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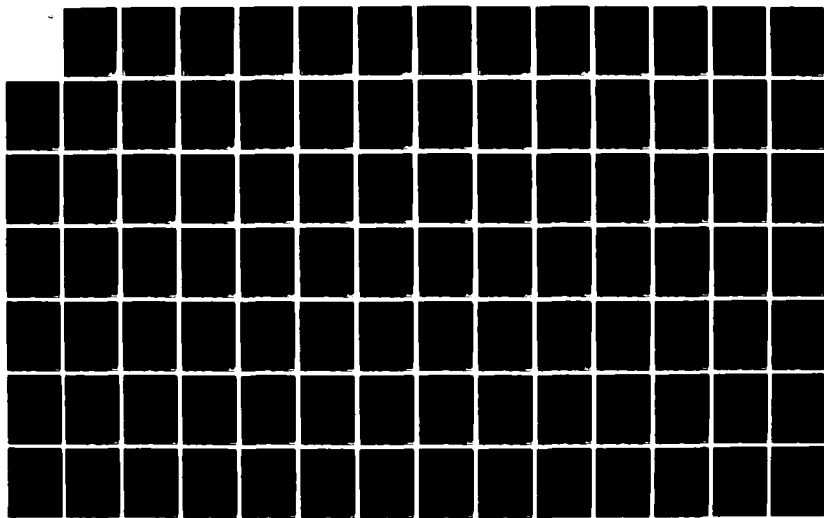
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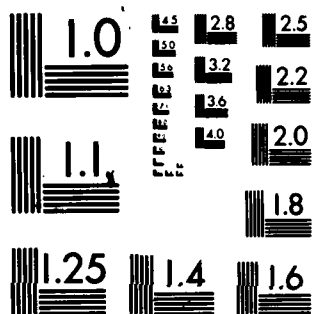
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RESULTS OF A RESEARCH STUDY  
TO  
IDENTIFY HISTORICAL RDTE OBLIGATIONS AND EXPENDITURES  
ON  
MAJOR ARMY MATERIEL AND NON-MATERIEL SYSTEMS

OCTOBER 1983

DCA-P-97

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COST ANALYSIS DIVISION  
U.S. ARMY FINANCE AND ACCOUNTING CENTER

APPROVED:

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OFFICE OF THE COMPTROLLER OF THE ARMY

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# REPORT DOCUMENTATION PAGE

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# TABLE OF CONTENTS

|                                                                       | <u>PAGE</u> |
|-----------------------------------------------------------------------|-------------|
| Executive Summary                                                     | iii         |
| Chapter 1 - Introduction                                              |             |
| 1-1. Purpose                                                          | 1-1         |
| 1-2. Background                                                       | 1-1         |
| 1-3. Description of the Study                                         | 1-1         |
| Chapter 2 - Current Architecture                                      |             |
| 2-1. What is an RDTE Project Number?                                  | 2-1         |
| 2-2. RDTE Project Number Schema                                       | 2-2         |
| 2-3. Program Element Schemata                                         | 2-4         |
| 2-4. RDTE AMS Code                                                    | 2-7         |
| 2-5. RDTE Project                                                     | 2-8         |
| 2-6. Observations                                                     | 2-8         |
| Chapter 3 - Interrelationship of RDTE Project Numbers to<br>the PPBES |             |
| 3-1. Introduction                                                     | 3-1         |
| 3-2. Revisions to the PPBES Handbook                                  | 3-1         |
| 3-3. Planning                                                         | 3-2         |
| 3-4. Programming                                                      | 3-2         |
| 3-5. Budgeting                                                        | 3-3         |
| 3-6. Execution                                                        | 3-3         |



