. TOE changes are classified as:

(1) Nonsubstantive: Changes which do not cause line increases or decreases in personnel or equipment.

(2) Substantive: Changes which cause quantitative personnel or equipment changes.

c. TOE changes will be applied to MTOE periodically as follows:

(1) Produce analysis document of TOE changes being applied to MTOE.

(2) Nonsubstantive changes will be reviewed by OACSFOR for correctness and then applied to the TAADS data base.

(3) Substantive changes will be processed in accord with the conditions described below:

(a) Personnel changes:

1. Condition: Change does not change total personnel spaces by identity (Off, WO, EM). Change will be applied to TAADS based on OACSFOR analyst review.

2. Condition: Change increases or decreases total personnel spaces by identity; but does not change total aggregate of personnel spaces. Change will be applied after staffing and approval within OACSFOR.

3. Condition: Change increases or decreases total personnel spaces by identity; increases or decreases total aggregate of personnel spaces. Change will be applied after staffing/approval within HQ DA and obtaining concurrence of the MTOE proponent.

(b) Equipment changes:

1. Condition: Change is an item for item replacement of equipment. Change will be applied based on OACSFOR analyst review.

2. Condition: Change is a total equipment increase or decrease. Change will be applied after staffing/approval within HQ DA and obtaining MTOE proponent concurrence.

Encl
TAB A

(c) Changes which cannot be accepted because of constraints will be identified by a standard remark to indicate that a change is being held in suspense.

Statement Regarding Edit and Analysis Procedures Required in the TOE ADP System

1. The TOE ADP system is lacking in edit procedures and is devoid of analysis capabilities. Provisioning for edit and analysis capabilities can and should be accomplished within the near time frame (within the next 18 months and prior to completion of the CSC effort). The purpose of the exercise is to take the "stubby pencil" work out of TOE development, thus, reduce processing time so that TOE can be maintained current.

2. The first step is to install in the TOE system the necessary edit files outlined below:

a. Personnel files:

(1) MOS: CDC has the DATCOM personnel file which can be used for this purpose, plus, USAMSSA has a modified DATCOM which CDC could also use.

(2) Controlled MOS: This file is currently being used in the TAADS system and it can be appended to the MOS file.

(3) MACRIT: This file should be a listing of those skills identified by MOS for which a MACRIT has been published. This file will have to be constructed from data contained in AR 570-2.

b. Equipment files:

(1) LIN: This file (SB 700-20) is now available in the TOE system; however, edit procedures have not been fully developed.

(2) PIBL: This file is currently available in the TAADS system to identify major items of equipment which require intensified management by HQ DA. The file is needed in the TOE system to "flag" equipment that requires HQ DA approval.

(3) AR 725-1 or 725-8: This file is available in the TAADS system. It is needed to identify PEMA major items with PEMA components which must be listed separately in TOE.

-Incl 3

(4) BOIP: A BOIP file has been developed in USAMSSA; however, it is not being used in the TOE system. The file is needed to list pending BOIP applications to TOE.

c. Standard Remark: Currently, remarks being used in the TOE system are not standard and do not match those being used in the TAADS system. CDCEC-OE is working on a project to standardize remarks between TOE and TAADS. The project needs to be concluded and then a file built for continual edit of the remarks being used in the system. An additional advantage associated with the standard remarks file is that data storage can be reduced by using print programs to construct the remarks sections of hard-copy TOE, thus, eliminating the repititive narrative descriptions listed in each TOE file of the data base.

3. Concurrently with or following the installation of the edit files, ADP programs/routines must be built to edit against the above files and produce the following outputs as described below:

a. Analyst Work Sheet: This output is to be used by analyst in CEC agencies to initiate work on new or revised TOE. It will be constructed by extracting the latest TOE from the TOE Master File; edited against the edit file to capture all pending changes; and annotated with changes to specific TOE lines of personnel and equipment. This process will reduce an "untold" amount of "stubby pencil" work.

b. Analysis Document: This output will compare the old TOE to the proposed TOE and high light the line changes by +, -, or NC; annotate all DA directed changes. The analysis document should be used as part of the planned TOE package for staffing the document at HQ DA for approval.

c. Pending Change Document: It is envisioned that periodically (monthly, every two months, or quarterly) the entire TOE Master File be compared to the edit files and pending changes be listed for each SRC in the file. Based on a CDCDO analyst's review, published changes can be initiated at that level without referral to the agencies. The procedure is an excellent candidate for replacing what we now term "consolidated changes." It is in this area of TOE data base maintenance that we are really behind the "power curve." The current consolidated change system does not "cut the mustard."

d. Impact/Cost Analysis: This requirement has not been fully defined. There is a need to impact TOE changes against a "live" Army force and attach a cost to the detailed changes as well as the gross changes. Currently there is a method of producing impact statements thru the SAC system at HQ DA; however, CDC possesses no capability to do this sort of analysis.

e. TOE Schedule/Suspense List: This output is needed for internal management of TOE development within CDC. CDC to put the schedule on the machine and input status from different agencies by punch card. Capture input of TOE status as the document flows "in" and "out of the machine. This should provide enough critical points in the process cycle for management purposes. Times in the processing cycle which can be captured by machine are:

(1) Production of Work Sheet.

(2) Input of changes from agencies.

(3) Production of Analysis Document.

(4) Refinement of Analysis Document (if necessary).

(5) Production of TOE/TOE change for publication.

(6) Transfer of TOE/TOE change from In-process to Master files.

FOR OT OM TO

23 March 1971

MEMORANDUM THRU: ~~CHIEF, ORGANIZATION MANAGEMENT DIVISION~~ FHG 23 Mar 71

FOR: DIRECTOR, CDC-DO
CHIEF, UNIT AUTHORIZATION DIVISION

SUBJECT: Standard Position Titles for TOE

1. A suggested improvement for the TOE ADP system, which will simplify the interface of TOE and VTAADS, is the establishment of Standard Position Titles for TOE and the discontinuance of the line numbering system for the personnel portion of TOE.

2. There is currently a listing, Duty Position Titles from TOE Master File - OPO 99, which displays all position titles being used in TOE by MOS and grade sequence. This list can be used to establish standard position titles. After the standard position titles have been developed, a single alpha code can be assigned to position titles within each grade and each MOS. An example follows:

Position Code	Title	Grade	MOS
A	Rifleman	E-3	11B10
B	Asst Mach Gnr	E-3	11B10
C	Ammo Br	E-3	11B10
D	Lt Veh Dr	E-3	11B10
A	Mach Gnr	E-4	11B20
B	Auto Rifleman	E-4	11B20
C	Scout Obsv	E-4	11B20
D	Radio Operator	E-4	11B20

The position code can be displayed in the TOE where the line number is currently recorded. The establishment of coded standard position titles will eliminate the need for personnel line numbers in TOE.

3. The above procedure will accomplish the following:

a. Eliminates the line sequencing problem between the TOE and VTAADS systems.

b. Reduces data base storage by eliminating the need to record narrative personnel descriptions in each TOE file. Only one set of standard data will be maintained; through print programs this data can be applied to hard copy reports/documents.

FOR OT OM TO
SUBJECT: Standard Position Titles for TOE

c. Reduces the key punch work required to maintain the data file.

d. Provides a standard set of data for edit purposes which can be used in both TOE and VTAADS.

4. Tasks to accomplish the above are:

a. File design to include punch card layout for input of data into the file.

b. Review of "Duty Position Titles from TOE Master File - OPO 99" and establishment of standard position titles. This effort should be accomplished by the functional proponents, e.g., Infantry, Armor, Engineer, etc., agencies of CDC. Maximum use should be directed toward abbreviated titles. It is estimated that approximately 10,000 lines of data (similar to that displayed in paragraph 2) will be needed in the file.

c. Assign position codes for duty positions within each grade for each MOS. This can be done concurrently with the action described in paragraph 4b above.

d. Develope ADP programs for editing and printing.

e. Build and install the file.

5. In view of on-going improvement projects for both the TOE and TAADS systems, it is recommended that the above proposal be explored as a joint effort between CDC-DO and the VTAADS group.

Stephan N Strauss

STEPHAN N. STRAUSS
Lieutenant Colonel, GS
Chief, TOE Management Branch
OT Directorate, OM Division, OACSFOR

CONARC REPLY TO CDC LTR

APPENDIX C

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

CDCLN (12 Mar 71) 1st Ind
SUBJECT: Quality Improvement of the TOE System

Headquarters, United States Continental Army Command, Fort Monroe, Virginia 23351 13 April 1971

TO: Commanding General, US Army Combat Developments Command, ATTN: CDCDO-OE, Fort Belvoir, Virginia 22060

1. Reference letter, your headquarters, dated 12 March 1971, subject: Quality Improvement of the TOE System.

2. USCONARC response to reference letter is attached as inclosures 2 and 3.

3. Inclosure 2 approving authority "BAUTZ" is MG Bautz, USCONARC DCSOPS. Inclosure 3 approving authority "WARD" is BG Ward, USCONARC DCSFOR.

3 Incl
Added 2 incl
as

J. Greene
for EDWARD M. HOGSTEN
LTC GS
USACDC LO, CONARC

DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FORT BELVOIR, VIRGINIA 22060

CDCDO

12 March 1971

SUBJECT: Quality Improvement of the TOE System

Lieutenant Colonel Edward M. Hogsten
USACDC Liaison Officer
US Continental Army Command
Fort Monroe Virginia 23351

Dear Colonel Hogsten:

Reference is made to AR 310-31, May 1970, "Management System for Tables of Organization and Equipment."

The Directorate of Organization is conducting an in-house review of all phases of TOE development (See Incl 1). Objective of this review is to develop recommendations for improving the quality of TOE, to include accelerating the preparation, processing, and publication of changes. One proposal being evaluated is to use the consolidated change procedure to apply all changes to the G, H, and T series TOE except those which do not involve personnel or PEMA equipment increases not previously approved by DA, and those which do not change the organizational concepts. The latter type of change would be processed as a separate change.

The implementation of the MTOE system in 1967 has greatly modified the role of the TOE. Many members of the DA staff are under the impression that the TOE is only a point of departure for developing the initial MTOE, and that subsequent changes are the result of operational or geographic requirements, issue of new equipment, changes in DA prescribed strength ceilings, or circulars directing MTOE changes.

To assist in this study, request that you obtain from your supported command answers to the following questions:

a. For what purposes are TOE used in your command?

b. What percentage of the units in the command are organized <u>directly</u> under a TOE?

CDCDO
SUBJECT: Quality Improvement of the TOE System

c. When CDC publishes a separate or Consolidated TOE Change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?

d. Will the theater orientation of the H series TOE for the Armored, Infantry, and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your command? If so, to what degree?

e. If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?

f. What percentage of revisions to the MTOE are the result of in country, requirements, and what percentage are the result of DA directives on personnel and equipment?

g. What changes are recommended to improve the current TOE system, as set forth in AR 310-31?

We would appreciate a reply by 15 April 71. Questions or areas requiring clarification should be addressed to Headquarters, USACDC, ATTN: CDCDO-OE (LTC Wallace O. Knowles) Fort Belvoir, Extension 43232 or 43024.

1 Incl
as

JAMES E. RIFE
COL, GS (Inf)
Director of Organization

ATOPS-TNG-CSS (16 Mar 71)
SUBJECT: Quality Improvement of the TOE System

TO: CDCLNO FROM: DCSOPS DATE: 1 APR 1971 CMT 2
LTC Meyer/meb/3320

1. A summary of comments and recommendations concerning questions a through g received from elements of this office are provided in paragraphs below.

2. Question a: For what purpose are TOE used in your command?

a. TOE are maintained in DCSOPS sections as reference documents for review of MTOE changes and to identify equipment and personnel requirements, missions and capabilities of units of interest to that section. They are particularly important to sections involved in contingency planning.

b. TOE are used as a basis for developing MTOE for Aviation units to satisfy specific requirements.

c. TOE are used to provide basic data in construction of MTOE for USAR units. When USAR units are organized at specific ALO, these TOE are used as authorization documents in accordance with paragraph 3-6j, AR 310-49.

3. Question b: What percentage of the units in the command are organized directly under a TOE?

a. Almost none of the units in CONARC are organized directly under a TOE.

b. All non-divisional aviation units are operating under a MTOE or MTOE action is pending.

c. No Special Forces units are organized directly under a TOE.

d. Approximately 1% of USAR units are presently organized directly under a TOE. It is anticipated that there will be more units similarly organized in the forthcoming Reserve Component (RC) reorganization to the G/H Series TOE. The exact percentage is not known at this time but is expected to be less than 5%.

4. Question c: When CDC publishes a separate or consolidated TOE Change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?

a. DCSOPS is not aware of any automatic or immediate implementation of changes to TOE for Active Army units.

b. Organizing units directly under a TOE is a relatively new concept for the Reserves. It is contemplated, however, that units so organized will immediately incorporate published TOE changes in their organization.

c. DCSFOR should provide a more detailed response to this question.

5. Question d: Will the theater orientation of the H Series TOE for the Armored, Infantry and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your Command? If so, to what degree?

INCL 2

a. Initial review of H series TOE for Division Signal Battalions indicates more rather than less MTOE actions will be required. Apparently this series was prepared hastily without detailed review.

b. Probably, MTOE actions will be less for aviation units under H series MTOE.

c. The question is not applicable to USAR or Special Forces units.

6. Question e: If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?

a. Probably yes for Active Army units.

b. Not for USAR units. Variations from established TOE are developed for Reserves, not due to the obsolescence factor impled in the question, but because of home station training requirements, general availability of major equipment items and other considerations.

c. DCSFOR should provide a more detailed response to this question.

7. Question f: What percentage of revisions to the MTOE are the result of in country requirements, and what percentage are the result of DA directives on personnel and equipment?

a. Aviation units are modified as a result of in-country requirements. The lack of personnel or equipment may contribute to a unit being modified, however, in-country requirements are the major factors involved.

b. Requirements for changes in Special Forces units are generally unit initiated.

c. Approximately 60% of revisions to USAR MTOE are CONUSA recommended, the remainder are DA directed.

d. DCSFOR should provide a more detailed response to this question.

8. Question g: What changes are recommended to improve the current TOE system as set forth in AR 310-31?

a. Keep TOE reasonably abreast of approved Basis of Issue for equipment.

b. Maximize the use of automatic data processing in TOE development.

c. In order to eliminate many man-hours required for pen and ink postings at all levels, publish changes as completely updated sections of the TOE. If extensive changes in two or more sections are required, a complete updated TOE might be published.

d. One DCSOPS element objected strongly to publishing TOE changes in consolidated change table. Cited as an example of problems involved was the table dated 15 August 1970 which contains changes to one TOE on the reverse of a page containing changes to another. In other cases different series of TOE are involved. In order to use the information contained in the change table effectively many man-hours are spent posting the changes by pen and ink. Another DCSOPS section recommended expanding the use of consolidated change tables as a means to keep TOE current. There are trade-offs in this area which must be decided after consideration of all factors relating to the users need to obtain changes quickly but also to have them in a useable form.

e. Return to the method used in the G series TOE for showing recapitulation of equipment by commodity command. This system simplifies search for specific items of equipment.

f. Provision of an additional column to TOE applicable to Reserve Component units could eliminate the requirement for a significant number of USAR MTOE. Data concerning this has been provided CDC representatives visiting this headquarters while conducting an inquiry concerning the feasibility of this course of action.

1 Incl
nc

BAUTZ

ATFOR-DD-TOE (16 Mar 71)
SUBJECT: Quality Improvement of the TOE System

TO: CDCLNO FROM: DCSFOR DATE: 12 Apr 71 CMT 2
MAJ BROWN/3641/tc

Comments are keyed to the questions asked in the basic letter, CDCDO, 12 Mar 71, subject: Quality Improvement of the TOE System as follows:

a. TOE are used as a point of departure or guide for developing the initial MTOE for a unit. In accordance with paragraph A-7, AR 310-49, the MTOE, TDA, MTDA, CTA, JTA and JTD are defined as authorization documents. Hence, the TOE can no longer be used as an authorization document. Paragraph 1-7a, AR 310-31, indicates that for a particular unit a TOE is the numbered table under which the unit is organized and upon which the "full TOE" and the modification table of organization and equipment (MTOE) are based. In most cases, the authorizations in the MTOE for STRAF/REFORGER units (those units which have a general war mission) parallel the TOE with minor exceptions. Units with no general war mission (General Support Forces) have authorizations drastically modified from the base TOE.

b. Currently, there are less than 1% of the units assigned to the CONARC command organized under a TOE. These are units that fall in the following categories:

(1) Units directed to be expeditiously activated by CONARC for deployment, or units which are activated and will remain in CONUS for a special purpose, e.g., Project MASSTER, or TRICAP Division. These type units are activated under a base TOE pending receipt of a MTOE from the gaining command to which a unit is to deploy or they are awaiting a MTOE from CONARC.

(2) Units being deployed from an overseas command and being reorganized concurrently with their reassignment to CONARC. These units are directed to reorganize under a base TOE until a MTOE can be provided by CONARC.

(3) Units which have been redeployed to CONUS from an overseas area, but will remain in the force structure as zero structure and authorized strength, and, units which are reduced to zero strength to meet end FY strength requirements and retained in the CONARC force structure. These units are reorganized under a base TOE. A MTOE is not required because there is no requirement for either the requisitioning or retention of personnel and equipment.

c. The command implements consolidated TOE changes as soon as possible by incorporating them into a revised MTOE. This time frame is currently anywhere from 3 to 12 months however.

// C 4 3

d. The H-series TOE may reduce the scope of the modifications due to the H-series TOE incorporation of many changes to E-series TOE which had to be accomplished by MTOE, i.e., addition of Redeye teams, deletion of ENTAC weapon system and personnel, addition of Electronic Warfare Officers, implementation of the Division Logistics System and PERMACAPS, the deletion of 3.5 rocket launchers, and the updating of MOS's and grades. The total number of MTOE actions will probably remain the same however due to the requirements of AR 310-49.

e. Since DA has established in AR 310-49 that a TOE is not an authorization document, every unit must eventually have a DA approved MTOE. Updating TOE more timely would not in itself permit units to organize directly under a TOE rather than a MTOE.

f. Approximately 90% of revisions to MTOE are DA directed caused by changes to TOE, changes to AR 611-101, 611-201, 611-112, changes to SB 700-20, BOI and letter MEDO. The other 10% of required modifications are requests from units based upon inadequacies of the TOE or special missions assigned the unit.

g. Recommend that TOE be published in tentative format and test units reorganized under them before a final TOE is published. Also, recommend that units in being get a chance to comment on draft TOE before they are published, i.e., each Armor Division should comment on draft TOE published for Armored Divisions. Fort Hood, Texas, which has for many years had two Armored Divisions assigned, did not get the opportunity to submit comments on either draft G or H series TOE for the Armored Divisions. Recommend that consolidated change tables include both personnel and equipment changes.

WARD

1 Incl
nc

USAREUR REPLY TO CDC LTR

APPENDIX D

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

HEADQUARTERS
United States Army Combat Developments Command
Office of the USAREUR Liaison Officer
APO New York 09403

CDCLO-EUR 25 March 1971

SUBJECT: Quality Improvement of the TOE System

Colonel James L. Riffe
Director of Organization
US Army Combat Developments Command
Fort Belvoir, Virginia 22060

Dear Colonel Riffe,

Reference is made to your letter, 12 March 1971, subject as above

Attached please find the DF, same subject, from the Chief, Force Development Division, ODCSOPS, HQ USAREUR. This DF is in response to one from me requesting answers to the questions you posed in paragraph 4. I must caution you that these answers are informal from the Force Development Division and have not gone through the normal staffing procedures to become an official USAREUR position.

If such a position is required, then you must submit your request to CINCUSAREUR and of course I will follow it up for you.

Please do not hesitate to contact this office if we can provide any further assistance.

Sincerely,

1 Incl
CMT 3, DF, dated
24 Mar 71, subj as
above

JAMES J. McALOON
Colonel, GS
USACDC Liaison Officer

AEAGC-FTB (15 Mar 71)
SUBJECT: Quality Improvement of TOE System

TO CDC Liaison Office FROM C, Force Dev Div DATE 24 MAR 1971 CMT 3
LTC McCaffrey/ss/7187

As requested in Comment 1, answers to questions in Inclosure 1 are provided:

a. QUESTION: For what purposes are TOE used in your command?
ANSWER: The TOE is used as the point of departure from which the latest strength authorizations, MOS, LIN, operational and geographical restrictions and changes are included.

b. QUESTION: What percentage of the units in the command are organized directly under a TOE?
ANSWER: 10%

c. QUESTION: When CDC publishes a separate or Consolidated TOE change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?
ANSWER: Any changes published by CDC are considered but not automatically applied to USAREUR. If the CDC TOE change increases space authorization, changes MOS, changes LIN, increases a LIN, then an MTOE submission must be made to DA requesting the addition of equipment or change of MOS. All space authorization increase, at present, must be within the USAREUR current Troop List.

d. QUESTION: Will the theater orientation of the H-Series TOE for the Armored, Infantry, and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your command? If so, to what degree?
ANSWER: No, the administrative and logistical changes, such as 611 Cir, SB 700-20, BOI, mission changes and manpower constraints will continue to cause MTOE actions.

e. QUESTION: If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?
ANSWER: Yes, for a period of time a base TOE will remain valid. However, manpower constraints do not correspond to the stated levels on the TOE and the actions mentioned in c above will continue to cause turbulence.

f. QUESTION: What percentage of revisions to the MTOE are the result of in country, requirements, and what percentage are the result of DA directives on personnel and equipment?
ANSWER: It is estimated that during a one year period, 25% of the MTOE revisions are due to in country requirements and 75% due to DA actions.

AEAGC-FTB
SUBJECT: Quality Improvement of TOE System

a. QUESTION: What changes are recommended to improve the current TOE system, as set forth in AR 310-31?
ANSWER: No recommended changes.

JOSEPH E. McCARTHY
COL, GS
Chief, Force Development Division

USARPAC REPLY TO CDC LTR

APPENDIX E

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE 1

USACDCLO (12 March 1971) 1st Ind
SUBJ. Quality Improvement of the TOE System

USACDC Liaison Office, HQ USARPAC APO 96558 16 April 1971

TO: Director of Organization, HQ USACDC, Fort Belvoir, VA 22060

Attached comments are furnished by Chief, FD Division, DCSOPS, HQ USARPAC.

Incl
as

JOHN F. SULLIVAN
Colonel (IN)
USACDC Liaison Officer

USARPAC COMMENTS

Question: For what purposes are TOE used in your command?

Answer: TOE are used in determining various Force Structure Requirements for numerous contingency plans and computing related personnel and equipment levels. Additionally, TOE are utilized in active Army troop programming as a standard for developing and recording the current force structure on a unit-by-unit basis.

Question: What percentage of the units in the command are organized directly under a TOE?

Answer: None.

Question: When CDC publishes a separate or Consolidated TOE Change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change:

Answer: Units are required to submit appropriate MTOE changes or a request to adopt the change, particularly when additional resources are required.

Question: Will the theater orientation of the H series TOE for the Armored, Infantry, and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your command? If so, to what degree?

Answer: A reduction in scope and number of MTOE is not envisioned.

Question: If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?

Answer: No. Manpower constraints coupled with varied geographic conditions and operational/contingency requirements normally dictate TOE modifications. Additionally, vested interest programs (DLOGS, Career Counselor Program, DSU/GSU mechanization, etc) requiring implementation prior to publication of appropriate TOE changes require MTOE action.

Question: What percentage of revisions to the MTOE are the result of in-country requirements, and what percentage are the result of DA directives on personnel and equipment?

Answer: 30% in-country, 70% directed (MOS and LIN changes, Manpower decisions, etc).

Question: What changes are recommended to improve the current TOE system, as set forth in AR 310-31?

Answer: Insure that consolidated TOE changes are published simultaneously with DA directives for MOS/LIN changes, special programs, etc.

DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FORT BELVOIR, VIRGINIA 22060

CDCDO

12 March 1971

SUBJECT: Quality Improvement of the TOE System

Colonel John F. Sullivan
USACDC Liaison Officer
US Army Pacific
APO San Francisco 96558

Dear Colonel Sullivan:

Reference is made to AR 310-31, May 1970, "Management System for Tables of Organization and Equipment."

The Directorate of Organization is conducting an in-house review of all phases of TOE development (See Incl 1). Objective of this review is to develop recommendations for improving the quality of TOE, to include accelerating the preparation, processing, and publication of changes. One proposal being evaluated is to use the consolidated change procedure to apply all changes to the G, H, and T series TOE except those which do not involve personnel or PEMA equipment increases not previously approved by DA, and those which do not change the organizational concepts. The latter type of change would be processed as a separate change.

The implementation of the MTOE system in 1967 has greatly modified the role of the TOE. Many members of the DA staff are under the impression that the TOE is only a point of departure for developing the initial MTOE, and that subsequent changes are the result of operational or geographic requirements, issue of new equipment, changes in DA prescribed strength ceilings, or circulars directing MTOE changes.

To assist in this study, request that you obtain from your supported command answers to the following questions:

a. For what purposes are TOE used in your command?

b. What percentage of the units in the command are organized <u>directly</u> under a TOE?

CDCDO
SUBJECT: Quality Improvement of the TOE System

c. When CDC publishes a separate or Consolidated TOE Change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?

d. Will the theater orientation of the H series TOE for the Armored, Infantry, and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your command? If so, to what degree?

e. If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?

f. What percentage of revisions to the MTOE are the result of in country, requirements, and what percentage are the result of DA directives on personnel and equipment?

g. What changes are recommended to improve the current TOE system, as set forth in AR 310-31?

We would appreciate a reply by 15 April 71. Questions or areas requiring clarification should be addressed to Headquarters, USACDC, ATTN: CDCDO-OE (LTC Wallace O. Knowles) Fort Belvoir, Extension 43232 or 43024.

1 Incl
as

JAMES L. RIFFE
COL, GS (Inf)
Director of Organization

USARV REPLY TO CDC LTR

APPENDIX F

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY VIETNAM
APO SAN FRANCISCO 96375

AVHDO-FDO

11 APR 1971

Colonel James L. Riffe
Director of Organization
[illegible], US Army Combat Developments Command
Fort Belvoir, VA 22060

Dear Colonel Riffe:

I'm glad to see that you are still in the important business of developing TOE. This is my last hitch in TAADS. I think that I have contributed to the Army during my three years with TAADS and I've had enough; I need to get into another field.

I am happy to give you my views on your letter, 12 March to LTC Varljen Subject: Quality Improvement of the TOE System. Following are answers to the lettered subparagraphs of your letter.

a. TOE are used in USARV as the base for computation of changes to arrive at the MTOE for a new unit or a unit which is reorganizing to a new series TOE. It is virtually impossible to organize a unit under pure TOE because of the constant MOS and LIN changes being promulgated by DA. Often, because of this, the TOE is outdated before it gets to the field.

b. All USARV units are either under MTOE or MTOE has been submitted for approval. There are three primary reasons why units can not be organized under straight TOE; they are space ceilings, DA directed space drawdowns and identity conversions, and DA directed MOS and LIN changes. We are not effected very much by DA directed drawdown and identity conversions; however, as I explained to you in Europe, USAREUR has this problem. The forced conversion of 172 officer spaces to EM spaces hurt us badly. (Command)

c. IAW AR 310-49, DA retains sole authority to approve implementation of TOE changes for a specific unit.

d. The H series TOE has not allowed the reorganization of any units in USARV to pure TOE. A principal reason is the imposition of personnel

ceilings which require the unit to remain within its current strength authorization. Again, as in subparagraph a above, organization in a pure [illegible] series TOE configuration could last only as long as the next MOS and LIN change.

e. Units could be organized more often under pure TOE if the TOE were updated at least quarterly and distributed immediately. However, major commands would have to be given authority to implement the changes. Again, MOS and LIN changes would serve to negate this possibility under the present system.

f. In past years, all changes to MTOE were generated by in-country requirements. USARV units have not been responding to the DA directed changes for the principal reason that the requirements, particularly in the Circular 611 series, are unreasonable both in frequency of publication and in time required for submission of MTOE revision. These DA directed changes are addressed when the unit initiates a change for other cogent reasons.

g. The current use of the TOE as a basic guide for organization with revision to MTOE in order to meet local requirements is good. It is virtually impossible to design a TOE which reflects would-wide requirements.

In general, three basic problems prohibit adequate development of pure TOE organizations. They are:

a. Money. We are not allowed to state our true wartime requirements in TOE/MTOE. We are only allowed to state as a requirement what the budget will support at the present time. This in turn gives a false impression of both our readiness and what we actually need to fight a war.

b. Personnel ceilings. There is a constant battle to shift personnel authorizations both within and between units to meet new priorities and thereby necessitating MTOE. We have to "rob Peter to pay Paul" to remain within our ceiling.

c. MOS and LIN changes and DAGs. Often a TOE is outdated before it is out of the printer. LIN changes have been recently made on a semiannual basis, which is an improvement. However, MOS changes are made as many as seven times a year, and invariably with extremely short suspenses. For example, DA Circular 611-78 dated 23 Dec 70 was received here on 3 Feb 71. MTOE submission was required to be in DA not later than 1 Feb 71. One of the MOS being changed had been in being for at least eleven years so it is very hard to understand the sudden urgency for change. DA generated (DAG) changes to organizations are made at whatever frequency is desired without consultation. TAADS will never work properly until DA reduces the frequency of MOS and LIN changes and other DA directed changes.

AVHDC-FDC
Colonel Riffe

3. The combination of all the above serve to make organization under pure TOE impractical if not impossible.

Sincerely,

JONES N. EPPS
Colonel, GS
Chief, FD Div, DCSOPS

CC:
Col Jarlven, CDC LNO

EUSA REPLY TO CDC LTR

APPENDIX G

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS, EIGHTH UNITED STATES ARMY
APO SAN FRANCISCO 96301
USACDC LIAISON OFFICE

CDCCS-L-KOREA 1 April 1971

SUBJECT: Quality Improvement of the TOE System

Headquarters
United States Army Combat Developments Command
ATTN: CDCDO-OE (LTC W. O. Knowles)
Ft. Belvoir, Virginia 22060

Your letter of 12 March 1971, Subject: same as above, has been discussed with staff members of the Force Development Division, OofACS G3, Headquarters Eighth U.S. Army. Consensus of these conversations follow.

a. For what purpose are TOE used in your command?

For initiation and/or review of MTOEs for units not organized under basic TOE.

b. What percentage of the units in the command are organized directly under a TOE?

15 - 20%

c. When CDC publishes a separate or Consolidated TOE Change, does the Command Headquarters authorize implementation as soon as possible by incorporating it in a revised MTOE, or by allowing units organized directly under a TOE to adopt the change?

Units organized under MTOEs must submit a change to the MTOE whenever a consolidated change is published while units organized under the basic TOE requires only the issuance of a General Order when a change in strength occurs.

d. Will the theater orientation of the H series TOE for the Armored, Infantry, and Infantry (Mechanized) Division reduce the scope and total number of MTOE actions within your command? If so, to what degree?

The theater orientation of the H Series TOE changes will reduce the number of MTOE actions within this command. This reduction of MTOE actions at each level of command, from company level to DA, should result in a manpower savings and dollar savings throughout the US Army.

e. If published TOE were updated on a more timely basis, would more units within your command be able to organize directly under a TOE rather than MTOE?

If TOEs were updated on a more timely basis, a large number of units within the command could be expected to operate under the basic TOE. Consideration should be given to publishing TOEs with more levels to fit mission and geographical requirements, thus giving the commander more flexibility to accomplish his mission without requiring modification to the TOE. If modifications were necessary beyond those established it would require complete justifications submitted through channels for DA approval.

f. What percentage of revisions to the MTOE are the result of in country, requirements, and what percentage are the result of DA directives on personnel and equipment?

Revisions of MTOEs for Eighth Army units were, or will be, submitted due to reorganizations of Eighth Army (USPIK) and DA established structure and authorized ceiling for end FY 71 and FY 72 thus resulting in a 100% revision.

g. What changes are recommended to improve the current TOE system, as set forth in AR 310-31?

An improvement for the present TOE system could be realized by eliminating the requirements to submit RECAPS by grade and MOS, as well as equipment by subordinate units. Major commands with ADP programs should be responsible for RECAPS and thus would expedite the processing of MTOE changes and result in manpower savings.

If further clarification or information is necessary, I remain at your service.

PHILIP S. ANDREWS
MAJ, INF
USACDC LO to EUSA

1 Incl
Ltr, CDCDO dtd 12 March 1971

USARAL REPLY TO CDC LTR

APPENDIX H

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY, ALASKA
APO SEATTLE 98749

ARACD

13 APR 1971

SUBJECT: Quality Improvement of the TOE System

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. Reference letter, CDCDO, Headquarters, USACDC, dated 12 March 1971, subject as above.

2. The following answers are provided in reply to the questions posed in referenced letter. Answers are keyed directly to the questions subparagraphs:

a. The TOE is used as a reference and as the basis for development of an MTOE.

b. There are no units in USARAL organized directly under a TOE.

c. Personnel changes are applied quarterly to the MTOE in accordance with the DA Circular 611 series. Equipment changes are applied from the basis of the consolidated changes as soon as possible after receipt by incorporating it into an MTOE. Consolidated equipment changes are furnished monthly by DA.

d. There are no indications at this time that the "H" series TOE will reduce the scope and total number of MTOE actions.

e. Updating published TOE on a more timely basis would not provide a basis for organizations of this command to be organized directly under a DA TOE. The Arctic environment requires modification of the TOE in most units, in both personnel and equipment.

f. Approximately 75 percent of the MTOE changes are DA directed.

g. The current TOE system appears to be adequate.

FOR THE COMMANDER:

C. H. PASKE, III
1LT, AGC
Asst Adjutant General

ICAS RECOMMENDATIONS

APPENDIX I

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
INSTITUTE OF COMBINED ARMS AND SUPPORT
FORT LEAVENWORTH, KANSAS 66027

12 MAR 1971

ICAS-LO

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. References:

a. Letter CDCDO, dated 10 February 1971, subject as above.

b. Letter ICAS-LO, dated 23 May 1969, subject: Development of TOE.

2. This Institute concurs in the utilization of the Consolidated Change Table as a vehicle for publishing DA directed changes and other routine changes which are not directly related to the mission of the organization. Examples of the type of changes which should be included are:

a. DA directed MOS changes.

b. Changes in equipment nomenclature.

c. The substitution of items newly classified Standard A (former Standard N or Z items) for superseded equipment.

d. Separate listings of component items which are used with, but no longer a part of another major end item, e.g., generators for tool sets.

e. Application of newly developed MACRIT for Standards of Grade Authorization.

f. Deletion of expendable items from TOE as they are classified expendable.

g. Implementation of routine BOI, particularly when they replace equipment on a one-for-one basis.

ICAS-LO
SUBJECT: TOE System Quality Improvement

3. Reference paragraph 7a of the CDC letter, the implementation of this system would relieve proponent project officers of much of the tedious mechanical effort now required in TOE processing. It is strongly recommended, however, that the proponents be advised of the intent to include items in paragraph 2 above in Consolidated Changes prior to publication. The Organization Directorate Newsletter or a similar publication would serve as an adequate vehicle for this purpose. Such advance notice would offer the proponent agency the opportunity to recommend exceptions where justified, and minimize the extent of changes resulting from post publication review. Other methods are available, such as originating the change at agency level or circulating drafts of proposed changes from HQ CDC.

4. Reference paragraph 7b of the CDC letter, it is not recommended that the expanded consolidated changes be published necessarily on a semi-annual or cyclic basis, but rather that the frequency be dictated by volume of changes to be published and expediency. These changes should be published at least annually, but provisions should be made to publish more frequently as required.

5. Reference paragraph 7c of the CDC letter, it has been the practice at this Institute to review proponent TOE, informally at least, once each year. This procedure would be continued and recommendations would be made for changes to be included in an ongoing consolidated change. It is recommended that proposed changes be submitted in narrative format with appropriate rationale and that card decks and printouts in DPTOE format not be required.

6. Reference paragraph 10a of the CDC letter, it is assumed that the point in question is the practice of furnishing proponents with DA, AMC, CONARC, and CDC comments on a DPTOE. It is recommended that this procedure be continued, and amplified to inform the proponent of the rationale employed in making changes to the DPTOE so that the proponent will be able to incorporate such guidance in ongoing actions. This is not being consistently accomplished at this time.

7. Reference paragraph 10b of the CDC letter, this Institute frequently receives comments from students at the Command and General Staff College, and other diverse sources, that the information contained in the supporting narrative would be very helpful to using units. Particular reference was made to loading plans, vehicle justification, communications equipment justification, manning charts and MACRIT computations. While it is not considered feasible to publish the entire narrative for general distribution, it may be desirable to explore methods by which this information, or a digest thereof, could be made available to users on request.

ICAS-LO
SUBJECT: TOE System Quality Improvement

8. Reference paragraph 10c of the CDC letter, this Institute has been preparing Section I of Draft Plan TOE (DPTOE) and the supporting narrative on punched cards in accordance with published guidance; however, it is noted that these card decks are not utilized at any higher echelon. It is not considered economical to use ADP equipment for printing narrative copy and it is therefore recommended that the use of card decks for the narrative be discontinued immediately and that future narratives be submitted in typewritten format (or Magnetic Tape/Selectric Typewriter). The first six paragraphs of Section I contain the mission, assignment, capabilities and limitations, basis of allocation, category and mobility of each unit, IAW the format found in AR 310-31. This information is of continuing use to force designers and organization planners. It also constitutes the source information for publication of FM 101-10-2, Staff Officer's Field Manual: Organizational, Logistical and Technical Data Extracts of Organization and Equipment. If the initial paragraphs of Section I were included on the Master Tape File in the same manner as Sections II and III are incorporated, the information would be readily available for the determination of unit capabilities and the preparation of Unit Reference Sheets.

9. In reference to paragraph 10d of the CDC letter, the recommendations contained in this letter would require only minor changes to the documents listed in Inclosure 1 to Inclosure 1 of the basic correspondence, except as outlined in paragraph 14 below. The suggestion referred to in paragraph 14 would require extensive revision to all pertinent TOE processing documents.

10. With the increased automation of TOE, and their application to data banks and associated processing and retrieval systems, it is becoming more important to refer to TOE by SRC number. AR 310-31 precribed the use of the TOE number on the cover page while the SRC is inconspicuously placed as the first entry of Sections II and III. It is recommended that the 9 digit SRC number be prominently displayed on the cover page of each TOE and change thereto, and that instructions be published to all users to identify the TOE by SRC number in any action which might require computer retrieval or manipulation. This would require only minor changes to the AR 310 series regulations.

11. Paragraph 3a of the basic letter refers to increasing use of automatic data processing in TOE. This Institute has developed several routines which are used in conjunction with the Control Data Corporation Computer 3300. These routines have proved very useful in TOE preparation and have suggested several other local uses.

a. ICAS-2 is a COBOL (Common Business Oriented Language) program designed to provide TOE worksheets in a format which combines personnel and equipment by TOE paragraph. This program uses the CDC Master Tape

and therefore it includes the latest published changes. The combined format (see Inclosure 1) greatly facilitates comparison of personnel and equipment allowances, particularly the association of individual items of equipment with strength, vehicles with drivers, and radios with radio operators. Recommend this format be used for field review and TOE edit, and that consideration be given to utilizing this format for the published TOE.

b. ICAS-3 provides an output identical to ICAS-2; however, it accepts a card deck as source instead of tape.

c. LOM-1 compares the equipment section of any selected TOE with the SB 700-20 tape and prints the following: (See Inclosure 2.)

(1) TOE equipment items which are not classified Standard A.

(2) Items in the current TOE which have been classified expendable (SB 700-50).

(3) Changes in equipment nomenclature which have occurred since TOE was last published.

d. ICAS-5 compares the equipment section of any selected TOE with the COMPASS tape and provides a printout showing the dimensions, weight and cube of each item and tabulates totals by paragraph and by TOE total. (See Inclosure 3.) This is a valuable and time saving aid in preparing loading plans and mobility statements.

12. While the foregoing programs have been prepared for use with the CDC 3300 computer, they have been written in COBOL and are easily converted for use on IBM computers. Sample programs are available if required.

13. Consideration may also be given to publishing TOE, perhaps even on a trial basis, in the combined format outlined in paragraph 11a. This format provides at a glance, the complete view of a section and relates directly to the modular construction referred to in paragraph 14. Recapitulation would not change. This type of a format would significantly affect most TOE development documents, AR 310-44 and AR 310-31, in particular.

14. In a letter dated 23 May 1969, subject: Development of TOE, ICASL-0, this Institute (reference 1b) suggested a method of structuring TOE on a cellular basis, making maximum utilization of ADP techniques. This suggestion was made in response to a request for TOE evaluation by the Chief of Staff, Army. While no action was taken at DA level on this suggestion, it may be appropriate to review it at this time in the light of the increased emphasis on automation.

ICAS-LO
SUBJECT: TOE System Quality Improvement

15. Request this Institute be informed of the status of this study periodically as ICAS has initiated several TOE system quality improvements which are recommended for Army wide implementation.

16. Correlation. USACDC Action Control Number 16606.

NEIL B. LANG
MAJ, IN
Adjutant

3 Incl
1. ICAS-2 Printout
2. LOM-1 Printout
3. ICAS-5 Printout

CAG RECOMMENDATIONS

APPENDIX J

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS
U.S. ARMY COMBAT DEVELOPMENTS COMMAND
COMBAT ARMS GROUP
FORT LEAVENWORTH, KANSAS 66027

IN REPLY REFER TO:

CAGO-O

15 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. References:

a. Letter CDCDO, Headquarters CDC dated 10 February 1971, subject as above.

b. Letter CAGO-O, Headquarters CAG dated 12 February 1971, subject: USACDC Supplement 1 to AR 310-31.

2. This headquarters concurs in the need for a study on ways and means of improving the quality of TOE to include the TOE developmental process. Accordingly, the following comments are provided:

a. TOE Automation. From a group/agency point of view, the primary problems encountered today are caused by a gradual slipping away from a single, coherent, and acceptable plan governing the automated development of TOE. The original plan was based on responsibilities being assumed by the Combat Developments Command Headquarters. In many cases, these responsibilities have not been fulfilled or accomplished on a timely basis. Examples are:

(1) The initial computer programs for TOE automation were prepared by Headquarters CDC, and in coordination with USCONARC, provided to the installation ADP facility designated to support the collocated CDC Agency. As new equipments are received at the serving installation or TOE format changes are directed, an updated program is not always furnished on a timely basis by CDC Headquarters. Needless to say, agencies geared to the automated system are forced to revert to manual processing which results in additional administrative effort.

(2) To facilitate TOE automation and development, the tub files of punched cards on hand in each agency are supposed to be kept current by CDC Headquarters' preparation and distribution of updated data cards to developing agencies. This phase of the system has fallen far short of the originally announced procedure and agencies now have inherited the task of maintaining their own tub files.