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## TABLE OF CONTENTS

|                                                   | <u>PAGE</u> |
|---------------------------------------------------|-------------|
| Chapter 4 - RDTE Project Numbers Vis-a-Vis System |             |
| Correlation                                       |             |
| 4-1. Approach                                     | 4-1         |
| 4-2. Observations                                 | 4-2         |
| 4-3. Correlation Statistics                       | 4-6         |
| 4-4. Summary                                      | 4-7         |
| Chapter 5 - Alternative Architectures             |             |
| 5-1. Feasibility of Architectural Change          | 5-1         |
| 5-2. Barriers to System Cost Monitorship          | 5-1         |
| 5-3. Approaches                                   | 5-2         |
| Chapter 6 - Summary                               |             |
| 6-1. The Study                                    | 6-1         |
| 6-2. Concluding Thoughts                          | 6-5         |
| Appendices:                                       |             |
| A. References                                     | A-1         |
| B. Project Number - AMS Code List                 | B-1         |
| C. System List                                    | C-1         |
| D. Correlation Table One (Materiel Systems)       | D-1         |
| E. Correlation Table Two (Non-Materiel Systems)   | E-1         |
| F. Program Element Listing                        | F-1         |

## EXECUTIVE SUMMARY

### RESULTS OF A RESEARCH STUDY TO IDENTIFY HISTORICAL RDTE OBLIGATIONS AND EXPENDITURES ON MAJOR ARMY MATERIEL AND NON-MATERIEL SYSTEMS

OBJECTIVES. This study was conducted as part of a continuing effort to obtain actual (historical) life cycle costs of major Army systems from the Army's finance and accounting data. The objectives were:

a. Develop insights and information on the assignment and structure of RDTE Project Numbers and their interface with related resource management systems. Produce appropriate flow diagrams.

b. Develop correlation tables to relate RDTE Project Numbers to the total Army, with emphasis on Selected Acquisition Report (SAR) systems.

c. Collect and compare RDTE costs of selected systems with their Baseline Cost Estimates.

ACTIONS. An hypothesis was formulated and tested concerning the ability of RDTE Project Numbers to identify total RDTE costs of major Army systems. Efforts also included research of rules and practice on assignment and structure of RDTE Project numbers, development of correlation tables relating the project numbers to the total Army, and formulation of three alternative approaches to obtaining system RDTE costs.

#### FINDINGS.

a. RDTE Project Numbers are converted to RDTE AMS Code which can be used to obtain RDTE costs. Both numbering systems are project oriented; the projects of a system must be identified and their costs summed to obtain system RDTE costs. It was determined that a significant portion, but not all of a system's RDTE costs can be identified if the system's projects can be identified.

b. RDTE project costs can be "tracked" for only four years in the finance and accounting system. At the end of the fourth year, any funds not disbursed are placed in an RDTE "M" account. After the balances are merged, funds may be disbursed to satisfy Government liabilities; however, transactions cannot be associated with specific projects/systems. Thus, total RDTE costs of a system are not available even if the system is well-defined.

c. As a consequence of system fragmentation, it was found that a set of "rules" was needed for defining systems. The criteria for selection of such a set of "rules" necessarily were that the list of systems produced be both totally exhaustive and mutually exclusive in capturing the total Army.

RESTRUCTURE. Three alternative architectures were developed to examine ways to improve historical data collection. The first approach does not involve restructure; rather, it uses the current project numbers, augmented by other PPBES data to obtain an approximation of total system RDTE costs. The second

approach addresses a change in Budget Structure; and the third involves changes in the numbering systems also.

CONCLUSIONS. In order to satisfy the need for cost feedback by major Army system, the following are required:

a. A unified "Systems Language". Consensus is required on what constitutes a system - as opposed to a non-system - and what is included with respect to modifications, armament, ammunition, support equipment, etc.

b. A "Common Architecture". Numbering systems vary among appropriations (BLIN's for Procurement, AMS Code for RDTE, etc.). System life cycle costs cut across appropriation lines. A common architecture should be prerequisite to development of "system" identification coding schemes.

# RESULTS OF A RESEARCH STUDY

TO

## IDENTIFY HISTORICAL RDTE OBLIGATIONS AND EXPENDITURES

ON

### MAJOR ARMY MATERIEL AND NON-MATERIEL SYSTEMS

#### CHAPTER 1

#### INTRODUCTION

1-1. Purpose. The purpose of this report is to provide the results of a study conducted to determine the ability of the current Research, Development, Test and Evaluation (RDTE) Project Numbers to identify RDTE costs of major Army systems.

#### 1-2. Background.

a. The Army has a need to link downstream "execution" (accounting data which come from the finance and accounting system) with upstream "deciding" (cost data which come from the cost estimating and analysis system), i.e., a feedback mechanism. The Army's finance and accounting system evolved along lines required to report financial information by appropriation (funds accounting). However, managers within the Army need information that is system-oriented and that, by necessity, cuts across appropriation lines. Efforts to date to obtain the actual (historical) life cycle costs of major Army systems have not been successful, but attention recently has been directed toward the possibility that a significant portion of a system's research and development (R&D) costs could be captured if its RDTE Project Numbers could be identified.

b. The RDTE program is approved by Congress at the program element level, with funding authority issued at the same level; however, RDTE program approval and reprogramming actions are in terms of the RDTE projects. These projects hold the promise of providing RDTE costs by system, especially the costs of those major Army systems which are subject to Congressional calls for quarterly reports - the Selected Acquisition Reports (SAR's). Therefore, as part of a continuing effort to obtain the life cycle actual costs of major systems, a research project was initiated to study the current RDTE Project Numbers to determine their ability to provide cost data feedback.

1-3. Description of the Study. The study was conducted by analysts in the Cost Analysis Division, USAFAC, under the direction of the Chief, Mr. Noel B. Summers, Jr. The Point of Contact for this report is Mrs. Dina R. Philips. Alternate is Mrs. Mary Carson. POC's telephone number is AUTOVON 699-2674.

a. Objectives.

(1) Develop insights and information on the assignment and structure of RDTE Project Numbers and their interface with related resource management systems. Produce appropriate flow diagrams.

(2) Develop correlation tables to relate RDTE Project Numbers to the total Army, with emphasis on Selected Acquisition Report (SAR) systems.

(3) Collect and compare RDTE costs of selected systems with their Baseline Cost Estimates.

b. Scope. This study addresses only those RDTE Project Numbers which were funded in FY 83, as listed in the May 1983 Five Year Defense Program (FYDP) RDTE Project Listing.

c. Initial Hypothesis. Project Numbers as currently defined do not provide the total RDTE costs of major Army systems; however, they can provide a significant portion of those costs if the Project Numbers can be identified with specific systems.

## CHAPTER 2

### CURRENT ARCHITECTURE

2-1. What is an RDTE Project Number? It is a number established and used by the Army for internal control of RDTE programs. Two published definitions are:

"A grouping of tasks or efforts directed toward a single end result. As such, a project will contain effort unique to a single Program Element and the Budget Activity of which the Program Element is a part."

"A unit of RDTE effort or group of closely related efforts. Established to fulfill a stated or anticipated requirement."

a. Personnel in the Office of the Deputy Chief of Staff for Research, Development and Acquisition (ODCSRDA) establish these numbers in coordination with Army agencies involved in RDTE activities such as DARCOM, Corps of Engineers, The Surgeon General, etc.

b. RDTE Project Numbers are used in developing programs for which funds will be requested and to control approved programs. However, they do not appear in the President's Budget and they are not used in the Army's finance and accounting system.

(1) The lowest element in the President's Budget is the Program Element. A given Program Element may contain more than one RDTE Project Number.

(2) The Army Management Structure (AMS) Code is used in the finance and accounting system. There is a one-to-one relationship between RDTE Project Numbers and AMS Codes. ODCSRDA converts the RDTE Project Number to AMS Code for use in the finance and accounting system.

(3) The AMS Code (AMSCO) is an element of the Accounting Classification. There is much confusion over what it is, the number of digits it contains and what they represent. The following information is taken from AR 37-100 (Financial Administration, Account/Code Structure). The RDTE AMS Code (AMSCO) has three parts and contains 20 digits:

| <u>RDTE AMS Code (AMSCO)</u> | <u>Digits</u> |
|------------------------------|---------------|
| Basic Account                | 1-11          |
| Functional Cost              | 12-16         |
| Element of Expense           | 17-20         |

The part that closely relates to the RDTE Project Number is the Basic Account. In this study when the term, RDTE AMS Code, is used, we are referring to only the 11 digit Basic Account portion unless stated otherwise.

c. The purpose of this chapter is to provide the schemata of the RDTE Project Number, Program Element, and RDTE AMS Code; and to show the close relationship between the code used in the Five Year Defense Program and the code used in the finance and accounting system.