(3) To facilitate TOE automation and development, an updated printout of each TOE scheduled for development was originally planned to be distributed to the proponent agency approximately 90 days in advance of its scheduled date of completion. However, this procedure, too, appears to have fallen by the wayside. None of the problems, in TOE automation discussed above, are the fault of the system. Instead they are caused by lack of attention in making the established system work. The current established system of using IBM punch cards for all phases of TOE development except charts and diagrams, has proven to be relatively foolproof and most economical with respect to manpower expenditure. Recommend conformance with the originally designed system and close monitorship established to insure currency.

b. TOE Format. The TOE format does not provide for ease in analyzing during review. Thus, it could be just as difficult for the user in the field. Possible changes proposed for consideration are:

(1) Personnel listing by paragraph followed immediately with next page of paragraph's equipment. This will provide ease of association of people and equipment.

(2) Loose leaf format with changes published in the form of corrected (replacement) pages.

(3) Each section or platoon's equipment and personnel should be more clearly delineated. For example, personnel should be reflected in proper paragraph and the equipment for that paragraph should be keyed to the personnel listed.

(4) Equipment authorizations in TOE should be reflected in a manner that clearly depicts what items are associated with or supports a particular major item of equipment. An example is the listing of a generator, which has been removed as a component of a system, immediately below but slightly indented in TOE. The many problems anent to this proposal are recognized, but not necessarily, insurmountable. If, through this study, the problems could be overcome, a more easily understood authorization document would result.

(5) Comments concerning supporting data required in TOE development as submitted by reference 1b, apply.

CAGO-O
SUBJECT: TOE System Quality Improvement

c. Program Stabilization. The turbulence experienced in the organizational requirements area during the past few years has generated much wasted effort. Although there has been a marked recent improvement in this area, this subject should be given needed attention in the study. Stabilization of TOE requirements will permit fulfillment of responsibilities of providing updated printouts in advance of the scheduled TOE submission (ref paragraph 2a(3) above).

d. Action Status. The current feedback system of action taken on DPTOE, i.e., by review board, AOI, and ACSFOR is fundamentally sound. However, if the reasons for changes made to DPTOE were included, by annotation, much more benefit would be accrued at each subordinate level.

FOR THE COMMANDER:

ROBERT F. KEMP
Major, GS
Adjutant

CSG RECOMMENDATIONS

APPENDIX K

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS
USACDC COMBAT SUPPORT GROUP
FORT BELVOIR, VIRGINIA 22060

IN REPLY REFER TO:

CSGOE-O

25 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. Reference letter, CDCDO, HQ, USACDC, dated 10 Feb 71, subject as above with one inclosure.

2. At Inclosure 1 through 5 are recommendations of the Air Defense, Chemical-Biological-Radiological, Communications-Electronics, Engineer, and Intelligence Agencies submitted for consideration in your proposed review of the TOE development program. The Military Police had no specific recommendations. Based upon the limited time period alloted for response to subject request, agencies were tasked to provide a short descriptive narrative of their recommendations. Subsequent evaluation and favorable consideration by your headquarters may require additional detailed information prior to approval and implementation.

3. Subsequent to the TOE Symposium and the BOI Symposium conducted by the Combat Support Group, reports were distributed to all USACDC activities. These reports include detailed information as to the manual procedures adhered to and the limited automation applied in the current implementation of these programs. In addition, these reports included recommendations and actions to be pursued to refine the development cycles associated with TOE and BOI development, and to advance the use of data automation to support these programs.

4. Based upon the detailed information available in the symposium reports in respect to all phases of the related programs, this headquarters recommends their use, in conjunction with governing regulations, in your review of these programs. Further recommend this

CSGCE-O
SUBJECT: TOE System Quality Improvement 25 Mar 71

in-house study effort be conducted simultaneously with, and in coordination with the programmed contractual effort to develop or expand automated TOE and BOI development. Additional copies of the symposium reports can be made available upon request.

5. Correlation: USACDC Action Control Number 16606.

FOR THE COMMANDER:

E. W. KROLL
LTC, GS
Adjutant

5 Incl
as

CF: (less Incl)
CO, USACDCADA
CO, USACDCCBRA
CO, USACDCCEA
CO, USACDCEA
CO, USACDCINTA
CO, USACDCMPA

DEPARTMENT OF THE ARMY Mr. Cilino/fs/978-1450-2920
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
AIR DEFENSE AGENCY
FORT BLISS, TEXAS 79916

IN REPLY REFER TO

CSGAD-MO

15 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Support Group
ATTN: CSGOE-O
Fort Belvoir, Virginia 22060

1. Reference is made to:

a. Letter, CDCDO, USACDC, 10 February 1971, subject as above.

b. Letter, CSGOE-O, USACDCCSG, 19 February 1971, subject as above.

c. Letter, CSGAD-MO, USACDCADA, 9 July 1971, subject: Use of MT/ST Facility.

d. Letter, CSGAD-MO, USACDCADA, 30 December 1970, subject: Evaluation of Suggestion No. 333-71.

2. Comments and recommendations required by paragraph 10, ref 1a and paragraph 4, ref 1b are provided in four areas: assumptions, changes in TOE format, problem areas, and the TOE management model.

3. Assumptions.

a. The Directorate of Automatic Data Processing and Management Information Systems maintains a data bank of equipment and MOS data for the purpose of preparing the masters from which final TOE printing and publishing is accomplished by Department of the Army.

b. The CDC data bank is updated by incorporating the latest changes to equipment and MOS data as received from USAMC and DCSPERS.

c. Magnetic Tape Selectric Typewriters will not be used except in those instances where data processing equipment is not available. See comments submitted in ref 1c.

Incl 1

d. Proponent agency TOE action officers are desirous of establishing the best, most up-to-date, and cost-effective TOE within the framework of approved doctrine and Department of the Army directives.

4. Changes in TOE Format.

a. Recommend that only column g, strength level 1, of Section II, Personnel Allowances, and column d, equipment level 1, of Section III, Equipment Allowances, be used for the following reasons:

(1) The 10 percent reduction criteria to levels 2 and 3 are applied to those lines that have the least effect on the mission of the unit even though it affects its overall operational capability. The analyst applies the reduction to what he believes are the least critical lines. His analysis might not agree with the analysis of a commander in Europe which may be further different than the analysis of a commander in Asia.

(2) It may be better to establish a manpower ceiling for a type unit and let the commander submit his recommendations by means of an MTOE. In general, the reduction criteria will not affect school or training quotas. Equipment reductions usually follow personnel reductions.

b. Delete the requirement for augmentations in the TOE.

(1) Paragraph 7 of CDCDO TOE Letter No. 2-70, 22 Jan 1970, states that the "H" series TOE were published to avoid the confusion of publishing an updated version of the "G" series TOE for the ROAD divisions; however, DA also opened the door for publishing the "H" series for other than divisional units. Letter, CDCDO-OE, 26 February 1970, subject: Reduction of Strength Levels in TOE, with 1st Indorsement by ACSFOR, 6 May 1970, approved the "H" series methodology for all TOE. This methodology reduced the strength of TOE by deletion of specific MOS's and placed them in augmentation. Personnel deleted were:

(a) Cooks' Helpers.

(b) Equipment Records Clerks (Unit level).

(c) Chemical Staff NCO (Bn level).

(d) Information Specialists (Bn level).

(e) Mail Delivery Supervisors (Bn level).

(f) PLL Clerks (firing btry level).

(g) Other deletions that did not affect air defense units.

(2) Although there was minimal objection to deletion of some of the above personnel, the deletion of the Chemical Staff NCO, the Mail Delivery Supervisor, and particularly the PLL Clerk, has raised strong objections from commanders in the field. It may have been better to establish manpower ceilings for all TOE and let the proponent agency analyst complete the organization, or to allow the commander in the field to complete the reduction by MTOE action. This, in effect, would have saved many manhours both at higher and lower levels in trying to complete the "H" series TOE in the short time allowed. With the short preparation time constraint normal proponent Agency review was impractical, and higher headquarters review did not eliminate all errors. Hence, the TOE was published with major and minor errors, leaving the proponent agency corrective ability to postpublication review.

(3) Although the personnel shown in paragraph 4b(1) above have been placed in augmentation, they represent hard skills lost to the commander. When the augmentation paragraph is implemented for the TOE, these personnel will require training and experience to become effective. In the interim, the commander will have designated other individuals to perform the functions as either a primary duty (without hope of obtaining the MOS or promotion) or as an additional duty.

c. Delete all requirements for numbered changes and consolidated changes to the TOE. Prior to the advent of the computer and data processing means, the preparation of TOE was a slow laborious process. The necessity for published changes was obvious. The advent of the computer, with available data banks, allows the more rapid publication of a TOE if the full capability of automation is used. When time, cost, and volume of changes are considered, it may be advantageous to publish a completely new TOE on an annual or as required basis. This concept will be discussed in paragraph 5 below.

d. Delete the "alpha" suffix in all except the "T" (tentative or test) series TOE. It is proposed that a TOE be identified by its published date. This concept ties in with the comment above that TOE be republished periodically. A copy of the General Order, listing all units that will be organized under that TOE, can become a part of the TOE, thus giving the recipient unit authority to reorganize immediately upon receipt of the TOE. Reorganization then would be in accordance with the latest approved doctrinal, personnel, and equipment actions. This concept would eliminate many of the personnel and logistics

problems of a unit that is still organized under previous series TOE. It also will result in considerable cost savings through reduction in manhours lost through preparation of correspondence or telephone calls necessary for follow up of MOS or equipment line number research.

5. Problem areas in TOE development and possible solutions.

a. TOE are too cumbersome and time consuming to prepare and justify. The method of preparation may be broadly divided into four categories: new TOE, major revisions, routine revisions, and changes. Each preparation has its own inherent problems and will be discussed separately.

(1) New TOE. Prior to the actual preparation of a new TOE, the decision to develop it is preceded by studies, considerable correspondence, development of doctrine, development of operational and maintenance concepts, preparation of BOI's for new equipment, and considerable guidance from higher headquarters. All of the above must be approved by Department of the Army before the decision is made to develop the TOE. Yet the proponent agency must justify the TOE as if DA had never heard of it before. It is recognized that the new TOE must be justified completely to create an area of understanding at higher levels; however, justification should be accomplished by exceptions to AR 570-2. If personnel are authorized by AR 570-2, it is redundant to justify the personnel line by line. By the same token, if equipment is authorized by AR 310-34, and is reflected in the DPTOE supporting documents (radio and wire diagrams, vehicle loading plan, etc.), it is a waste of time to rejustify in the narrative discussion. It is recommended that after preparation of all DPTOE supporting documents, the narrative discussion include only the personnel and equipment that are not authorized by published authorization documents.

(2) Major Revisions. The criteria for a major revision is:

(a) Change in unit mission or capabilities.

(b) Change in unit organizational structure.

(c) Additions to or major changes in personnel or equipment.

(d) Changes in the designation of a unit from one branch to another. Usually the criteria for a major revision is subparagraph "(c)" above. The other three criteria rarely occur. If all of the above pertain to the revision, it is obvious that a new TOE is required.

Whatever the reason, AR 310-31 requires complete justification and documentation as prepared for a new TOE. Since the previous TOE has been thoroughly justified, approved by all echelons including DA and then published, it is redundant to rejustify the complete TOE. It is recommended that only those changes to the TOE that are not included in personnel and equipment authorizations in AR 570-2 and AR 310-34 be justified. See subparagraph 5c below.

(3) Routine Revisions. Routine revisions of TOE reflect the application of approved DA policies and will be confined to changes in the following:

(a) Duty position titles, MOS codes, grades, and branches based on changes in MOS structures in the AR 611-series.

(b) Approved complete basis of issue plan.

(c) Equipment line item numbers and nomenclature.

(d) Decreases in allowances of noncontrolled equipment.

The source for the above changes exist in the data bank, are DA approved and should be processed by CDC ADP. The processing of routine revisions by proponent agencies should be abolished. See subparagraph 5c below.

(4) Numbered changes to TOE. AR 310-31 states that TOE proponents will prepare and process as changes to TOE only those changes which are applicable worldwide. This action is similar to a major revision but on a smaller scale. The treatment of a numbered change should be the same as a major revision.

(5) Consolidated change tables. AR 310-31 states that consolidated change tables will be published when required to disseminate like and concurrent changes applicable to a multiple number of TOE. Consolidated change tables reflect the application of approved DA policies and should be treated the same as routine revisions.

b. The preparation of a TOE is a slow cumbersome process requiring a great deal of effort in research, preparation, justification, coordination, approval, and publishing. (See reference 1d.) Because of its complexity, and the many steps in processing, the smallest change may take a minimum of 6 months from start to distribution of a finished product. An examination of these processes follow:

(1) Research. Research begins by screening the proponent agency's file for MOS actions, equipment changes or development documents,

MACRITS, new organizational concepts, changes in doctrine, MTELS, correspondence from units in the field, and any other notes pertinent to the TOE to be processed. It may be necessary to visit units in the field, contractor personnel, testing sites, and higher headquarters of a similar type unit to the TOE being processed. Actions must be DA approved before they can be used. AR 570-2 contains criteria for determining the number of personnel authorized for selected organizational functions. Equipment actions must be DA approved and a line item number assigned before it can be included in the TOE. AR 611-201 determines DA approved enlisted grade structure. Doctrine must be approved by DA before it can be adopted for TOE preparation. If any of the above information is missing, numerous telephone calls must be made to higher headquarters to determine the status of the action.

(2) Preparation. Although research is never really completed since it continues even after the TOE is published, the preparation phase of a TOE must begin. This means preparing Sections I, II, and III for a new TOE, or making changes to the three sections for revisions and changes. This is the area where the most problems are met; i.e., discovering that a line number does not exist, an MOS action has not been completed, or that the doctrine has not been written or evolved. Examples of the above were the ASTRO and AIRMOBILE organizations.

(3) Justification and supporting documentation. This particular phase is the most time-consuming area of TOE preparation. Not only must tabulations, forms, diagrams, and computations be prepared, but a narrative discussion must be written to justify every line in the TOE. This must be accomplished even though 75 percent or more of the included actions have been justified by correspondence with other agencies, logistic units, and coordination with CONARC schools; and then DA approved. The complete process is repetitive, time consuming, and redundant.

(4) Coordination. The coordination of a TOE is time consuming. Pre-DPTOE preparation coordination must be effected with the collocated CONARC School, AMC agencies, CDC agencies, and other interested organizations. After preparation the DPTOE must again be coordinated with the above agencies to solicit comments and recommendations. This requires the reproduction of 75 to 169 copies of the DPTOE. Preparation of this number of copies by data processing is cost prohibitive, and support by the local field printing plant requires a minimum of eight weeks. The reproduction facility at this Agency has limited responsiveness to DPTOE reproduction due to personnel shortages and other higher priority actions. When the DPTOE is completed and transmitted, CDC

prepares copies for an area of interest review. At this point it is assumed that this review requires, as a minimum, the same number of copies that is prepared by the proponent agency. The problem is an expenditure of approximately 70 days of time in coordination alone.

(5) Approval. TOE approval reflects a myriad of considerations not within the purview of this Agency. However, the decisions by action officers at higher headquarters, in their implementation of DA policy guidance, is of great concern to this Agency. This is particularly true where there are personnel or equipment changes or deletions to a TOE action, but no opportunity given the proponent agency to rebut them. Hence, the TOE is published by DA, and the proponent agency's only recourse to correct errors injected in the approval process is after a post-publication review. This requires either another change or revision to the TOE.

(6) Publishing a TOE is an automatic mechanical process based upon the capability of a printing plant and the volume of work. Factors affecting the operation are, the number of TOE that require changes, number of separate TOE to be printed, and number of changes to each TOE to be printed. There are approximately 700 TOE in the system and consolidated changes may affect as many as 500 of them. Although publication of consolidated changes reduces the number of separate changes published, it greatly increases the volume for distribution. If the assumption is made that there is only one action per TOE per year, then printing volume would be approximately three TOE per day.

(7) Assuming that a proponent agency has one TOE technician working full time on TOE, and the full treatment justification process is used, an average of six TOE can be processed in one man-year. This Agency is the proponent for 12 battalion type TOE (that include 33 different components) and 10 other battery type TOE. Thus, it would require approximately four years to adequately process all TOE. When this workload is added to the unprogrammed actions such as CONAF, TRICAP, and ASTRO, then the unit in the field may have to wait 5-6 years for an up-to-date TOE.

c. Establishment of a continuous feed system. It is recommended that a system be established which will take advantage of the data bank already established at CDC and that is updated periodically by AMC and DCSPERS.

(1) If every MOS and equipment action initiated by an agency, a school, or any other headquarters in the Department of the Army, and approved by DA, is fed directly into the data bank on a monthly basis, a source of approved information would be available to print a completely revised TOE without further action by any agency. Since these actions will have required the coordination of all interested agencies, the coordination of the TOE reprint can be considered accomplished.

Thus, routine revision and consolidated change tables would not require proponent agency involvement.

(2) New TOE and changes to established TOE, which include non-DA approved requirements, would require that full justification be provided. Aside from the initial research, no coordination would be required in the DPTOE preparation phase. The proponent agency would forward card decks to Hq CDC for the new TOE or for the changes. A complete TOE would be run at CDC ADPS by using both the data bank and the card deck. Section I, narrative discussion, and supporting documents could be run concurrently with the TOE by using an 80-80 utility listing program supplied by the computer manufacturer. The narrative discussion and supporting documents would be run only for the AOI review. Copies would be sent to all interested agencies, both internal and external to CDC, with instructions to transmit comments and recommendations to the proponent agency. The agency would then accept or rebut the comments and forward the complete file through command channels for review. If last minute changes, such as personnel or equipment reductions must be applied, then CDC guidance may be transmitted at the time of the AOI review in order that the proponent can apply it logically.

(3) The approved results of the AOI review could be applied directly to the data bank as corrections. After DA approval of the TOE, a master copy could be run for printing purposes. This method would reduce the volume of processing TOE at all levels, but particularly at agency level where only two types of TOE actions would be necessary, preparation of new TOE and major revisions. As the agencies would have the latest updated copy of the TOE, only minimal effort would be required to prepare for the next printing. By adopting this system, considerable savings in dollars and man-years would be realized, and TOE's distributed to the field would be the latest version.

(4) A flow chart depicting the TOE preparation effort is at Inclosure 1. TOE management model charts for new TOE and revised TOE are at Inclosures 2 and 3.

d. Use of the consolidated change table. If TOE updates were accomplished by means of a cyclic consolidated change action, the table would become so voluminous that printing and distributing would be cost prohibitive. Further, a potential bottleneck would be presented (in that all the information to update the TOE or data banks would occur at one time). This solution is no better than the present method of processing.

e. Area of interest (AOI) review. Presently the AOI review is a bottleneck to efficient TOE review, and in essence duplicates the agency coordination effect. Both the AOI review and coordination require the preparation of many copies of the DPTOE for distribution and comment. This becomes another bottleneck because of ADP limitations both at CDC and at agency ADP support facilities. Time required, for both the AOI review and interagency coordination, is a minimum of 60 days (30 days for AOI review and 30 days for interagency coordination). Thirty days can be saved by deleting the interagency coordination phase as required by CDC Regulation 310-5. The AOI review as outlined above would more effectively accomplish the review requirements.

f. The ADP and printing limitations. The computer is a highly complex machine, expensive to run, and must be used completely to be cost effective. The use of the computer as a high speed printer is very inefficient. The computer inputs, storage cores, and capability for high speed logical processing, demands that inputs be highly complex and too costly to process by other means.

(1) If costs are compared, an IBM 360 Computer such as used at CDC, costs approximately $80.00 an hour for rental. Using this computer at its primary eight hour day for one year, amounts to $160,000.00. If the agency has the 169 required copies for distribution printed by ADP means one TOE used for coordination would cost $560.00 of computer use (excluding the cost of personnel). The minimum cost for two runs of each TOE would be $1120.00.

(2) A solution to this problem would be to purchase a reduction camera (approximate cost $2000.00) for preparing multilith masters, and a multilith printing machine (approximate cost $2000.00). Two personnel with a representative skill level of grade GS-7 would be hired to run the equipment, at a total salary of $17,164 per year. This expenditure compares favorably with the $160,000.00 for computer rental.

(3) The computer would be used by ADP to make one run on 6 ply paper. One copy of this run will be reduced by photo process to multilith masters. The masters would be run on the multilith machine in as many copies as required in 8" x 10-1/2" format. These are the copies that will be distributed for AOI/coordination review. If this operation is accomplished at CDC headquarters, only one computer run would be required at the agency level, and many thousands of dollars of computer time would be saved. The bottleneck at ADP/MIS would be eliminated and a more effective operation would result.

g. Other projects interfering with TOE preparation. Projects that cause the greatest interference are usually TOE related, such as CONAF, ASTRO, and TRICAP requirements. Since these projects must be supported according to their priority, they impact on the TOE preparation schedule. This impact normally requires adjustment of workload priorities and the rescheduling of TOE actions. The adoption of the methodology discussed in paragraph 5c provides for the periodic updating of TOE whether or not the TOE is scheduled for such action by the proponent agency.

h. The application of a crash program such as occurred in ASTRO and AIRMOBILE TOE is a good example of poor TOE preparation; i.e., limited time was spent in research and assembly of data correction. However, these same TOE demonstrate when adequate guidance and approved policies are provided to the proponent agency that most of the justification and supporting documents become unnecessary.

6. The recommended change to the TOE System as presented in paragraph 5c has the following advantages.

a. Utilizes computer automation to the maximum without overburdening the capability of data processing.

b. Establishes an up-to-date TOE for all commands.

c. Enables schools to plan their training requirements more accurately.

d. Reduces TOE preparation time by more than 50 percent.

e. Reduces the burden of TOE preparation on proponent agencies, enables them to process more TOE, and possibly handle more unprogrammed actions.

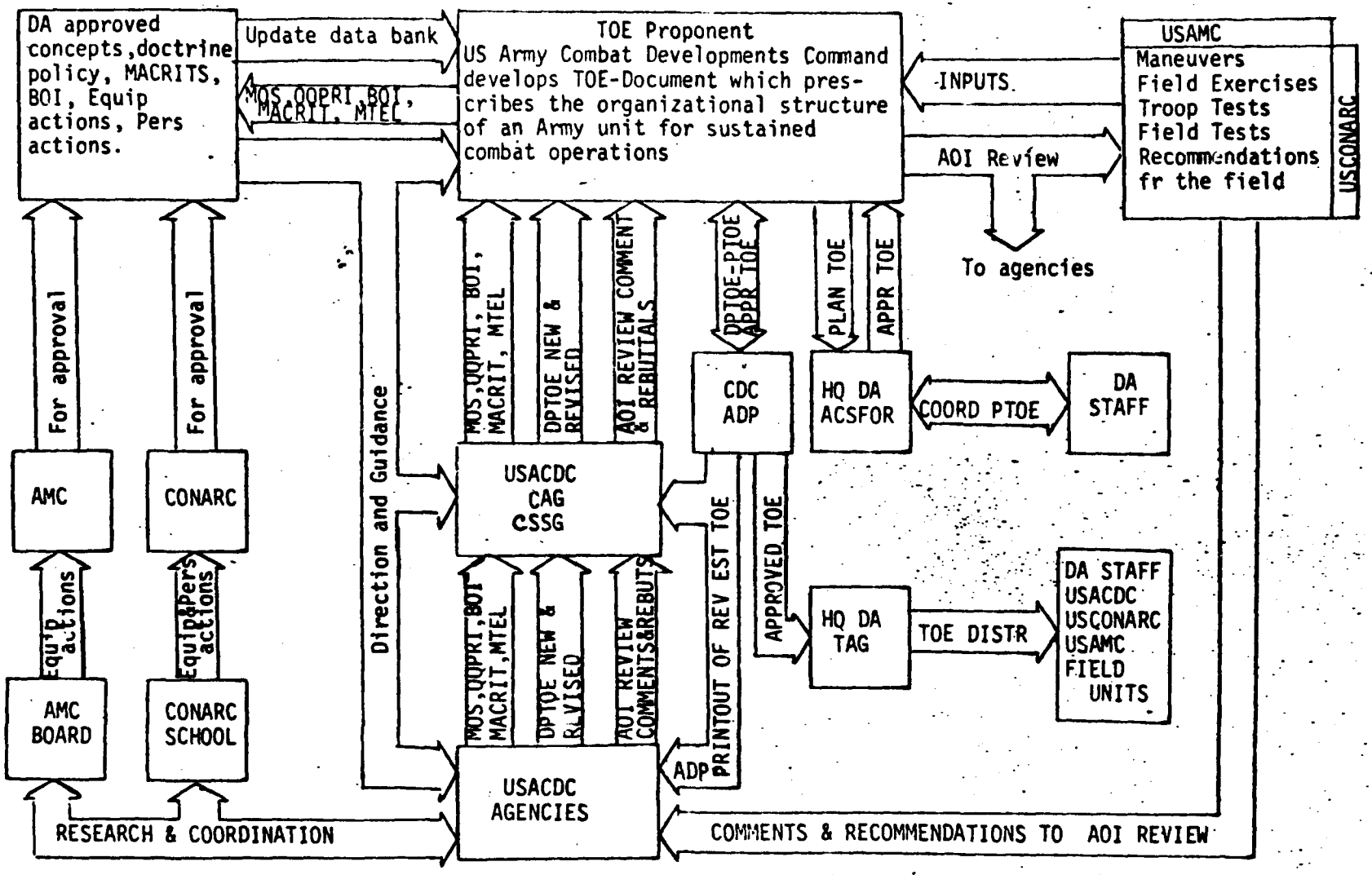
f. Reduces the cost of the system by a minimum of $100,000.00 per year, and by an inestimable amount when increases in the capability of the system to more rapidly update TOE are considered.

7. Correlation: USACDC Action Control Number 16606.

FOR THE COMMANDER:

3 Incl
as

RICHARD E. HAMILTON
Lt Col, ADA
Asst Adjutant

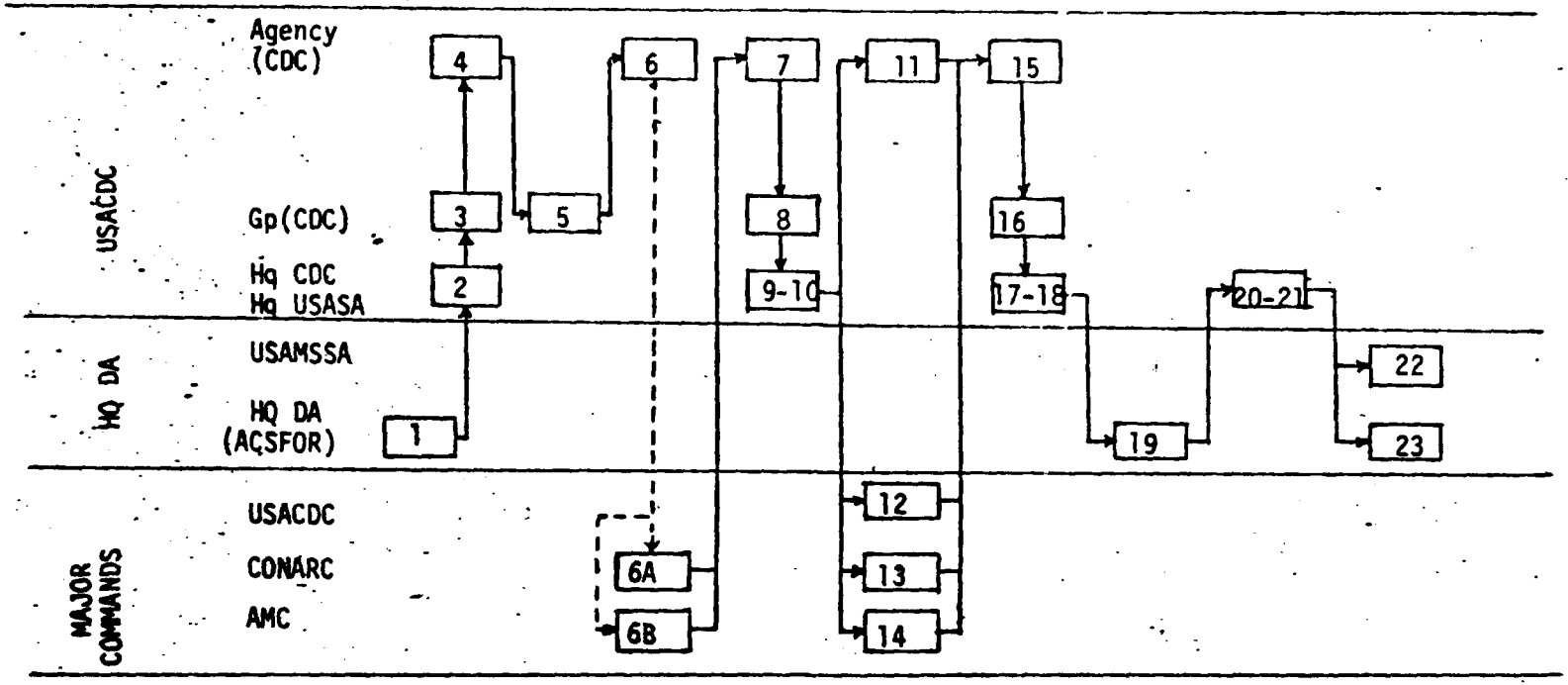


TOE FLOW CHART

CL 2

TOE MANAGEMENT MODEL

NEW TOE

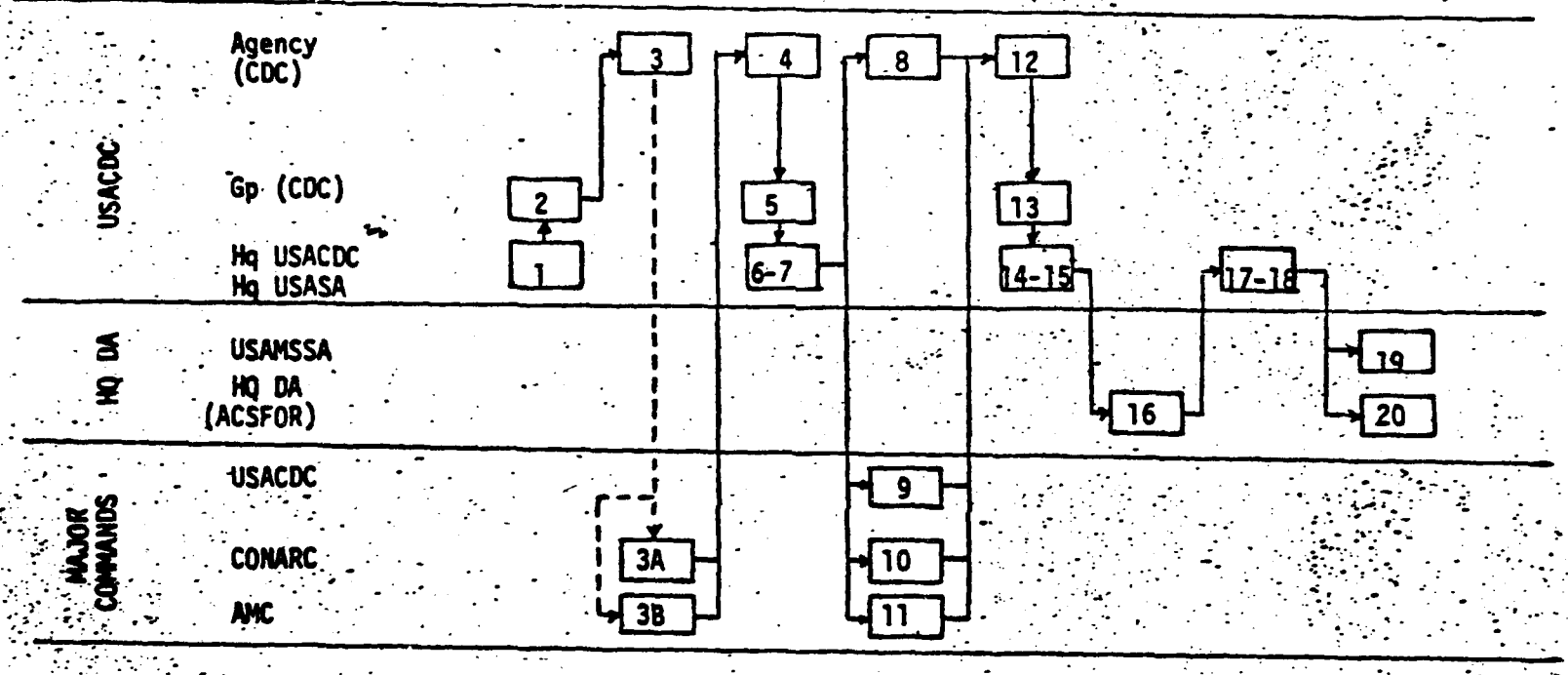


1. Doctrine study
2. Guidance
3. Derivative Study Directive
4. Initiate study develop
5. Derivative study approved
6. Develop Draft Plan TOE
6A. School Input DPTOE
6B. Boards Input DPTOE
7. DPTOE
8. Review DPTOE Proponent Gp Hq
9. Prepare DPTOE for AOI
10. Machine run sections I, II, III, DPTOE
11, 12, 13, 14. AOI Review
15. Evaluation AOI comments
16. Evaluation AOI comments & rebuttals by Gps
17. Evaluation AOI comments & rebuttals by CDC
18. Machine run sections II & III PTOE
19. Staff approve plan TOE
20. DA Comments prepare final TOE
21. Machine run sections II & III FTOE
22. Up-date tape
23. TAG DA publication

INCL 3

TOE MANAGEMENT MODEL

REVISED TOE



1. Sections II & III revised TOE
2. Group tasking
3. Develop DPTOE
3a. School Input DPTOE
3b. Boards Input DPTOE
4. DPTOE
5. Review DPTOE proponent Gp Hq
6. Prepare DPTOE for AOI
7. Machine run sections I, II, III, DPTOE
8, 9, 10, 11. Area of Interest Review
12. Evaluate AOI comments
13. Evaluation AOI comments & rebuttal by Gp
14. Evaluation AOI comments & rebuttal by CDC
15. Machine run sections II & III PTOE
16. Staff approve plan TOE
17. DA comments prepare final TOE
18. Machine run sections II & III FTOE
19. Up-date tape
20. TAG DA publication

CSGCB-DO (19 Feb 71) 1st Ind
SUBJECT: TOE System Quality Improvement

US Army Combat Developments Command, Chemical-Biological-Radiological Agency, Fort McClellan, Alabama 36201 1 MAR 1971

TO: Commanding Officer, US Army Combat Developments Command, Combat Support Group, ATTN: CSGOE-O, Fort Belvoir, Virginia 22060

1. In compliance with paragraph 3, basic letter, comments relative subject USACDC study are furnished.

2. Comments are referenced to applicable parts of the reference cited in paragraph 1, basic letter, as follows:

a. Use of Magnetic Tape Selectric Typewriter (MTST) in TOE Preparation. (Re para 4, reference letter).

(1) The CBR Agency uses MTST for preparation of TOE in lieu of punch cards and automatic data processing equipment (ADPE). The MTST is adequate for TOE preparation except for organization charts and radio and wire diagrams, which are reproduced by the Multilith process.

(2) Use of the MTST in this Agency has the following advantages:

(a) Provides organic Agency capability to produce TOE printouts during normal work hours.

(b) The tapes occupy very little storage space in contrast to the tub files required under the ADPE system to store punch cards.

(c) MTST can be, and is being used for other repetitive purposes such as studies, TDA, administrative reports and publications, QMDO, QMR, and SDR.

(d) Perfect reproduction in multiple copies is immediately available.

(e) Tapes are easily corrected and are reusable.

(f) Parts of an existing tape can be selectively retained by transfer during preparation of a new tape.

(g) Cross-training of MTST operators is relatively simple.

(h) Allocation of MTST time for TOE and other purposes is at the discretion of the Agency Commander.

Incl 2

(3) Use of the MTST by other USACDC Agencies should produce similar benefits and should reduce the extent to which ADPE is used throughout USACDC.

(4) Procedurely, a prepared magnetic tape can be forwarded from the proponent agency with the DPTOE, or other TOE actions which require the tape, so that reproductions can be made from the tape when required. The tape can be corrected to reflect changes made during staffing and coordination of the TOE action. The final corrected tape can be "fed" into ADPE or other equipment immediately preparatory to publication of the approved TOE action.

(5) Corrections to the DPTOE or other TOE hard copy should be by "pen and ink" changes to the maximum extent possible. This will reduce machine reproduction of the hard copy during staffing to the minimum.

(6) The use of MTST for preparation of TOE was discussed by this Agency at the USACDC CSG TOE Symposium, 23-24 September 1969. It was also explored by USACDC in unclassified message 8345, CDCDO-OE, 12 June 1970, subject: Use of MT/ST Facility.

(7) The MTST procedure will require standardized USACDC procedures for preparation, storing, forwarding, and indexing the magnetic tapes. It may also require procuring or leasing MTST equipment at appropriate USACDC elements, a step which may also prove beneficial from a cost point of view; i.e, the cost of MTST vs ADPE.

b. Maintaining G, H, and T Tables. (Re para 6, reference letter). Maintaining G, H, and T Series tables requires either major revision as defined in para 2-5a, AR 310-31 or a routine revision as defined in para 2-5b, AR 310-31. Since major revisions usually result from Agency actions; i.e., a study, and require Agency preparation of DPTOE, the MTST procedure discussed above can be used for major revisions. For routine revisions; i.e., administrative updating of TOE, refer to para d below, Consolidated Change Tables.

c. Update of Pre-G Series TOE (Re para 6, reference letter). This Agency does not concur in terminating the updating of C, D, E, and F series tables either while units are still organized thereunder, or as long as this type of unit remains in the DA TOE Digest or the DA Force Structures. Updating procedures for these TOE should be the same as for either major or routine revision of the G, H, and T series TOE. A current example of the failure to make a major revision of an E series TOE is TOE 3-7E, Chemical Direct Support Company. This is a pre-COSTAR unit whose organization and capabilities are still specifically oriented toward supply and

maintenance of chemical equipment even though those activities were functionalized into other non-technical service oriented units under the concepts of COSTAR and TASTA-70.

d. Consolidated Change Tables. (Re paras 7 and 8, reference letter).

(1) The criteria used in developing consolidated change tables (Section II, AR 310-31) are almost identical to those which govern routine revisions. Changes incorporated therein include DA approved changes to BOI, MOS, MACRIT, equipment nomenclature and LIN, and similar items which administratively affect TOE.

(2) TOE are required to be reviewed and revised on a cyclical basis (within a 2-year cycle per paragraph 12a, USACDC Reg 310-5). These cyclical reviews are accomplished by proponent agencies when scheduled by the DA. They usually are routine revisions to administratively update the TOE, and normally result in a numbered change which incorporates previous numbered changes and consolidated change tables.

(3) It is proposed that this procedure be changed essentially as follows:

(a) Administratively divide all TOE into four groups, one for each fiscal quarter.

(b) Publish a consolidated change table each quarter which applies to all TOE in the applicable group. This would assure administrative update of all TOE on an annual basis.

(c) The Consolidated Change Table would include all changes now incorporated in both routine revisions and consolidated change tables. Since the changes result from DA approved actions, the current requirement for detailed, time-consuming staffing and coordination of routine revisions would no longer exist.

(d) The repository for all DA approved TOE data should be the TOE Data Bank; i.e., all DA approved MACRIT, BOI, MOS, LIN, equipment nomenclature, and similar authorizations which impinge on TOE and which are currently the primary reasons for routine revisions and consolidated change tables. Properly structured and programmed, the TOE Data Bank could be the source of all information upon which the Consolidated Change Table is developed. This table could then replace the current requirement for routine revisions to TOE.

(e) The Consolidated Change Table would be fully automated, based on the USACDC TOE Data Bank, and could be published in such a manner

as to constitute official numbered change to applicable TOE. This step would place maximum emphasis on ADPE for TOE development.

(3) The post publication review of TOE required by paragraph 2-11, AR 310-31 would apply to the Consolidated Change Table, as well as new TOE and major TOE revisions.

(4) The proposed procedure for consolidated change tables has these advantages:

(a) All TOE would be updated annually to reflect DA approved actions which routinely affect TOE.

(b) Routine updating of TOE would be accomplished almost completely with ADP equipment and procedures.

(c) The more detailed and time consuming TOE procedures would be restricted to development of new TOE or to major revisions of current TOE.

e. Exceptions to DA Approved Actions. (Re para 9, reference letter). Since all contingencies cannot be foreseen, and since there will probably always be some TOE related items which have not been previously referred to DA for approval, or, if referred, have not been finally acted upon, provision must be made for handling exceptions to DA approved actions. The details of such a procedure are not important at this point in subject study. It is essential, however, that an adequate procedure be included in the TOE development process.

f. Current Feedback System. (Re para 10a, reference letter). The rationale upon which changes to CBR Agency proposed TOE actions have been made in the past at either Group, USACDC, or DA levels has rarely, if ever, been transmitted to this Agency in a meaningful manner. Further, the proliferation of letters, messages, fonecons, and other miscellaneous means used to disseminate USACDC TOE policy in implementation of AR 310-31 and USACDC Regulation 310-5 has not resulted in clear-cut TOE guidance. This situation is made evident by the difficulty encountered at the Agency level in orienting newly assigned TOE action officers. Subject study should not only provide clear-cut basic TOE guidance to all TOE action elements in USACDC, but also assure maintenance of TOE guidelines through an effective feedback system.

g. Re para 10b, reference letter, except for the Suggested Loading Plan and Vehicle Justification (Appendix II to USACDC Reg 310-5), this Agency has no comment on the current system for narrative support. The Suggested Loading Plan and Vehicle Justification would be more meaningful

if vehicle loads were supported in detail, using equipment weight, dimensions, and cube, such as are published in USCONARC Movement Planning and Status System (COMPASS), prepared by the Transportation Engineering Agency, Fort Eustis, Virginia, or similar official publications. This procedure might result in some economies in TOE vehicle authorizations.

h. Re para 10c, reference letter, see above paragraph a on the use of MTST.

i. Re para 10d, reference letter, the procedures discussed in this indorsement will necessitate major changes in AR 310-31, USACDC Reg 310-5, and current USACDC TOE guidance.

3. Correlation: USACDC Action Control Number 16606.

FOR THE COMMANDER:

wd incl

DOUGLAS E. WILSON
Acting Executive Officer

9 MAR 1971

CSGCE-OO (19 Feb 71) 1st Ind Miss Butler/np/99-23885
SUBJECT: TOE System Quality Improvement

HQ US Army Combat Developments Command Communications-Electronics Agency, Fort Monmouth, N.J. 07703

TO: Commanding General, US Army Combat Developments Command Combat Support Group, ATTN: CSGOE-O, Fort Belvoir, Virginia 22060

1. Comments on proposed improvements in the TOE development, processing and coordination cycles are forwarded as requested.

2. Due to the short suspense date, a complete study of the items shown on Inclosures 2 and 3 could not be made. The proposed procedures evolved from a discussion with TOE developers of the methods presently employed and possible improvements.

3. Correlation: USACDC Action Control Number 16606.

FOR THE COMMANDER:

2 Incl
wd Incl 1
Added 2 Incl
2. Proposals for TOE Development
3. Proposals for TOE Processing & Coord

LOUIS E. ARCZYNSKI
LTC, Signal Corps
Executive Officer

Incl 3

PROPOSALS FOR TOE DEVELOPMENT

1. Approved unit reference sheets and concept, to include supporting communications diagrams, should be provided the proponent agency by higher headquarters for major revisions of TOE or development of new TOE.