2-2. RDTE Project Number Schema. RDTE Project Numbers contain 14 alphanumeric characters (schema is at Figure 2-1) though sometimes shortened to 12 by omitting the last two digits. The RDTE Project Number for the M1 Tank (Abrams) is 1X464620DG2000. The RDTE Project Number for the M1 Block Improvement Program is 1X423735D33000. The characters that specify M1 Tank Abrams are G20; the characters that specify M1E1 Block Improvement Program are 330. That is, the tenth, eleventh, and twelfth characters constitute the Project Serial Number. Other characters in the RDTE Project Number change, but the Project Serial Number generally remains the same throughout the life of the project. The Project Serial Number has no schema. There is no way to "break down" the number in order to identify the project. Initially there was an effort to assign certain blocks of alphanumeric characters to agencies involved in RDTE activities; however, some serial numbers were not properly assigned and adjustments were made. It should be noted here that some personnel who work with RDTE Project Numbers do not discriminate between the serial number and the project number; that is, if they are asked for the project number of the M1 Tank, they respond with the serial number (G20) instead of the entire project number. The serial number is easier to remember.

a. Positions One and Two. The number in the first position gives the organization:

- 1 = DARCOM
- 2 = Army Research Institute
- 3 = The Surgeon General
- 4 = Chief of Engineers
- 5 = Army Security Agency
- 6 = TRADOC
- etc.

The letter in the second position is an internal agency designation. For example, "X" generally is used to signify the Project Manager. However, other letters may be specific to an Agency. When an agency is reorganized, a revised list is sent to ODCSRDA for inclusion in the next issue of the Five Year Defense Program Project Listing.

b. The Third Position. This position gives the Budget Activity.

- 1 = Technology Base
- 2 = Advanced Technology Development
- 3 = Strategic Programs
- 4 = Tactical Programs
- 5 = Intelligence and Communications
- 6 = Defensewide Mission Support

c. Positions Four through Eight. These positions comprise the Program Element (see list of FY 83 funded RDTE Program Elements at Appendix F). The