Rationale: This information is essential to assure the latest experience data from the field and approved concept and doctrinal study data from the field and approved concept and doctrinal study data are incorporated.

2. The following items should be deleted as TOE supporting data:

a. Vehicle loading plan
b. Ammunition data
c. Fuel consumption data
d. Aircraft justification

Rationale: The above items are not published in any document and are not used for any purpose other than further justification for items which are already justified in the TOE narrative or have been included in accordance with approved basis of issue.

3. USACDC Regulation 310-5, or subsequent revisions of this regulation, should be up-dated periodically to indicate latest approved MACRIT, AR changes, new regulations.

Rationale: The up-date of this publication will eliminate or greatly reduce the requirement for the Organization Directorate Newsletter published by CDC Headquarters. It will also provide all agencies with a one-source reference document for use in TOE development.

PROPOSALS FOR TOE PROCESSING AND COORDINATION

1. EAM format should be standardized at all agencies and headquarters so an EAM deck of cards, not a hard copy, can be used as the primary agency output.

Rationale: The use of card decks in lieu of hard copy will greatly reduce time at both agency and headquarters levels. No time would be required to run off and collate hard copy. The agency would submit a card deck to CDC headquarters, through Group; CDC would run off the few copies required for forwarding. This card deck would be kept up-to-date and when the TOE is required to be revised or charged, the agency would be furnished the card deck, not a hard copy, to make changes and return.

2. Agencies and headquarters should be provided with transceivers/IO devices for transmission of DPTOE for coordination.

Rationale: This method would save tremedous amounts of ADP, collating, and mailing time. Under this method, cards could be transmitted to coordinating agencies for review. Supporting diagrams could be transmitted by facsimile. Review comments back to the proponent agency would be by correction and would be transmitted as change or correction cards to the [illegible]. The change cards would be inserted into the TOE by the proponent, up-dating the final TOE card deck. This final card deck, incorporating coordinating agencies' changes, would be the final submission to headquarters by the proponent agency.

3. The CDC area of interest review should be conducted at agency level through the signal center team.

Rationale: Area of interest review time could be reduced by presentation of DPTOE to the signal center team. Any nonconcurrence by a representative on the team would be sent to CDC headquarters for resolution at the major command level. Since OPO would be the only reviewing agency not on the team, the OPO review could be included on the DA level of review.

4. The MOS designation spaces in TOE should be increased to eight spaces to include additional prefixes or suffixes so applicable ASI can be shown.

Rationale: The use of ASI in MOS codes would reduce the use of remarks to identify the skills required in TOE and would possibly reduce the submission of MTOE by operating units.

CSGEN-OT(Undated) 1st Ind
SUBJECT: TOE System Quality Improvement

US Army Combat Developments Command Engineer Agency, Fort Belvoir, Virginia 22060 5 March 1971

TO: Commanding General, US Army Combat Developments Command Combat Support Group, ATTN: CSGOE-O, Fort Belvoir, Virginia 22060

A review of the Engineer TOE processing cycle identifies the following areas where improved methods and procedures could be initiated:

a. ADP Service: The time to obtain a TOE readout varies from two hours to two weeks, depending upon the priority of projects in process. A new format for the form to request ADP support is being formulated.

b. Post Publication Review: Post publication review comments are submitted from this Agency to USACDCCSG. We are not aware of any TOE changes resulting from these reviews. Recommend the requirement for a formal review be eliminated. An informal Agency review seems appropriate so that any errors noted can be corrected on future changes and revisions.

c. Consolidated Changes to TOE: Experience shows that TOE preparation time could be saved if a schedule of consolidated changes and their contents were issued in advance. This system would give the TOE writer the most up-to-date information to prepare the TOE.

d. TOE Review Board Actions: The reviews of TOE at Headquarters, USACDC have brought about changes due to USACDC or ACSFOR policies and guidance which are unknown to this Agency. It appears to be worthwhile to have Agency representation for this final review at USACDC to explain as necessary why certain decisions were made as well as to learn what these policies and guidance are for future TOE preparation. This procedure would save time and effort for all echelons involved and permit a better understanding of each others problems at all levels.

e. Annual Review of TOE: Paragraph 7c of USACDC letter indicates the possibility of an annual review of all TOE. Prior to assigning this mission, the manpower resources available to an Agency should be considered. Perhaps this review could be conducted by ADP at Headquarters, USACDC provided the consolidated changes include only the updating of grades, MOS, titles and individual equipment.

FOR THE COMMANDER:

JOHN M. FRANK
Chief, O&CD Division

K24

Incl 4

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
INTELLIGENCE AGENCY
FORT HOLABIRD, MARYLAND 21219

CSGIN-O

11 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Support Group
ATTN: CSGOE-O
Fort Belvoir, Virginia 22060

1. References:

a. Letter, CSGOE-O, HQ USACDCCSG, 19 Feb 71, subject as above.

b. 1st Ind, CSGIN-O, USACDCINTA, 28 Dec 70, subject: Evaluation of Suggestion No. 333-71.

c. Letter, CSGIN-O, USACDCINTA, 14 Jul 70, subject: Additional Input to Informal Study of MT/ST Usage.

d. Letter, CSGIN-O, USACDCINTA, 23 Apr 70, subject: Aids in Developing TOE.

e. HQ USACDC TOE Letter No. 2-70, 22 Jan 70.

2. As per reference a, Inclosure 1 to reference a has been reviewed. The following comments are furnished:

a. References b, c and d reflect proposals previously submitted by this agency to improve the TOE development, processing and coordination cycle. No additional comments or recommendations are made at this time.

b. The need for automation of TOE processing and development is considered to be a critical problem. The

Incl 5

11 MAR 1971

CSGIN-O
SUBJECT: TOE System Quality Improvement

establishment of an automated Technical Information System as described in reference e should be expedited.

3. Correlation: USACDC Action Control Number 16606.

FOR THE COMMANDER:

James R. Brown
JAMES R. BROWN
1LT, AGC
Adjutant

CSSG RECOMMENDATIONS

APPENDIX L

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
COMBAT SERVICE SUPPORT GROUP
FORT LEE, VIRGINIA 23801

CSSG-OO

18 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. Reference, letter CDCDO, your Hq, 10 Feb 1971, subj as above.

2. The system segments and candidate problems addressed in the above reference do not lend themselves to significant, competent analysis by USACDCCSSG elements because we are not intimately familiar with the operations within and beyond your headquarters. However, our considerations have generated several thoughts and questions that may lend themselves to your further considerations (Inclosures 1 through 7 herewith).

3. Though "impact of improvements upon support agencies" is mentioned several times, there is no specific indication that adopted changes will impact upon elements of this group. Because there is potential for significant impacts upon USACDCCSSG elements, request HQ USACDCCSSG, USACDCMA, USACDCSA, USACDCTA, USACDCPASA and USACDCMSA be provided copies of the initial draft plan (Incl 7 to Incl 1, above reference) and be afforded privileges of commenting prior to the second in-process review scheduled for 21 April 1971. Further request this Hq, USACDCSA and USACDCMA be invited to participate in the second in-process review.

FOR THE COMMANDER:

JAMES [illegible] E
Administrative Assistant

7 Incl
1. HQUSACDCCSSG Comments
2. COUSACDCMA Comments
3. COUSACDCJAA Comments
4. COUSACDCTA Comments
5. COUSACDCSA Comments
6. COUSACDCPASA Comments
7. COUSACDCMSA Comments

HQ USACDCCSSG COMMENTS

TOE SYSTEM QUALITY IMPROVEMENT

1. GENERAL

a. We should not indulge the practice of adopting the most advanced technology merely because it is advanced. The simpler and less expensive methods are often the best methods.

b. We believe that the first emphasis should be elimination of those tasks and procedures that do not pay their way or carry their weight.

2. DEFINITIONS

a. Development: As used (para 2a and 3f, Incl 1, and para 2b, Incl 3 to Incl 1) we interpret "development" to mean HQ USACDC level actions as opposed to development actions at group and agency level.

b. DA Directed/Authorized Changes: We interpret this to mean "specific" direction/authorization applicable to the action concerned, not criteria such as continued in AR 570-2 and AR 310-34. .

3. PRIORITIES Relative priorities of TOE (vs other USACDC proponent actions) is sorely in need of recognition at all levels. We think that a "new look", beginning at the HQ DA level, is needed.

4. CDCDO CAPABILITIES

a. We believe the several agencies should be responsible for the "technical excellence" of TOE for which they are proponent. While we agree that Headquarters (Group and Command) requires representative technical expertise within their various directorates, it may not be necessary for all review to be conducted by technically oriented "desks". Consideration might be given to "generalizing" desks with technical "consultation" as required.

b. While we are not competent to analyze CDCDO organization and operations, it appears possible that all (or most) of the excess processing time (350 vs 150 days) may be "administrative". Suggest the study break-down reaction times (totaling 350) into the following components:

(1) How much is professional work?
(2) How much is administrative work?
(3) How much is waiting time (to include for what)?
(4) How much is mailing time?

5. POLICY AND PROCEDURES

a. Though at first blush the USACDCJAA recommendation for a "handbook" appears to exceed limitations imposed upon implementing regulations (eg: USACDC Supplement, AR 310-31), the need for a consolidating document is recognized. We believe that a "catalog" that contains brief summaries and cross references would be feasible and desirable.

b. To reduce time required for MACRIT computations, develop and publish tables (as an annex to the "handbook" proposed by JAA, if that suggestion is adopted) that show how many personnel are required to maintain one item of equipment to be used in lieu of the AMMH formulae currently shown in MACRIT. (for example for each ¼ ton truck, .071 men would be required at org level instead of 194 AMMH).

c. Provide agencies with changes to TOE policies and authorizations whether they are USACDC or DA. It has been noted during TOE Review Board sessions numerous changes to DPTOE are made by USACDC Action Officers because agencies have not been informed of USACDC in-house policies. (eg: (a) Section I, Capabilities, dependency statement. Two dependency statements are required, when in most cases, one will suffice, since agencies are not informed of this it becomes an Action Officer process. (b) The latest is a change to the Mobility Statement to include % transportable in organic vehicles, % transportable in US Army aircraft, % transportable in USAF aircraft.) SPECIFIC: Keeping Groups and Agencies informed would tend to reduce Action Officer processing and improve the quality of the TOE. This would also reduce amount of rationale on changes to DPTOE provided to Agencies by USACDC.

6. AUTOMATION/MECHANIZATION

a. The capability to automate application of BOIP, MOS, LIN and MACRIT to TOE may be a necessary and valuable tool. However, it must be recognized that "automatic" application of these things is not required or desired in all TOE. In many cases, the applications must be on selective bases and, without significant, sophisticated reprogramming effort, human intervention would be required which may, in turn, negate any significant advantages of the automation effort.

b. If retained as required supporting data, the "basic load" data should be automated and inserted in DPTOE at HQ USACDC.

c. Manual preparation of TOE Section I and the Narrative Discussion appears to be more cost effective than automation of these two documents. Our paragraph 1a (General) applies.

d. Automation of loading plans would be desirable if permitted by the restraint "no major reprogramming effort". We visualize an automated system where each unpackaged cargo item would be assigned a "load factor" based upon the more significant of weight, cube or other load factor (such as outsize length) and that cargo carriers (trucks for example) would be assigned relative load capabilities factors.

e. Most standard enlisted and officer MACRIT positions are conducive to mechanization, as is the criteria for maintenance of equipment. All MACRIT should be reviewed for possible machine application. Each time MACRIT change the data bank must be updated.

f. Existing USACDC procedures provide for CDCDPFO to send the TOE proponent a card deck and hard copy printout of TOE schedule for action 90 days prior to the CDC submission date. This is being done but often arrive too late to be of any use or the card decks packaged so as to arrive in unusable condition.

g. Procedures are required to expedite the development of new TOE. An agency should be able to obtain a "strawman" printout by providing CDC-DPFO a listing of TOE SRC down to paragraph number of certain existing TOE. This printout could then be adjusted by the developer to provide rapidly the basis for an initial draft plan TOE. [redacted]. In the case of new TOE that are crash actions, the response time from CDC to the agency request by phone, letter, or TWX should be 10 calendar days or less.

h. Consideration should be given to the development of automated programs to compute mobility (ground, air, etc.) based upon personnel and equipment included in the draft plan TOE. Therefore, the TOE proponent would omit paragraph 6, TOE Section I and this information would be added by USACDC based upon computer results. The only additional mobility input required of the TOE proponent would be to state the doctrinal requirement for mobility (e.g. Tactical unit 100% mobility) or in the case of a maintenance unit the weight and cube of ASC [illegible] to be carried. With these parameters the machine program should be able to validate vehicle requirements and/or provide an accurate mobility statement.

7. DATA BANK

a. We assume that the current data bank (to include approved BOI) will be used to generate TOE consolidated changes. As an information service to TOE proponents it would be desirable to have a printout annually or semi-annually which lists all approved BOI and TOE to which they are applicable. Secondly, 120 days prior to the USACDC submission date the TOE proponent should be provided a printout that lists the BOI (to include authorization down to TOE paragraph) for each scheduled TOE or comparable predecessor TOE. This proposal has been discussed with CDCDO-A and agreed to but never (as yet) implemented.

b. It would appear that USACDC in coordination USACDCEA could establish standard planning factors for general lighting requirements and provide a master comprehensive listing by line item number and nomenclature that gives the power requirement (e.g. phase, wattage, AC,DC, etc.) for each item of equipment to be included in TOE. This could be used by the proponent for TOE development, and the same data bank information could be used by USACDC or DA to validate TOE generator requirements during staffing or subsequent updating of TOE by consolidated changes.

8. ADMINISTRATIVE ACTIONS On numerous occasions HQ USACDC issues letters of guidance, tasking letters, or just letters that transmit information to the groups, institutes and agencies. Frequently, the agencies are omitted. This results in a delay in getting required information to the interested agencies. More distressing is the fact that in many instances material distributed by HQ USACDC never reaches some or all of the groups or agencies. (This has been documented previously). In some cases a requirement becomes known only by chance or if any agency that gets the document, called to clarify a matter or ask what the group suspense date will be. The study should examine the problem and develop procedures to insure that correspondence is in-fact received by the required addressees.

9. TOE FORMAT Considering the TOE is a requirements document only (and authorizations are provided in approved MTOE), we cannot identify any significant value of current levels 2 and 3 strength/quantity columns based upon "percentage" reductions in capabilities. These columns would be more significant to TOE users (The using unit who must develop their MTOE for example) if they reflected strengths/quantities required for "specific jobs". For example: Level 1 supports a division of 19000 people; level 2 supports a brigade of 7000 people; level 3 supports a battalion of 800 people.

10. SUPPORTING DOCUMENTS

a. Portions of the narrative discussion can be eliminated without serious degradation of the draft plan.

(1) Discussion of the mission, capabilities and assignment could be eliminated unless there are valid needs to expand upon Section I statements. The field manuel writer can develop details for any required expansion of Section I information.

(2) Details of employment and relationships to higher, subordinate and adjacent units, and methods of operations and functions of subordinate elements, should be required only in those TOE for which there is no precedent. Again, the field manuel writer can develop details for any required expansion of Section I information.

b. Type basic loads should be required only when the load impacts significantly upon mobility or vehicle justification.

c. The requirement for "fuel consumption data" does not appear in current AR 310-31 though it is still required by CDC Reg 310-5. This data does not contribute significantly to the needs of draft plan TOE.

11. APPLICATION OF ASTRO PROCEDURES TO ALL TOE ACTIONS The ASTRO DPTOE development phase was preceded by the preparation of detailed Unit Reference Sheets (URS). Therefore, the TOE proponent except for last minute changes in guidance had a "strawman" against which to proceed with preparation of the draft plan TOE. The ASTRO procedures adopted in abbreviated DPTOE format in order to meet the compressed time schedule within available resources. As a further concession, USACDC agreed to accept TOE Section I, II, and III based upon professional judgement of the TOE proponent, subject to the judgment of the USACDC review board. Narrative supporting (limited in scope and coverage) was submitted as follow on action. It is believed that recognition by DA in AR 310-31 of Abbreviated Draft Plan TOE as a type of approved TOE action could conserve manpower, reduce the level of effort at all echelons, and shorten the TOE development cycle. Attached is an example for Abbreviated Draft Plan TOE.

12. CONSOLIDATED CHANGES

a. The consolidated change has been a vehicle for rapid implementation of direct substitution items (e.g. substitute new MOS 71B10, grade E-3, for all MOS 70A10, grade E-3, positions currently reflected in TOE) that could be incorporated in the change by mechanized means.

b. Both consolidated and individual changes have been useful "tools" of the trade. The "individual change" tool should be abandoned only when it can be proved that the consolidated change, as a "universal tool", can better accomplish the jobs of the individual change.

c. "Once a year" reviews are considered too short in some cases and too much in others. The "Recommended Change Form" suggested by USACDCPASA could conceivably solve some existing problems.

13. AREA OF INTEREST REVIEWS

a. It appears that administrative delay (wait) and mailing time constitutes all the excess time currently required for these actions. We do not believe that copies now furnished ADI reviewers by HQ USACDC is sufficiently different from proponent original submissions (agency draft plans submitted to Group Hq) to justify time cost of the current procedure.

FORMAT FOR SUBMISSION OF DRAFT PLAN TOE

COMPONENT	AR 310-31 Par 2-36 + CDC Suppl	ABBREVIATED DRAFT PLAN TOE (CSSG Proposal)
1. TOE Section I (to incl Org Chart)	x	x
2. TOE Section II (Pers) (No Recap)	x	x
3. TOE Section III (Eq) (No Recap)	x	x
4. Narrative Discussion		
a. Mission, Capabilities and Assignment	x	x*
b. Employment	x	x*
c. Method of Operation	x	x*
(1) Justification for Pers not Covered by MACRIT	x	
(2) Genr/Lt Set Justification	x	x*
(3) Misc Eq Justification	x	
5. Type Basic Load	x	
6. Vehicle Justification + Loading Plan	x	x*
7. Commo Diagrams	x	
8. Deviations	x	

* Supporting data will address only changes to current or comparable TOE.

ANNEX E

b. If agency level administrative (significantly printing) problems can be overcome, proponents (agencies) could provide copies of (their) final draft plans to required AOI addressees for review and subsequent comment to HQ USACDC. We emphasize that this procedure would increase proponent workload and we can recommend adoption only where increases in personnel will be provided. Therefore, this suggestion should be weighed against any potential savings elsewhere and adopted only if determined to be "cost effective".

c. If "b" above should be adopted, HQ USACDC should determine and inform proponents of essential AOI review requirements at the time actions are scheduled. These requirements could well be incorporated in the DA schedule.

14. COSTLY/OBVIOUS ERRORS Allow agencies a "last look" at printers copy, immediately prior to forwarding to TAG, for detection of administrative errors. Agency would communicate, by fonecon, direct to HQ CDC action desk on errors solely administrative in nature. Any other comments would be communicated to the Group Hq for consideration.

15. FEEDBACK TO PROPONENT

a. We feel that feed-back to proponents is essential for recognition and documentation for use during subsequent developmental actions. Serious misunderstandings could also be identified and resolved.

b. Some agencies have advised that they seldom receive feedback information. Some problems apparently exist in printing/distribution facilities at HQ USACDC. Someone should take a look to insure that feedback is provided.

16. IMPACT UPON SUPPORT AGENCIES AND LEVELS OF EFFORT

a. Any additional workloads imposed upon USACDCCSSG elements must be compensated for by additional personnel authorizations.

b. In the case of new TOE, agency workload may be reduced, or work expedited by proposals such as that contained in paragraph 6g. (HQ CDC to provide rough drafts - outlines of Sec I, II and III)

DEPARTMENT OF THE ARMY
U.S. ARMY COMBAT DEVELOPMENTS COMMAND MAINTENANCE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21005

CDCMA-O

5 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Service Support Group
Fort Lee, Virginia 23801

1. References:

a. Ltr, CSSG-OO, HQ USACDCCSSG, dtd 7 Dec 70, subj: Reflecting Reserve Component Requirements in TOE w/1 Incl and 1st Ind CDCMA-O, dtd 18 Dec 70.

b. Ltr, CDCMA-O, dtd 22 Dec 70, subj: Evaluation of Suggestion No. 333-71 w/1 Incl.

c. Ltr, CDCDO, HQ USACDC, dtd 10 Feb 70, subject as above w/1 Incl.

d. Ltr, CSSG-OO, HQ USACDCCSSG, dtd 19 Feb 71, subject as above.

2. Reference c was received in this agency on 22 Feb 71 and reference d on 24 Feb 71.

3. Comments and recommendations furnished by references a and b should be considered in the evaluation of TOE improvement.

4. Para 7, reference c, states that consideration be given to proponent review of all TOE once a year. This would place a considerable impact on some agencies due to the quantity of TOE for which the agency is proponent. In addition, the extent of required changes established by the review could result in a major revision that would not be appropriate for inclusion in a consolidated change. CDC regulation 310-5 requires individual agencies to submit semi-annual TOE schedule recommendations. Experience has proven the schedule is not adhered to due to higher priority DA imposed projects, therefore, the fault lies in the system of control over the schedule at DA. The agencies are certainly best

qualified to determine priority of sequence, type of review required and quantity of TOE which can be reviewed based on in-house capability.

5. The possible expansion of consolidated changes to update TOE would be of considerable value in keeping the TOE up to date with latest personnel and equipment changes, but time element involved in expediting should be decreased. It is recommended that proponent agencies be afforded the opportunity to review the consolidated change. This review would enhance the value as well as the accuracy of the change. Example, one MOS being replaced by two MOS; deletion of one MOS in an area where another MOS would be expanded to pick up this capability.

6. The quality of TOE could be improved at the agency level if definitive doctrinal guidance and DA/CDC exceptions to current regulations were provided prior to development or review of TOE. This would decrease the degree of CDC in-house review and administrative turbulence at CDC IPR.

7. Comments in regard to para 10, reference c, are as follows:

a. The only feedback that this agency receives on changes to DPTOE is by means of copies of comments furnished by CSSG when the DPTOE is forwarded to CDC. Any further changes or recommendations made during CDC or DA review are not passed back to the proponent agency, therefore, the difference reflected in the published TOE to the DPTOE is not explained nor is any rationale provided the proponent.

b. The supporting narrative could be reduced in content. DA Form 1529-R (narrative discussion) contains a description of the overall mission, assignment and deployment of the unit. The mission of each paragraph is then specifically stated, further broken down to include duties of personnel by title in each paragraph. There is redundency in this procedure since job descriptions by MOS are stated in associate AR's. Example: company commander - commands the company; mess steward, first cook, cooks and cooks helpers - operate the mess; wheel vehicle mechanics - perform maintenance on organic automotive equipment, etc. The individual MOS title, in most cases, clearly identifies the type of maintenance support he performs. The time element involved in expanding the narrative to specifics which are clearly justified in regulations, and the fact that once the TOE is approved by DA, this entire narrative serves no further purpose. This appears to be a wasted effort that could be

5 MAR 1971

utilized toward more meaningful projects. Fuel consumption and ammunition data is contained in FM 101-10 for planning purposes, therefore, it is questionable as to what specific justification purpose it actually serves to a reviewing officer.

c. It is recommended that Section I - General be submitted from the agencies in typed draft. As changes occur during review it would seem more expedient to change a typewritten copy than to be continually repunching and realigning cards.

d. Modification of the following regulations is recommended:

(1) AR 570-2 be updated by change sheets as new MACRIT is approved or internal changes are made. All MACRIT should be identified by MOS for clarity in one document.

(2) AR 310-34, App A and B be updated by change sheets as basis of issue are approved on items of equipment, thereby providing a continual reference. Certain items of electronics and avionics test equipment are not easily identified and new items are rapidly entering the supply system.

(3) USACDC Regulation 310-5 should be maintained more currently to incorporate appropriate guidance which is now provided by TOE letters. These letters do provide an expedient means of reference to groups and agencies but are so voluminous that they tend to lose their value as a ready reference.

8. Comments and recommendations have been coordinated with Missiles and Munitions Division, USACDCMA.

FOR THE COMMANDER:

RAYMOND J. SEGUIN
LTC, TC
Chief, Organization Div

CDCJAA 2 March 1971
SUBJECT: TOE System Quality Improvement

3. Reference 1b was received at this Agency on 17 February 1971.

BRUCE E. STEVENSON
LTC, JAGC
Commanding

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
JUDGE ADVOCATE AGENCY
CHARLOTTESVILLE, VIRGINIA 22901

CDCJAA

2 March 1971

SUBJECT: TOE Systems Quality Improvement

Commanding General
U. S. Army Combat Developments Command
Combat Service Support Group
ATTN: CSSG-OO
Fort Lee, Virginia 22901

1. References:

a. Letter, CSSG-OO, Hq USACDCCSSG, 19 February 1971, subject as above.

b. Letter, CDCDO, Hq USACDC, 10 February 1971, subject as above.

2. In accordance with paragraph 2, reference 1b, the following comments are provided:

a. A major difficulty in the current TOE system is a lack of clarity in the available information and the excessive number of source materials necessary to complete a TOE action. A person experienced in TOE development may be completely familiar with all the TOE information; but for small agencies, such as this one, which does not have specialists in TOE development, procedures, and interpretation, the mass of material appears to be complicated, unorganized, and decentralized. This comment applies to the use of ADP, the procedures for review and staffing, and the use of consolidated change tables. Authority is contained in various places, from Army regulations through CDC Regulations, supplements, Organization Directorate Newsletters and miscellaneous "unwritten" policies. This Agency recommends that consideration be given to compiling all information with an index in a single sourcebook. A manual or handbook replete with examples of acceptable products would be ideal as a ready reference for the TOE novice and for the expert alike especially since the discontinuation of the CDC Orientation Course.

b. Since this Agency is the proponent for only one TOE, 27-500 (Judge Advocate General's Service Organization), useful commentary on more technical areas covered in reference 1b requires more TOE expertise than exists in this Agency; and, therefore, comments are not submitted.

L13

DEPARTMENT OF THE ARMY
U. S. ARMY COMBAT DEVELOPMENTS COMMAND
TRANSPORTATION AGENCY
FORT EUSTIS, VIRGINIA 23604

CDCTA-D

26 FEB 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Service Support Group
ATTN: CSSG-OO
Fort Lee, Virginia 23801

1. References:

a. Letter, CDCDO, USACDC, 10 February 1971, subject: TOE System Quality Improvement.

b. Letter, CSSG-OO, USACDCCSSG, 19 February 1971, subject: TOE System Quality Improvement.

2. In compliance with reference 1a above, the following recommendations are submitted:

a. Paragraph 10a - There is an absolute requirement to include area of interest (AOI)-DA level comments in the current feedback system. A system should be established for the proponent agency to concur or rebut AOI-DA level comments.

b. Paragraph 10b - It is recommended that the supporting narrative be put on cards or tape.

c. Paragraph 10c - Concur with the MTST tape system for submitting Section I of the TOE.

d. Paragraph 10d - The modification of regulations or other directives affecting TOE development would be dependent upon changes made and can be recommended after the revised system is developed.

3. It is recommended that the Combat Developments Study Plan: Quality Improvement of the TOE System include agency level TOE expertise during the study formulation phase.

L-14

CDCTA-D
SUBJECT: TOE System Quality Improvement

4. Reference 1a above was received by this agency on 19 February 1971.

FOR THE COMMANDER:

E. D. TROTTER
Chief, PMS Division

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
SUPPLY AGENCY
FORT LEE, VIRGINIA 23801

CDCSA-O

4 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Service Support Group
ATTN: CSSG-OO
Fort Lee, Virginia 23801

1. References:

a. Letter, CDCDO, HQ USACDC, 10 February 1971, subject as above.

b. Letter, CSSG-OO, HQ USACDCCSSG, 19 February 1971, subject as above.

2. Comments requested by references 1a and b, above, are contained in inclosure 1.

3. Reference 1a was received by the Supply Agency on/about 19 February 1971.

FOR THE COMMANDER:

1 Incl
as

JAMES M. PIERCE
LTC, QMC
Executive Officer

I-15

CDCSA-O

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
Combat Service Support Group
ATTN: CSSG-OO
Fort Lee, Virginia 23801

1. References:

a. Letter, CDCDO, HQ USACDC, 10 February 1971, subject as above.

b. Letter, CSSG-OO, HQ USACDCCSSG, 19 February 1971, subject as above.

2. Comments requested by references 1a and b, above, are contained in inclosure 1.

3. Reference 1a was received by the Supply Agency on/about 19 February 1971.

FOR THE COMMANDER:

1 Incl
as

JAMES M. PIERCE
LTC, QMC
Executive Officer

SUPPLY AGENCY COMMENTS FOR TOE SYSTEM QUALITY IMPROVEMENT

1. The time necessary to produce a DPTOE at Agency level can be reduced by--

a. Automating the requirement for the following items at the time HQ CDC receives the DPTOE.

(1) Basic ammunition loads--programs can be developed for category I, II and/or III units based on per type weapon or artillery piece.

(2) Basic load for petroleum--program can be developed based on the category of unit and consumption rates.

b. Delete requirement for development of loading plan. The loading plan is very time consuming and is not worth the effort inasmuch as considerable amount of the data is not available and that which is available, i.e., weights, cubes, and dimensions vary as much as 100% in many cases where there are various makes and models involved per line item. The loading plan when developed is totally inadequate and at best is only a rough estimate. Unit requirements for supply and equipment authorized by various documents such as TA, CTA and TM's cannot be determined accurately except by units on the ground with specific-assigned missions and geographical area of operation. Examples are:

(1) Decon Apparatus 400 gal cap truck mtd--requires approximately two tons of operating (expendable) supplies in order to support its mission.

(2) Bath unit--not to mention its operating supplies, soap, towels, etc., manufactures its own duck boards to be used under and around the shower stands which alone cubes out in excess of 1/2 of the authorized space of a 2-1/2 ton truck. This does not include its one day of clothing maintained as operating requirements for clothing exchange purpose. If the suggestion is not adopted to delete the loading plan requirement, then the procedure should be automated thereby establishing a uniform procedure, uniform dimensions, weights, and cubes (which should be uncrated and in operating condition with all OVE and required ancillary equipment mounted).

c. Consolidate at company headquarters (unit supply operations) ~~such~~ controlled equipment such as bayonets, gas masks, and weapons for which the individual must sign. As a minimum, this procedures should be applied to category II and III units.

2. Some TOE card decks provided by HQ CDC are not compatible with equipment available at Agency level. Thus the cards received do not produce the intended information. It is suggested that HQ CDC provide cards compatible with ADP equipment at Agency level.

3. To increase the TOE review schedule to an annual basis is impractical due to high priority projects that now make it impossible to conduct revisions on bi-annual basis as proposed.

DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
COMBAT SERVICE SUPPORT GROUP
FORT LEE, VIRGINIA 23801

CSSG-OO 19 February 1971

SUBJECT: TOE System Quality Improvement

SEE DISTRIBUTION

1. Reference letter CDCDO, HQ USACDC, 10 February 71, subject as above.

2. Request your comments pertaining to the above reference be provided this headquarters by 4 March 1971.

3. Also, if known, provide date reference was received at your agency.

FOR THE COMMANDER:

JAMES J. BURKE
Administrative Assistant

DISTRIBUTION:
COUSACDCJAA
COUSACDCMA
COUSACDCMSA
COUSACDCPASA
COUSACDCSA
COUSACDCTA
DIRUSACDCCHA

CF:
CMSLMUNDIV USACDCMA

RECOMMENDED TOE CHANGE

TOE Number	Recommended By Org Name	Approvals	Concurrences

Brief description of change/specific authority, if applicable.

Specific Change	SRC#	
Section	Para Number	Line Number

Delete:

Add:

(Whenever feasible a copy of applicable portion of the TOE, "marked-up" to show proposed change, will be stapled here or attached to form).

HQ CDC	Change has been		Approved	Reason for disapproval:
			Disapproved	

Incl 1 to [illegible]

CANDIDATE MANAGEMENT CONTROL ITEM

FUNCTIONAL AREA - ORGANIZATION

SPECIFIC CANDIDATE IDENTIFICATION - TOE APPROVAL

PRESENT ECHELON OF CONTROL/RESPONSIBILITY DEPARTMENT OF THE ARMY

RECOMMENDED ECHELON OF CONTROL/RESPONSIBILITY HEADQUARTERS, CDC

AUTHORITY REFERENCE - AR 310-31

NARRATIVE DESCRIPTION:

1. References:

a. Letter CDCDO-T, HQ USACDC, 2 May 1969, subject: Development of TOE.

b. USACDCPASA 1st Indorsement, dated 26 May 1969, to Letter CSSG-OO, HQ USACDCCSSG, 9 May 1969, subject: Development of TOE.

2. Reference 1a included a request by your headquarters for suggestions and recommended changes to the "TOE system which would provide sufficient flexibility to meet the Army requirements during periods of "feast and famine."

3. In our reply to reference 1a we outlined a system for making better utilization of the strength level columns contained in the current TOE. Basically we recommended that one column be used to show the full wartime requirements for the unit. The remaining columns would be used to show the resources which are required by the unit to perform other than wartime ~~requirements~~ (training or civil actions, etc.). We recommend again that this system be considered along with a increased delegation of authority from DA for final approval on certain TOE actions. Specifically, we recommend that column 1 of the TOE should include the wartime requirement for the unit. CDC would have final approval authority for the numbers of persons or pieces of equipment which are reflected in this column. Also, CDC would have final approval for MACRIT studies, BOI, and other standards which provide a basis for authorizing

Incl 2 to Incl 6

people and equipment in column 1. Column 2 of the TOE would show the peacetime and/or garrison resources (training resources) for the unit. The data shown in this column would be recommended by CDC in coordination with USCONARC (and where warranted with overseas commands) and be approved by DA (ACSFOR). Column 3 of the TOE would be used strictly by DA (ACSFOR). This column would be used by ACSFOR to show what the Army can afford, or what the budget will permit. In effect this column would reflect the current MTOE for the unit. Hopefully, in most cases, column 3 will be the same as column 1 or 2. A single data bank could hold the TOE and accept changes from CDC and ACSFOR. TOE would be printed and distributed on an "as required and when required" basis. Under this proposal the TOE would again become a useful requirements document and an authorization document. CDC would be given full responsibility to develop doctrine and organizations for future wars. CDC and CONARC would assist ACSFOR in managing the active Army within current budgetary limits (feast or famine) by assisting in the preparation of column 2. And Army schools could again have meaningful TOE (column 1) to use in the academic environment. TOE for future time frames and TOE for war gaming purposes probably would not contain data in columns 2 and 3. A 4th column could contain those resources required by National Guard and/or Reserve forces.

assumed that these annual reviews would be in addition to the post-publication reviews.

d. The form recommended above could provide two additional benefits which are being addressed in the study. A copy of the form, properly annotated by the Organization Directorate, to show action taken (or to be taken) on the recommendation, should be returned to the TOE proponent and thus provide positive feedback. Also, if designed properly, the form would reduce greatly the current procedure of preparing lengthy supporting narratives and other justifications. (A rough draft of such a form has been attached as Inclosure 1).

e. This agency does not feel that CDC, or the Army as a whole, will derive any savings from any system which attempts to automate the preparation of Section I of TOE. A savings in manpower costs (typing effort) at HQ USACDC will be partially offset by manpower costs (keypunch or MTST operators) at the TOE proponent level. Also, there will probably be additional machine costs. Possibly a better solution would be to require Section I to be triple-spaced so that changes could be neatly made and then approach HQ DA with a request that the latter accept Section I in legible, but less than perfect, format.

2. In previous correspondence this agency has recommended significant changes in the TOE format and the level of approval for TOE. These changes are summarized on the attached Candidate Management Control Item (CMCI). If these recommendations were approved the current procedures for processing TOE and TOE changes could be streamlined greatly. This agency still believes that the changes recommended in the attached CMCI (Inclosure 2) are valid and if implemented would enhance the validity and use of TOE.

FOR THE COMMANDER:

D. L. GRONINGER
LTC, FC
Chief, Organization Division

2 Incl
1. Draft Form
2. CMCI

CDCPASA-O (19 Feb 71) 1st Ind
SUBJECT: TOE System Quality Improvement

Headquarters, US Army Combat Developments Command Personnel and Administrative Services Agency, Fort Benjamin Harrison, Indiana 46249
26 February 1971

TO: Commanding General, U. S. Army Combat Developments Command
Combat Service Support Group, ATTN: CSSG-OO, Ft. Lee, Va. 23801

1. This agency has reviewed the referenced letter and offers the following recommendations and comments:

a. We recommend that the area of interest (AOI) review not be dropped as suggested. In our review of nonproponent TOE we regularly find that Section I contains errors pertaining to personnel and finance support and Section II does not contain the most current MOS for our functional areas. If TOE are reviewed each year, based on a firm schedule, we could still perform this review; however, current administrative procedures would need to be changed to simplify and expedite the preparation of recommended changes.

b. We concur with the use of consolidated change tables as the primary means for maintaining G, H, and T-series TOE. Again, however, administrative procedures which implement this technique must be streamlined and support the expedited processing of minor TOE changes. A new form is suggested. This form would be used by TOE proponents and nonproponents to make recommended changes to any TOE. Blocks on the form would show coordination and approvals. All CDC organizations would be encouraged to limit coordination to those CDC elements having an interest in the recommended change. (Telephonic concurrences would be the rule rather than the exception). The form, forwarded through channels, or directly if group headquarters has approved the change, would provide the Organization Directorate with a simple reference for assisting in the preparation of the next consolidated TOE change.

c. As indicated, we would concur with a proposal that all TOE be reviewed annually if the review procedures are simplified. We believe that a large majority of the changes which are developed from these reviews can be incorporated in semi-annual consolidated changes. It is

AIR MAIL

DEPARTMENT OF THE ARMY LTC Mueller/ch/471-5201
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
MEDICAL SERVICE AGENCY
FORT SAM HOUSTON, TEXAS 78234

IN REPLY REFER TO

CDCMSA-O 9 March 1971

SUBJECT: TOE System Quality Improvement

Commanding General
USACDC Combat Service Support Group
ATTN: CSSG-OO
Fort Lee, Virginia 23801

1. References:

a. Letter, CDCDO, HQ, USACDC, 10 February 1971, subject as above (received at this agency on 19 February 1971).

b. Letter, CSSG-OO, HQ, USACDCCSSG, 19 February 1971, subject as above (received at this agency on 24 February 1971).

2. The study to be undertaken by the Organization Directorate, HQ, USACDC, which seeks the means for accelerating the preparation, processing, and timely publication of Tables of Organization and Equipment (TOE) is one that should receive the very highest of priorities. A review of all the considerations contained in, and attached as inclosures to, reference 1a suggests that the primary solution to the problem is related to obtaining the necessary priority (and funds) which will permit the greatly expanded use of ADP to replace many functions that are now only semi-automated or performed manually. Of perhaps equal importance is the emphatic need to reduce the time required for area of interest review. The proposed expanded utilization of consolidated change tables to update TOE appears to be the most valid procedure to expedite those TOE changes which do not effect concepts or capabilities. This would eliminate the requirement to prepare a separate draft plan TOE change for DA approved personnel and equipment changes and would measurably reduce the workload at this agency.

3. The following comments and recommendations are keyed to the segments of information requested in paragraph 10 of reference 1a:

CDCMSA-O 9 March 1971
SUBJECT: TOE System Quality Improvement

a. With regard to the current feedback system for supplying changes in DPTOE, continued stress is placed on the importance of having the proponent receive copies of the DPTOE at the very time they are being forwarded to ACSFOR for approval. Technical edit by the proponent at this juncture would serve to eliminate possible errors. Additionally, a means should be found which will allow the proponent to briefly review the DPTOE just prior to its being sent to AG publications. There are many instances where just such a review would have precluded the necessity of having to submit a change (e.g., a line left off of an organizational chart, incorrect designation of officer branch, transposed MOS code, etc.). After review, proponent project officers could telephonically notify their counterparts at HQ, CDC, of concurrence or changes required. The total additional time required should not extend the total processing by three or four days, and is thought to be well worth it.

b. Loading plans are currently prepared as vehicle justification in DPTOE. This procedure which requires the listing of all equipment items on each truck is a tedious, time-consuming process. The following procedure would speed TOE preparation and provide essentially the same data:

(1) The stated mobility of a unit should be premised on a doctrinal determination of the mobility required to support the unit's mission, not on the actual capability of the vehicles authorized by TOE at any given time.

(2) After the mobility requirement is established, each mission oriented vehicle should be individually justified as authorized by AR 310-34 (i.e., mess truck, commander's vehicle, etc.). Vehicles required for unit displacement could be justified by loading the prescribed percentage of equipment (by tonnage or cube whichever is the predominant factor) in lieu of listing individual items up to the prescribed tonnage. For example, if a unit must be 50 percent mobile and the total weight of the TOE equipment is 100 tons, it would require 13 trucks 2-1/2 ton and 12 trailers 1-1/2 ton to move the unit's TOE equipment (50 tons divided (2-1/2 + 1-1/2) = 12.5). Of course, an additional computation would then be required to transport the assigned personnel and their individual equipment. This procedure would utilize ADP procedures to determine the weight/cube data of the unit as opposed to the present manual system.

c. The POL consumption data prepared for DPTOE serves no useful purpose at this agency. If no use is made of this data at other agencies, it is recommended that this requirement be deleted.

d. Although each of the proponent agencies have no doubt established certain standards as to how much written justification is needed, there is some concensus that the narrative summary could be abridged. This contention is supported by the fact that much of the information is now to be found in other documents. For instance, the initial and revised Unit Reference Sheets are supported by appropriate justification. When approved, these URS establish parameters from which there is little deviation. Many facets of the DPTOE are now prescribed by DA approved BOI, AR's 310-34 and 725-1, MACRIT, and SGA. During inter-agency coordination, each proponent carefully reviews his area of interest in the DPTOE and either validates the requirements for personnel and equipment or makes known the errors and corrections required. Then too, much of the justification found in DPTOE stems directly from material that is already published in doctrinal literature. All of these factors tend to negate the requirement for a lengthy narrative.

e. With regard to the system of submission of Section I, DPTOE, this agency recommends the continuation of preparing typed drafts, if for no other reason than our inability to envision a better method. The preparation of punched cards is time-consuming (they are also exceedingly difficult to read) and their subsequent use to obtain a printout places an additional burden on the computer time now available. No advantage appears to accrue to the agency from the use of MTST tape.

f. There are two regulations that were habitually referred to in preparing DPTOE:

(1) USACDC Reg 310-5, dated 13 April 1967.

(2) USACDCCSSG Reg 310-1, dated 2 October 1968.

Since their publication, a number of other documents have been used to transmit directives, guidance, and information concerning DPTOE development. This fact imposes a requirement on the proponent agency to establish a system of one or more cross-referencing files in order to confirm the latest guidance on any particular facet of the development. It is recommended that both the information contained in CSSG regulation and that contained in all the other type directives be coalesced in CDC Reg 310-5, that this regulation be brought up to date, and published in loose-leaf form so as to permit page changes on an as-required basis.