SCHEMA  
RDTE PROJECT NUMBER

EXAMPLE: 1X464620DG2000

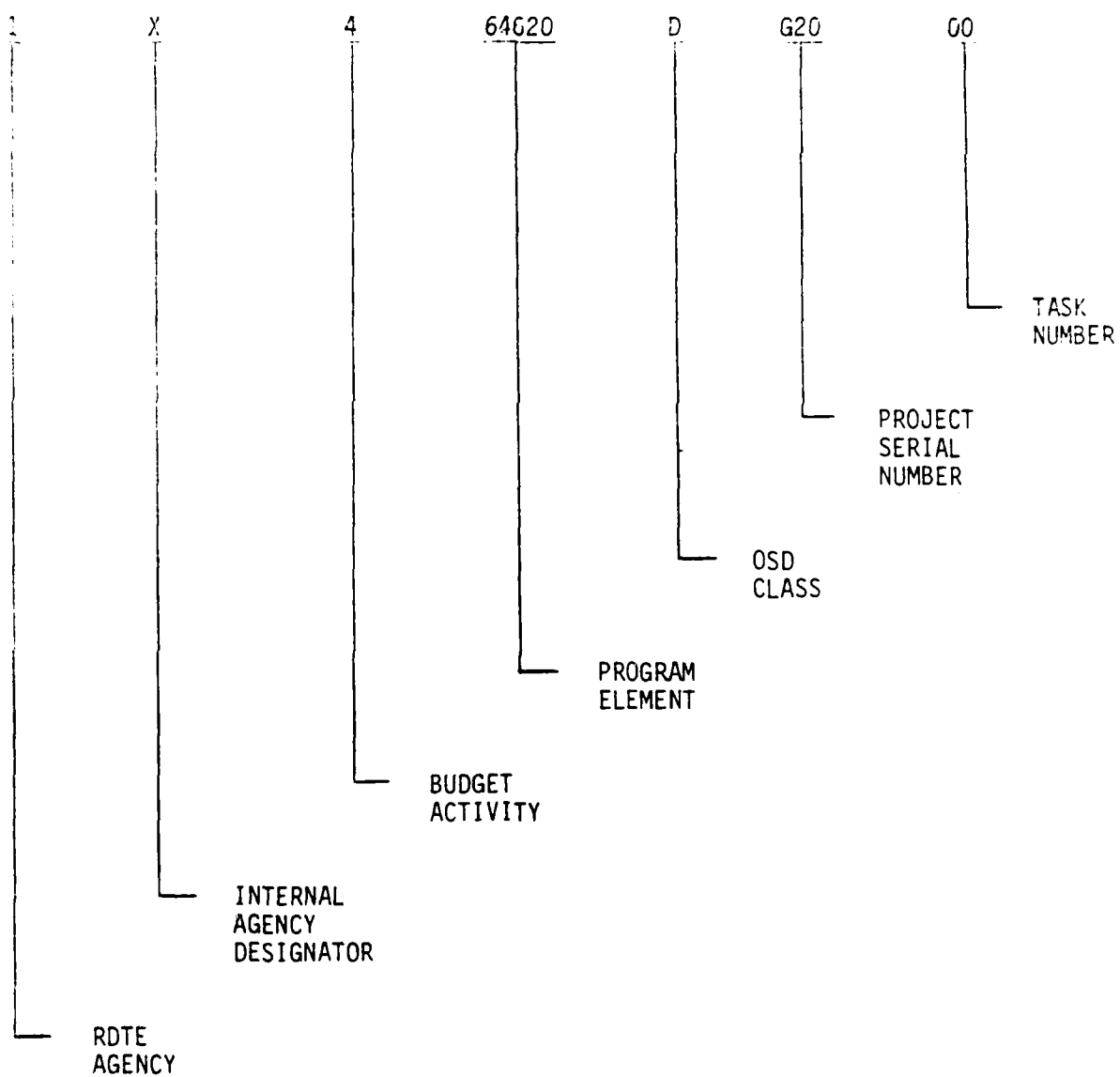


Figure 2-1

Program Element is defined as follows:

"An integrated activity; combination of personnel, equipment and facilities which together constitute an identified military capability or support activity; a grouping of RDTE Projects which, while differing in their specific objectives, have a common purpose."

Program Elements in the FYDP Project Listing contain decimal points. For example, 63324 is shown as 6.33.24; however, the decimal points are not used when the Program Element is incorporated into the RDTE Project Number. In some listings the Program Element may be followed by a service designator: "A" for Army, "N" for Navy, etc. But since all RDTE Project Numbers relate to Army programs, the service designator is not used. The schema for the Program Element will be given later in this chapter.

d. The Ninth Position. The alpha character in this position may be called the DOD Classification, or it may be called the OSD Classification depending on the publication.

A = Applied Research  
B = Basic Research  
D = Development-Test-Evaluation  
M = Management Support

e. The Tenth through Twelfth Positions. As mentioned earlier, these constitute the Project Serial Number. Following are a few examples:

697 = Chaparral  
H80 = Ballistics Technology  
341 = 105 MM Tank Gun Enhancement  
G20 = M1 Tank (Abrams)

f. The Thirteenth and Fourteenth Positions. These positions are zero-filled (or simply not used) at DA level, but they are used in the field for the Project Task Serial Number, defined as:

"A Project Task is part of a RDTE Project; a finite unit of effort which has unity of scope and purpose; may be divided into subtasks or work units."