CDCMSA-O 9 March 1971
SUBJECT: TOE System Quality Improvement

4. Correlation: USACDC Action Control Number 16606 applies.

FOR THE COMMANDER:

Bernard E. McMasters Jr.
BERNARD E. McMASTERS, JR.
CPT, MSC
Adjutant

ISSO RECOMMENDATIONS

APPENDIX M

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
INSTITUTE OF STRATEGIC AND STABILITY OPERATIONS
FORT BRAGG, NORTH CAROLINA 28307

ISSO-MO

9 MAR 1971

SUBJECT: TOE System Quality Improvement

Commanding General
US Army Combat Developments Command
ATTN: CDCDO
Fort Belvoir, Virginia 22060

1. Reference Letter, CDCDO, USACDC, 10 February 1971, Subject as above.

2. Comments are attached at Inclosure 1.

3. Project officer for this action is Major Wheaton, ISSO-MO, Autovon 935-3350, Extension 60204.

4. Correlation: This action is identified by USACDC Action Control Number 16606.

FOR THE COMMANDER:

1 Incl
as

FREDDIE H. BOYD
LTC, Infantry
Director of Management

TOE SYSTEM QUALITY IMPROVEMENT

1. In reference to increased Automatic Data Processing in TOE Development the following areas are recommended for consideration:

a. Power Requirements and Associated Items for Major Items of Equipment: A requirement exists for an Automated System of identifying power requirements and associated item requirements for each major item of equipment having such requirements. When developed, this system would provide a print-out of the appropriate power supply; associated items of equipment required for operation or utilization of the equipment; and the test and maintenance equipment requirements for each level of maintenance. Such a system would decrease the current manpower requirements for manual search significantly; would greatly increase the quantity of the final TOE, and would provide the TOE analyst with a ready check list during his technical review of the TOE. In addition to the information provided above, it is desirable that the print-out provided also incorporate a system for identifying those power supplies or associated items which also require their own associated items.

b. Preparation of Loading Plans: A requirement exists for an Automated System for obtaining the weight and cube of each major item of equipment. Ideally, the TOE developer could enter the total number of vehicles and trailers, by type, together with the equipment authorization and the system would provide a "print-out" showing a "type" load suitable for each vehicle, the total weight and cube of remaining equipment, and the weight and cube of each item. This system would permit the use of judgmental analysis in the final configuration of his loads and would result in substantial manpower savings.

c. Manpower Authorization Criteria: A requirement exists for an Automated System for determining the total number, grades, and MOSs of combat service support personnel authorized in a given TOE. When developed, this system would permit the TOE into the data bank and obtain a print-out of the total personnel authorization for the combat service support functions of the unit. The system would provide for TOE variation through a system of identifying the unit category, the maintenance and support concepts for the unit, and any other deviation from SOP deemed appropriate. This system would provide substantial savings in manpower through the elimination of current manual procedures.

d. Consolidated Change Tables: A requirement exists for an Automated System for posting and providing a print-out of DA directed changes to MACRIT, MOSs, equipment, and BOIs by individual TOE. With this system, each change made by DA would be automatically recorded against the SRC, PARA, and line number. The TOE proponent would then have a readily available worksheet for the review of TOE and preparation of consolidated change tables, by utilizing the consolidated changes provided by this system.

e. DA Approved Basis of Issue Plans: A requirement exists for an Automated System for recording and extracting all DA approved Basis of Issue Plans. The system would provide a complete print-out by TOE, SRC, PARA, and LIN. This system would replace the current system wherein each TOE proponent is required to maintain the individual BOIs as they are received. Under the current system, the incorporation of the BOI Equipment is dependent upon the accuracy of the files and on individual initiative. The Automated System would not only provide a centralized repository but would also provide the TOE analyst with a ready reference during his technical review of the TOE.

3. Concur with using the Consolidated Change Table as the primary means for maintaining G, H, and current T Series TOE.

4. In expanding the use of the Consolidated Change Table, consideration should be given to revising the current criteria for determining whether a TOE action is a routine change or a major revision. As currently written this criteria inhibits the TOE developer from making a small necessary change in organization or job descriptions due to the necessity of preparing the voluminous document required for a revision.

5. A major problem which may be encountered in emphasizing the use of post-publication review to identify errors is the excessive time lag between the date of TOE publication and its receipt by TOE proponents. The time lag during FY 71 for our proponent TOEs has been 110-135 days. Consideration should be given to identifying the CDC TOE proponent on each TOE and having the TOE distributed directed to the proponent from the publisher.

6. Concur with proposal for increased emphasis on expedited staffing of exceptions to approved MACRIT, BOI, or SGA, and with incorporation of DA approved changes in ongoing consolidated change tables.

7. The current feedback system for rationale is adequate for proponent TOEs.

8. The current system for supporting narrative is adequate for the purpose for which intended. As the current CDC implementing Regulation (310-5) is written, however, interpretation of the detail in which the narrative must be prepared is a judgmental matter and may lead to misinterpretation. Consideration should be given to revising the regulation to provide a more clear and concise delineation of requirements.

9. Submission on MTST tape is recommended for Section I of the TOE. This system would provide for ease of preparation of extra copies that may be required for AOI.

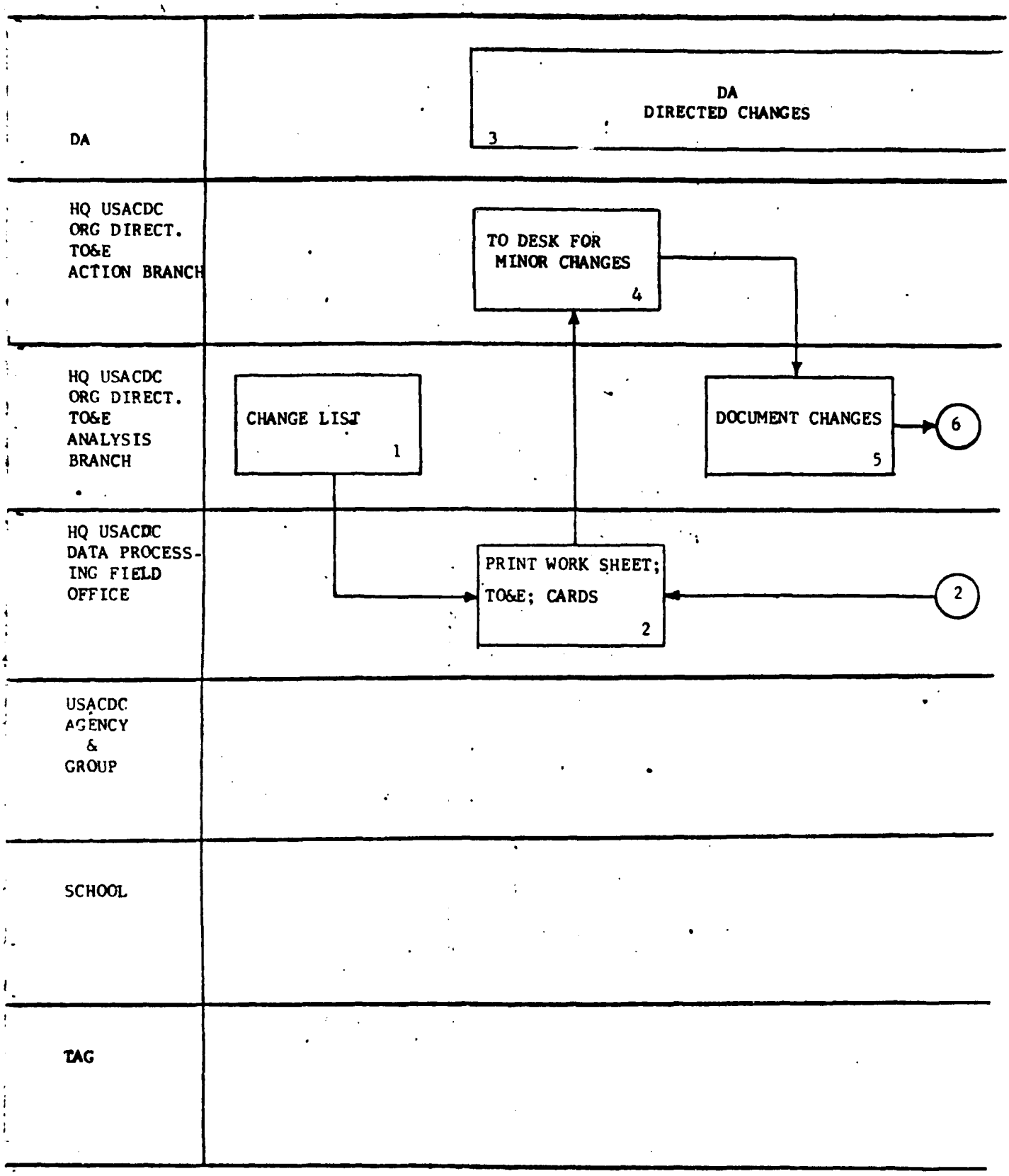
10. For our proponent TOEs, coordination of DPTOE with both active duty and reserve Special Forces, Psychological Operations, or Civil Affairs Units may be desired in order to make use of their expertise and experience. Consideration should be given to modifying USACDC Regulation 71-1, paragraph 6, to provide more flexible and expeditious coordination.