2-3. Program Element Schemata. The Program Element is revisited to provide a closer look at its numbering system. Actually there are two numbering systems: one for Program 6 Research and Development, (schema at Figure 2-2), and one for programs other than 6 which may receive RDTE funding (schema at Figure 2-3). The first position of the Program Element gives the program number. Program Numbers in the May 83 FYDP Project Listing are:

1 = Strategic Forces  
2 = General Purpose Forces

SCHEMA  
RDTE PROGRAM ELEMENT  
(Program 6 Only)

EXAMPLE: 64620

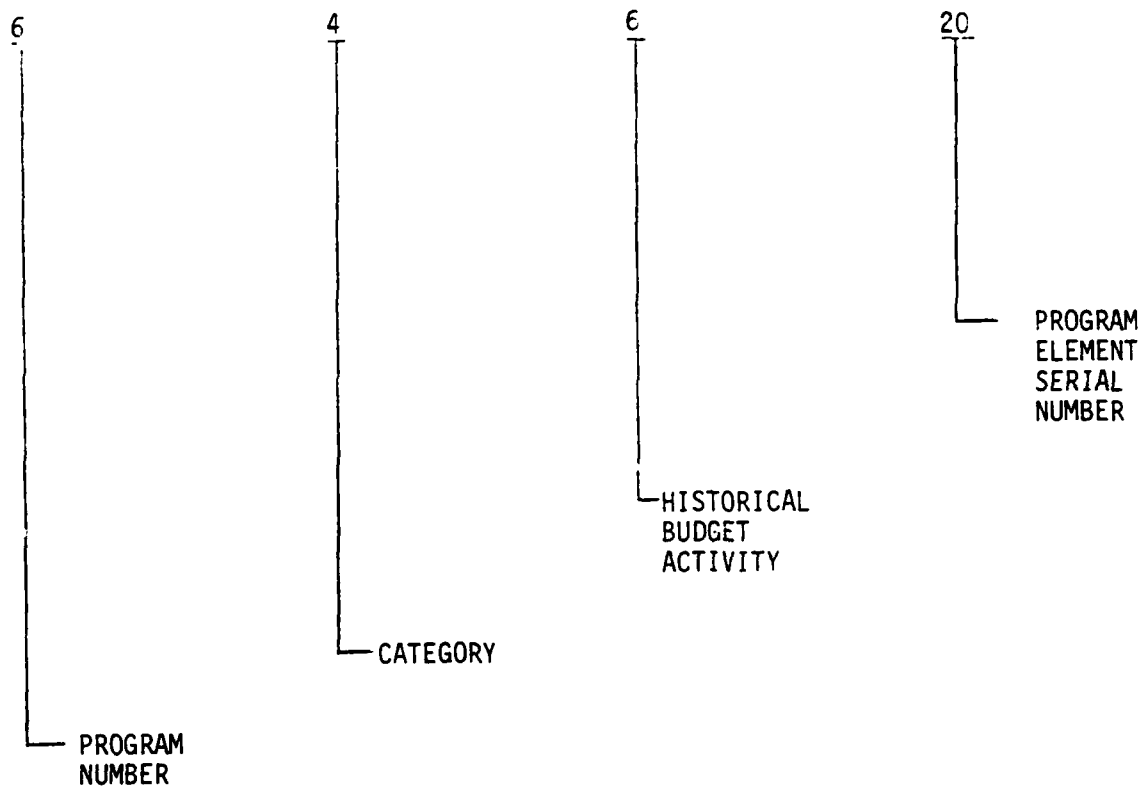


Figure 2-2

SCHEMA  
RDTE PROGRAM ELEMENT  
(Other Than Program 5

EXAMPLE: 23735

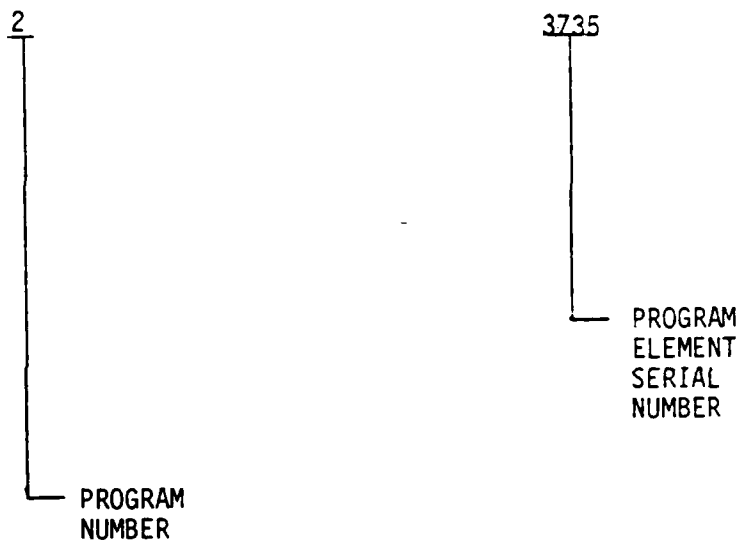


Figure 2-3

3 = Intelligence and Communications  
6 = Research and Development

a. Schema for Program Elements in Program 6:

(1) Position One. This is the Program Number (6).