OUTLINE OF CHANGE SYSTEM

APPENDIX N

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I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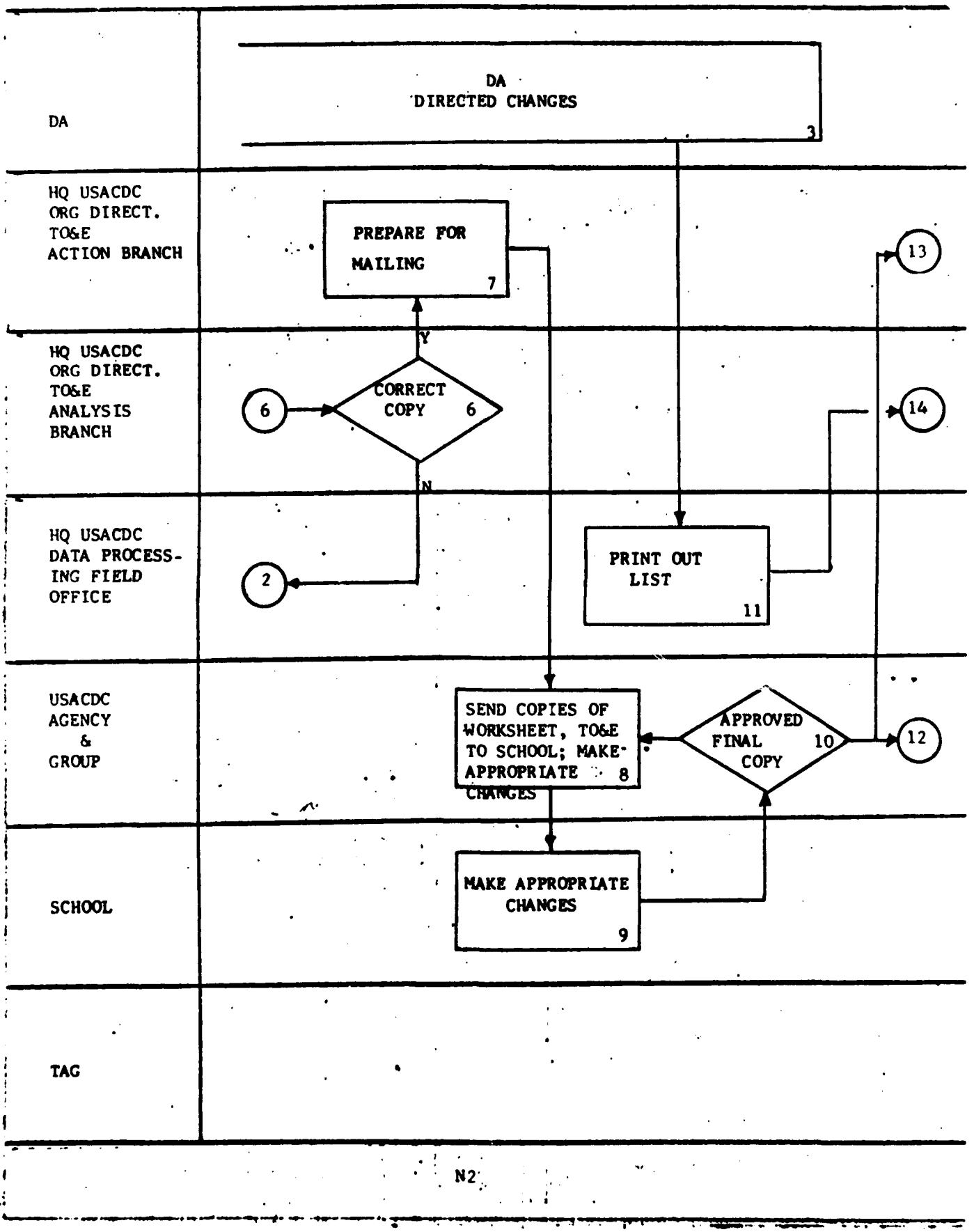
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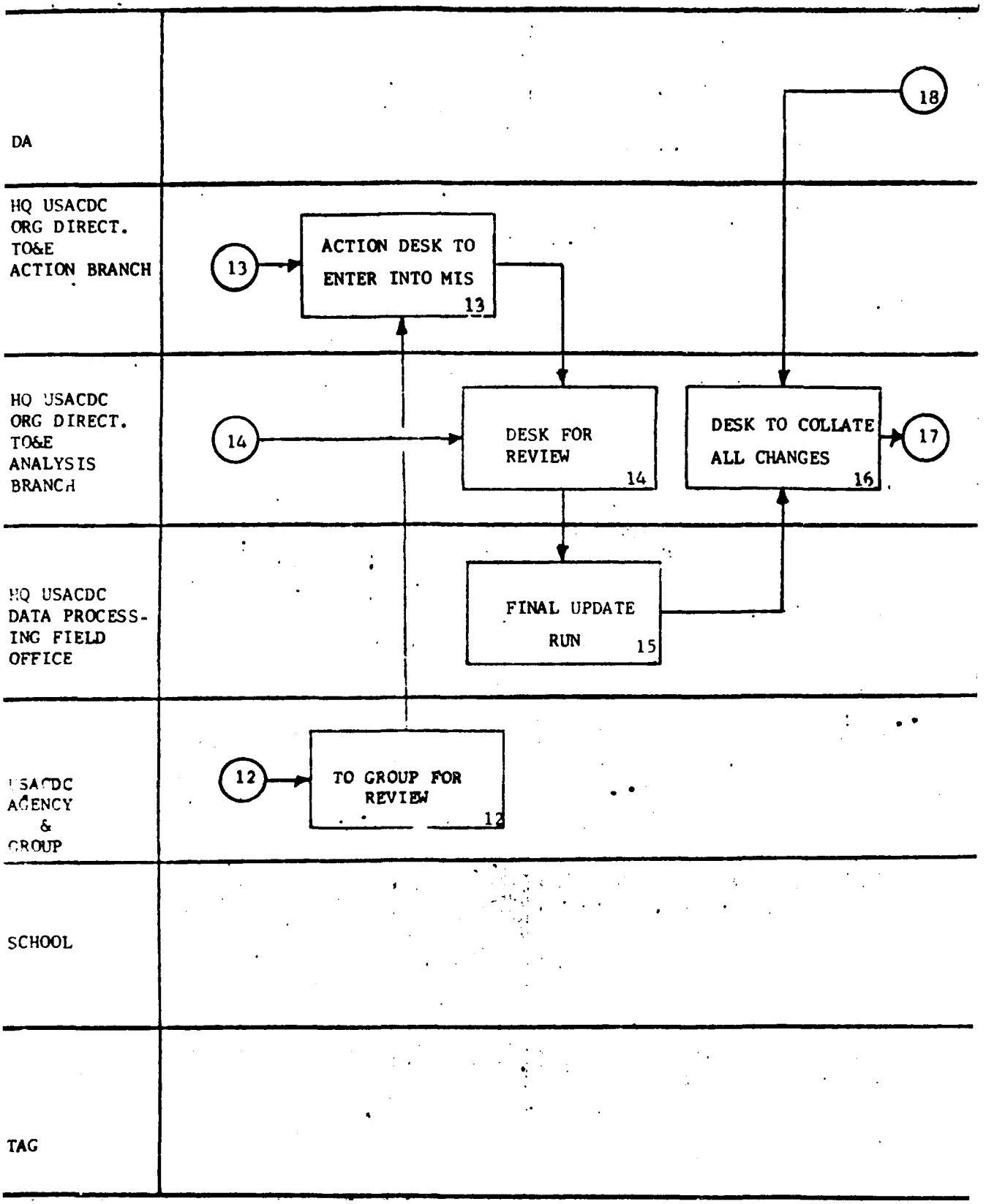
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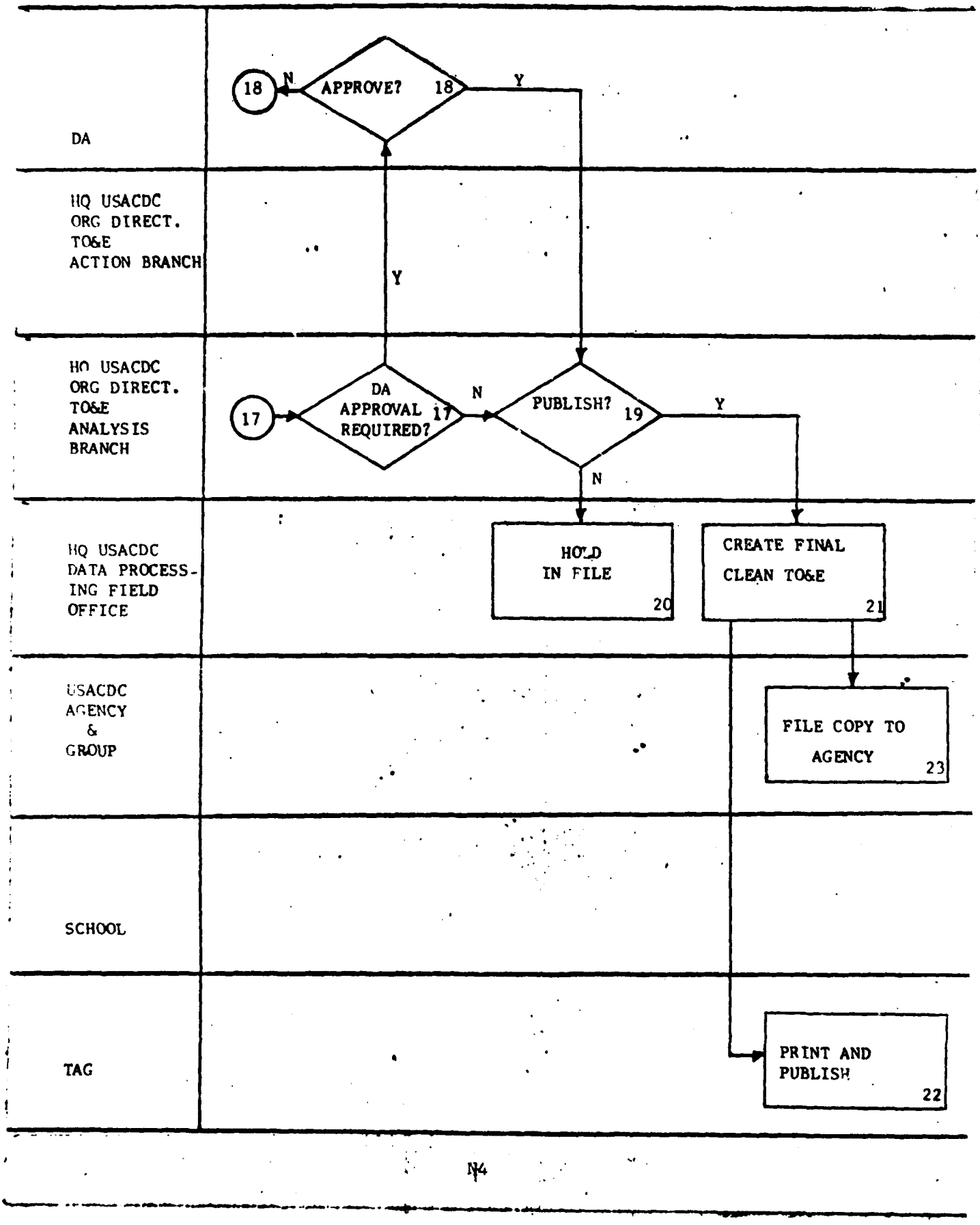
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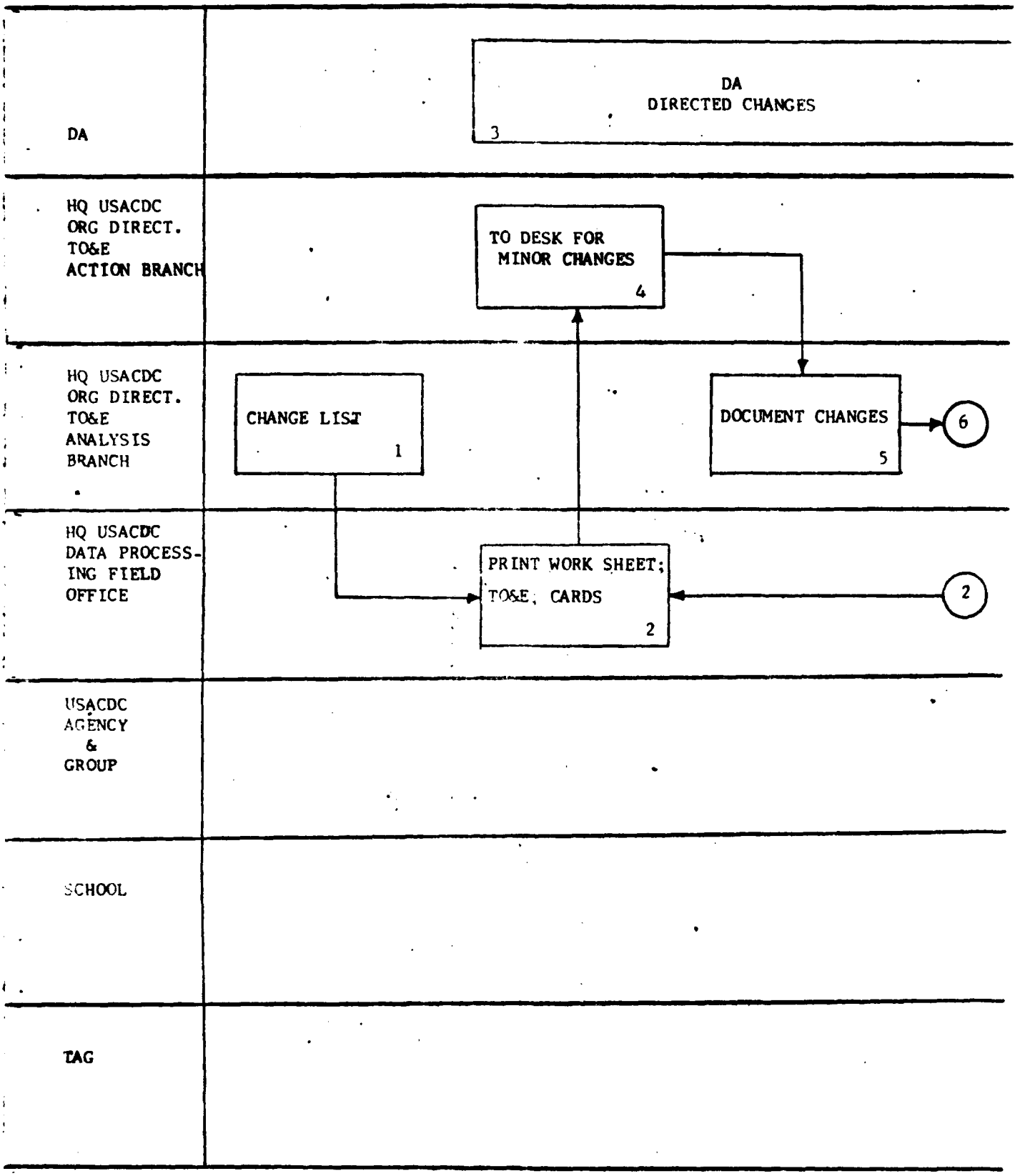
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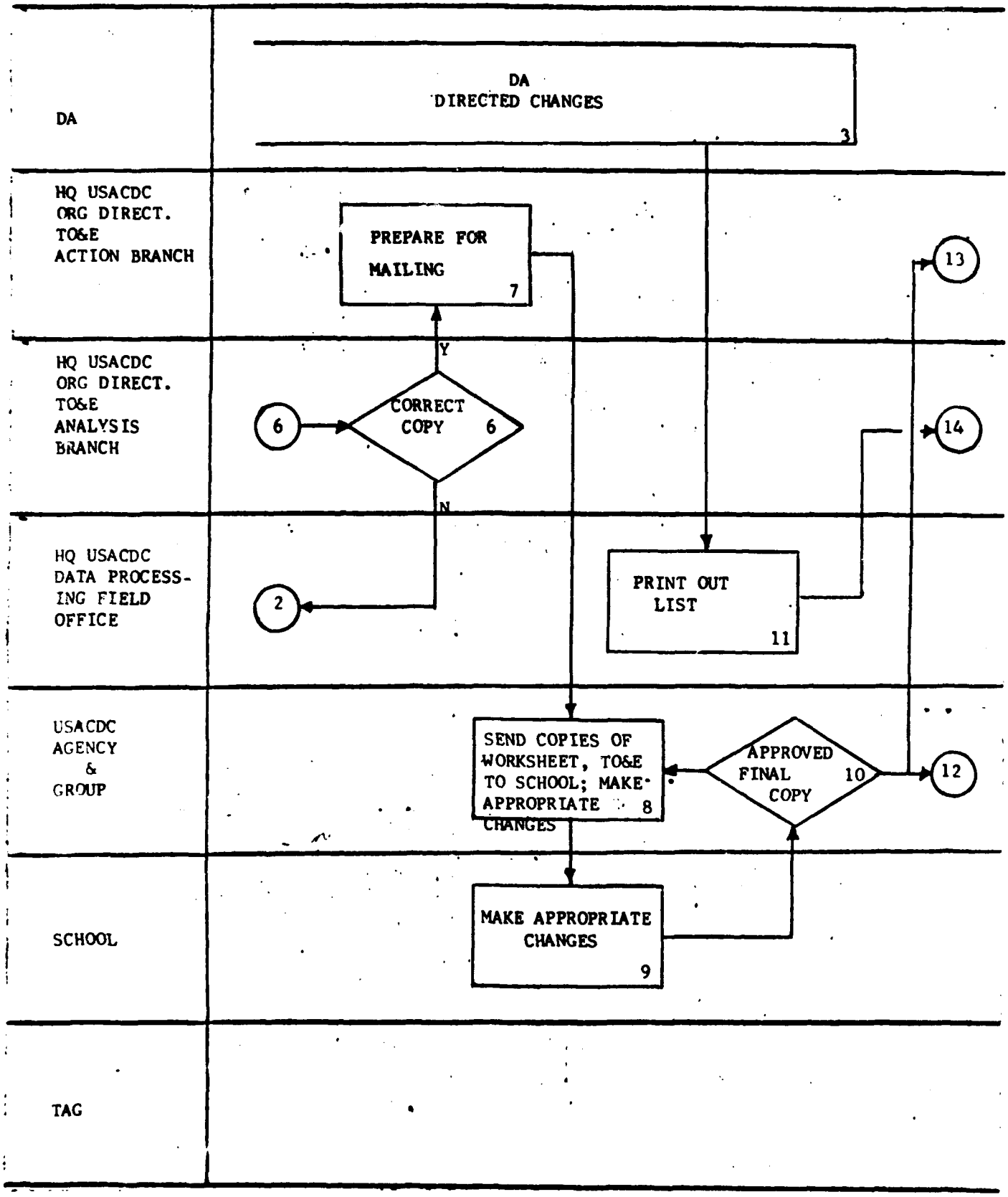
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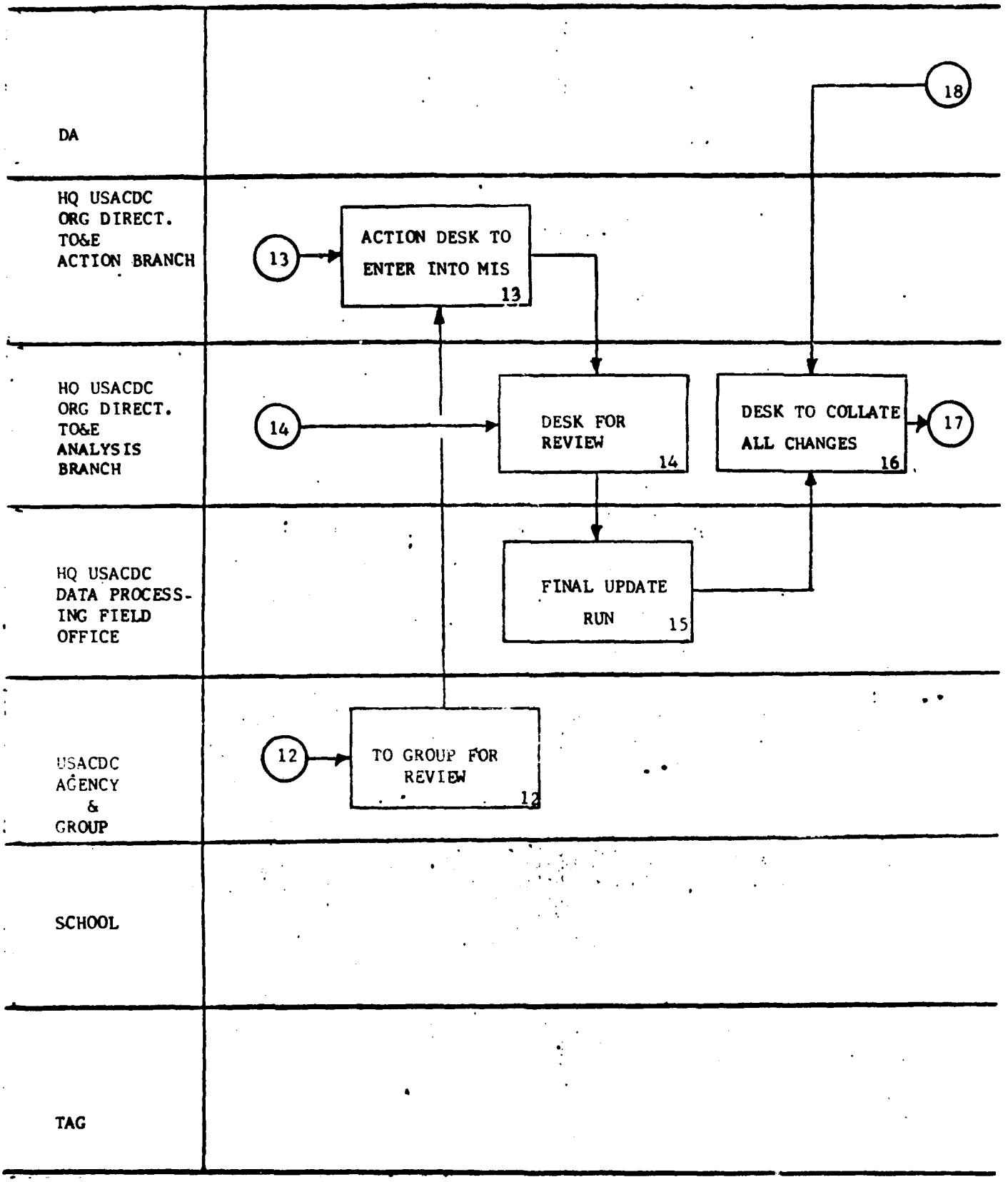
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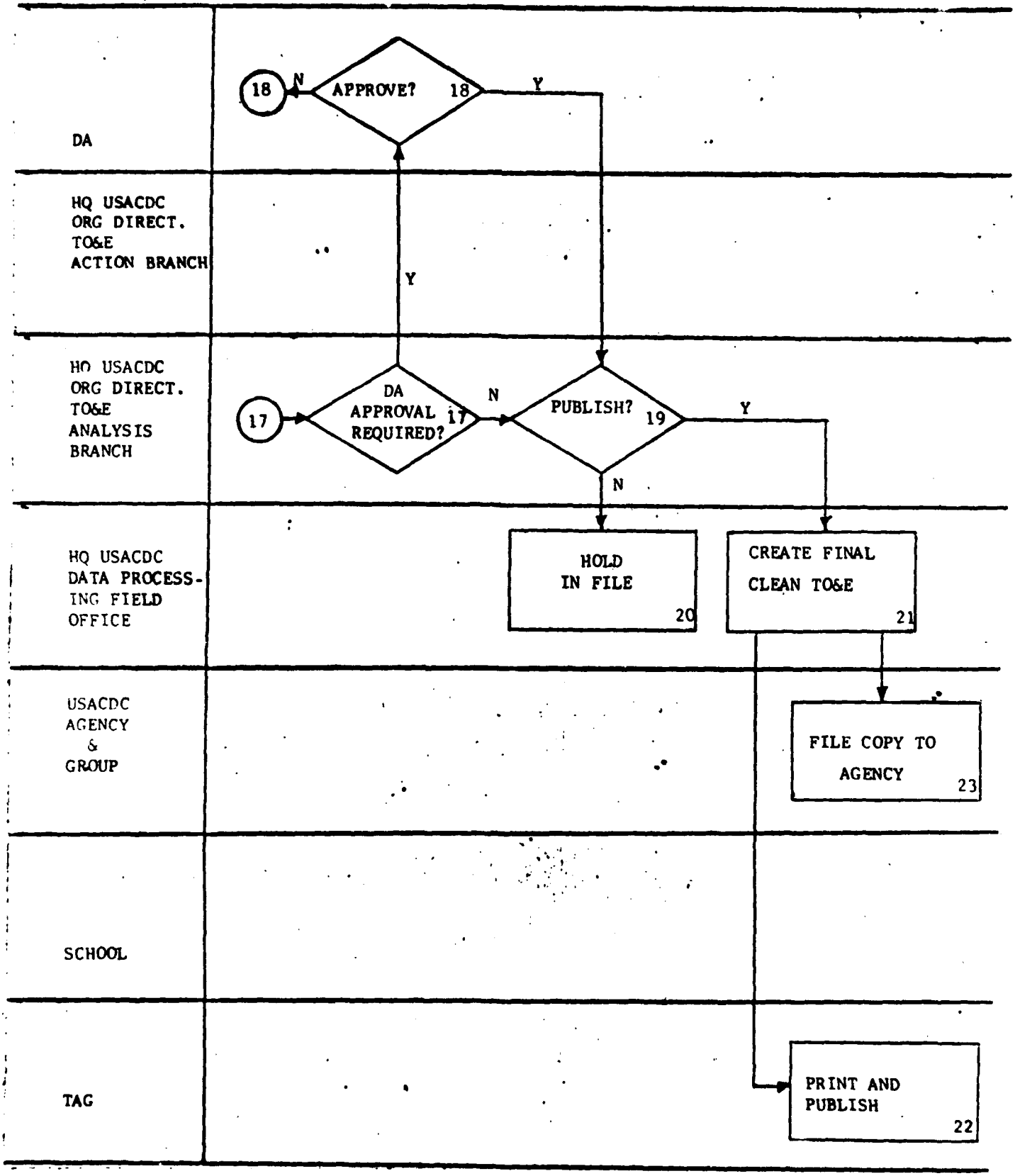
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FILE COPY TO AGENCY 23
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RECOMMENDED CHANGES TO AR 310-31

APPENDIX O

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

RECOMMENDED CHANGES TO PUBLICATIONS For use of this form, see AR 310-1; the proponent agency is The Adjutant General's Office.	Use Part II (reverse side) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE 15 May 71

TO: (Forward to proponent of publication) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)
Hq's Department of Army ATTN: FOR OT OM TO Washington D.C. 20310	Hq's USACDC ATTN: CDCDO-OE Fort Belvoir, Va 22060

PART I - ALL PUBLICATIONS EXCEPT RPSTL AND SC/SM

PUBLICATION NUMBER	DATE	TITLE
AR 310-31	May 1970	Management System for Tables of Organization and Equipment

ITEM NO.	PAGE NO.	PARAGRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)
1.	1-4	1-10b (2)				Change subparagraph to read: verification of data in Sections I, II, and III of all TOE and TOE changes for which they are proponent. Reason: Deletes reference to consolidated changes in accordance with recommendation for a single change system.
2.	1-6	1-22a				Change subparagraph to read: Area of Interest review of draft plan TOE. Reason: Deletes reference to area of interest review of TOE changes. Review of changes is redundant and time consumming. AMC representatives currently review scheduled changes as part of the center team review, during concurrent DA and AOI review, and again during post publication review. Deletion of AOI review of changes will reduce substantially the time required to develop and publish changes to TOE. Review at center team level, DA review and staffing, and post publication review of the published change still provides for a scheduled review of TOE changes at two levels by CONARC and AMC. New TOE and major revisions would continue under the present review system. (I.E. include concurrent AOI and DA staffing)
3.	1-6	1-22e				Change to read: Post publication review of all TOE and TOE changes. Reason: To clarify requirement for post publication review of TOE changes. AMC currently provides such comments on all consolidated and scheduled changes.
4.	1-6	1-23a				Change to read: Area of interest review of all draft plan TOE. Reason: Same as item number 2.

* Reference to line numbers within the paragraph or subparagraph.

TYPED NAME, GRADE, OR TITLE	SIGNATURE

RECOMMENDED CHANGES TO PUBLICATIONS For use of this form, see AR 310-1; the proponent agency is The Adjutant General's Office.	Use Part II (reverse side) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE 15 May 71
TO: (Forward to proponent of publication) (Include ZIP Code) Hq's Department of Army ATTN: FOR OT OM TO Washington, D.C. 20310	FROM: (Activity and location) (Include ZIP Code) Hq's USACDC ATTN: CDCDO-OE Fort Belvoir, VA. 22060	

PART I - ALL PUBLICATIONS EXCEPT RPSTL AND SC/SM

PUBLICATION NUMBER	DATE	TITLE
AR 310-31	May 1970	Management System for Tables of Organization and Equipment.

ITEM NO.	PAGE NO.	PARAGRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)
5.	1-6	1-23b				Change to read: Post publication review of all TOE and TOE changes. Reason: Bring it in line with review by AMC. Some post publication review comments are received from CONARC on Consolidated and Scheduled changes.
6.	2-1	2-4b				Change to read: Periods of time allocated for processing TOE: Reason: TOE changes would be placed on a six month schedule with a numbered change to applicable TOE being published as of 30 Jun and 31 Dec of each year.
7.	2-1	2-5b				Delete subparagraph b, substitute the following: Changes to applicable TOE will be published by the TOE proponent on a semi-annual basis. Proponent will maintain an open suspense file for each SRC to which applicable changes can be applied on a continuing basis. On 30 Jun and 31 Dec the applicable files will be cut off, and a numbered change sent to TAG for publication. A new suspense file will then be established to handle input.
8.	2-2	2-7				Delete entire paragraph. Replace with following: a. The TOE data bank will be updated on a continuing basis and published tables on a semi-annual basis. b. TOE proponent will establish a suspense jacket (transaction file) in the TOE data bank as a temporary repository for approved changes to published TOE. These changes will be included in the monthly tape submitted to DA. c. On 30 Jun and 31 Dec significant changes in the suspense will be cut off and a numbered change to the TOE sent to TAG for publication.

* Reference to line numbers within the paragraph or subparagraph.

TYPED NAME, GRADE, OR TITLE	SIGNATURE

DA FORM 1 DEC 68 2028 REPLACES DA FORM 2028, 1 APR 64, AND DA FORM 1598, 1 DEC 68 WHICH WILL BE USED.

RECOMMENDED CHANGES TO PUBLICATIONS For use of this form, see AR 310-1; the proponent agency is The Adjutant General's Office.	Use Part II (reverse side) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE 15 May 71

TO: (Forward to proponent of publication) (Include ZIP Code)	FROM: (Activity and location) (Include ZIP Code)
Hq's Department of Army ATTN: FOR OT OM TO Washington D.C. 20310	Hq's USACDC ATTN: CDCDO-OE Fort Belvoir, VA 22060

PART I - ALL PUBLICATIONS EXCEPT RPSTL AND SC/SM

PUBLICATION NUMBER	DATE	TITLE
AR 310-31	May 1970	Managment System for Tables of Organization and Equipment

ITEM NO.	PAGE NO.	PARAGRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)
8. (cont.)						d. TOE changes that require a change in identity (EM to WO), an increase in PEMA equipment, increase in Unit strength, or a change in organizational concept will be submitted to DA for approval before entry on the suspense file.
9.	D-1	II B	3			Add the following: .... document. Change number 99 denotes changes not yet published.
10.	D-20	1a	29			Change to read:

RCN	Data Element	Tape or Disk Position	Reference
A	Published Change Indicator	119	A flag to indicate SRC Changes not yet published.
B thru G	Blank		

* Reference to line numbers within the paragraph or subparagraph

TYPED NAME, GRADE, OR TITLE	SIGNATURE

DA FORM 1 DEC 68 2028 REPLACES DA FORM 2028 1 APR 64 AND DA FORM 1408 1 DEC 68 WHICH WILL BE USED

RECOMMENDED CHANGES TO AR 611-1

APPENDIX P

QUALITY IMPROVEMENT OF THE TOE SYSTEM (U)

PHASE I

RECOMMENDED CHANGES TO PUBLICATIONS For use of this form, see AR 310-1; the proponent agency is The Adjutant General's Office.	Use Part II (reverse side) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE 8 Jun 71
TO: (Forward to proponent of publication) (Include ZIP Code) HQ, Department of Army ATTN: FOR OT OM TO Washington, D. C. 20310		FROM: (Activity and location) (Include ZIP Code) HQ, USACDC ATTN: CDCDO-OE Fort Belvoir, Va 22060

PART I - ALL PUBLICATIONS EXCEPT RPSTL AND SC/SM

PUBLICATION NUMBER	DATE	TITLE
AR 611-1	June 1969	

ITEM NO.	PAGE NO.	PARAGRAPH	LINE NO.*	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Exact wording of recommended change must be given)
1	5-2			5-1		Change figure 5-2 to read as follows:

MOS Development period	Semi-annual change & implementing directive to TAG	Dist by TAG of implementing Dir	Proponent submit rqd TOE/MTOE/ MTDA changes to DA (if appropriate)	USADATCOM Modifies Computer Tapes	Effective month of MOS change
July-Dec	Jan	March	June	Sept	Oct
Jan-Jun	July	Sept	Dec	March	Apr

REASON: Places DA directed personnel changes on same basis as equipment changes published in SB 700-20.

* Reference to line numbers within the paragraph or subparagraph.

TYPED NAME, GRADE, OR TITLE	SIGNATURE

DA FORM 1 DEC 68 2028 REPLACES DA FORM 2028, 1 APR 64, AND DA FORM 1598, 1 DEC 58, WHICH WILL BE USED.