(2) Position Two. This is the R&D Category:

1 = Research  
2 = Exploratory Development  
3 = Advanced Development  
4 = Engineering Development  
5 = Management and Support

As an item of interest, it should be noted here that R&D Category 3 can be subdivided. Subcategory 3A is Advanced Development - Non-System, and 3B is Advanced Development - System. However, these subcategories were not used in any listings available to this study.

(3) Position Three. This is the Budget Activity that was used prior to FY 78. It is used now only as an historical reference.

(4) Positions Four and Five. These numbers constitute the Program Element Serial Number that identifies a specific Program Element when used with the first three digits. They cannot stand alone.

b. Schema for Program Elements in Other than Program 6. These Program Elements are in an R&D Category called Operational Systems Development.

(1) Position One. This is the Program Number. In the May 83 FYDP Project Listing, these programs are 1, 2 and 3.

(2) Positions Two through Five. These digits identify a specific Program Element when combined with the first digit. The RDTE literature does not provide further information with respect to a break-out of these digits. One might expect that the second digit would give the number for the category Operational Systems Development, which is "7". This is not the case. The Program Elements in Programs 1, 2, and 3 do not give the category. Actually none of these Program Elements has the digit 7 in the second position. The literature states that category 7 includes research and development efforts toward developing, engineering, and testing of systems, support programs, vehicles and weapons that have been approved for production and service employment; and that all items are major line item projects which appear as RDTE costs in other programs (i.e., other than Program 6). However, in the FYDP Project Listing these Program Elements and their RDTE Project Numbers are listed under the 6.7 Program Category; that is, Program 6, Category 7; even though the first digit of the Program Element is not 6. Research efforts failed to produce an explanation; it appears that this is a case of "it's always been done that way".

2-4. The RDTE AMS Code. RDTE Project Numbers are converted to RDTE AMS Code by ODCSRDA personnel. ODCSRDA sends these RDTE AMS Codes to USAFAC for

publication in AR 37-100-XX. They are used by the field to report execution data to USAFAC. The field does not report execution data by RDTE Project Number. However, some USAFAC personnel who work with these RDTE AMS Codes call them project numbers. Also, USAFAC produces a printout (RIN HCG 320) with a column heading "PROG/PROJ". Actually, there is a close relationship between the RDTE Project Number and the RDTE AMS Code. Consider the following:

PATRIOT (SAM-D)

|                      |                             |
|----------------------|-----------------------------|
| RDTE Project Number: | 1 X 4 6 4 3 0 7 D 2 1 2 0 0 |
| RDTE AMS Code:       | 644 3 0 7 . 2 1 2 0 0       |

Note that the RDTE AMS Code contains an extra digit between the first and second positions of the Program Element 64307. This number always matches the third digit of the RDTE Project Number which is the Budget Activity. Both contain the Program Element 64307, Patriot (SAM-D), and both contain the Project Serial Number 212, Patriot (SAM-D). The last two positions in each case are zero-filled at DA level but are designed to give the RDTE Task Number at other organizational levels. The first two positions in the RDTE Project Number are agency designators (for Patriot, these are 1X, signifying DARCOM, Project Manager). However, when DARCOM reports execution data to USAFAC, DARCOM uses its Operating Agency Number, and reports by RDTE AMS Code. The fiscal year when the project was funded also is reported since the AMS Code above does not contain a fiscal year designator. It should also be noted that the AMS literature calls the Program Element the "Program Element/Budget Subactivity" although it does not contain the DOD Budget Subactivity Numbers.

2-5. RDTE Project. A project, represented by RDTE AMS Code, can be executed in the Army's finance and accounting system. The RDTE Appropriation #2040 is a multiple year appropriation (available for obligation for two years). For example, FY 83 funds made available for this appropriation will expire for obligation purposes on 30 September 1984, and lapse for disbursement purposes on 30 September 1986. At the end of the fourth year, any funds not disbursed are placed in an "M" account where they are merged with balances of other closed accounts. After balances are merged, funds may be disbursed from the "M" account to satisfy Government liabilities; however, the disbursements cannot be "tracked" to obtain total costs of the project.

2-6. Observations.

a. During the effort to collect information on the schemata of the RDTE Project Number, Program Element, and RDTE AMS Code, and to crosswalk the project number to the AMS Code the following observations were made.

(1) In some cases, the information in the project number literature did not agree with the information in the finance and accounting literature or DOD budget guidance with respect to Budget Activities, Categories and Programs. For example, four lists of Budget Activities were found:

(AR 70-6)

- 0 = R&I Support from Other Appropriations
- 1 = Research (Mil Science)
- 2 = Aircraft and Related Equipment
- 3 = Missiles and Related Equipment
- 4 = Military Astronautics and Related Equipment
- 5 = Ships, Small Craft and Related Equipment
- 6 = Ordnance, Combat Vehicles and Related Equipment
- 7 = Other Equipment
- 8 = Programwide Management & Support

(AR 70-9)

- 1 = Technology Base
- 2 = Advanced Technology Development
- 3 = Strategic Programs
- 4 = Tactical Programs
- 5 = Intelligence and Communication
- 6 = Defensewide Mission Support
- 7 = Other Equipment
- 8 = Programwide Management Expenses and RDTE Investment

(AR 37-112)

- 1 = Technology Base
- 2 = Advanced Technology Development
- 3 = Strategic Programs
- 4 = Tactical Programs
- 5 = Intelligence and Communications
- 6 = Defensewide Mission Support
- 9 = Reimbursable Orders

(DOD 7110-1-M)

- 1 = Technology Base
- 2 = Advanced Technology Development
- 3 = Strategic Programs
- 4 = Tactical Programs
- 5 = Intelligence and Communications
- 6 = Defensewide Mission Support
- 20 = Undistributed
- 35 = Reimbursable Programs

Personnel at ODCSRDA said to use the Budget Activities listed in AR 37-112 pending revision of the AR 70 series of which ODCSRDA is the proponent agency.

(2) Similar disconnects were encountered with Categories and Programs.

Categories

(AR 37-112)

- 1 = Research
- 2 = Exploratory Development
- 3 = Advanced Development
- 4 = Engineering Development
- 5 = Management and Support

(AR 37-100-83)

- 1 = Research
- 2 = Exploratory Development
- 3 = Advanced Development
- 4 = Engineering Development
- 5 = Management Support
  - (for Budget Activity 9, Reimbursable Orders, the Category position contains numbers 1-6 of the other Budget Activities; that is, they give Reimbursables by Budget Activity)
  - (also for Budget Category 9, there are two special designators: B2 = Reimbursables Received for BASOPS SPT provided to others - for use by NARADCOM only; and B3 = Reimbursables Received for BASOPS SPT provided to others - for use by Aberdeen Proving Ground only)

(AR 70-1)

- 1 = Research
- 2 = Exploratory Development
- 3 = Advanced Development
  - 3A = Non-System
  - 3B = System
- 4 = Engineering Development
- 5 = Management Support
- 7 = Operational Systems Development

Programs (which may receive RDTE funds)

(AR 37-112)

- 1 = Strategic Forces
- 2 = General Purpose Forces
- 3 = Intelligence and Communications
- 6 = Research and Development
- 9 = Administration and Associated Activities

AR 70-9)

- 1 = Strategic Forces
- 2 = General Purpose Forces
- 3 = Intelligence and Communications
- 6 = Research and Development
- 7 = Central Supply and Maintenance
- 8 = Training, Medical and General Personnel Activities
- 9 = Administration and Associated Activities
- 0 = Support of Other Nations

(AR 37-100-83)

Same as AR 37-112; however,  
modified for use as follows:

- 1 = Strategic Forces
- 2 = Operational Systems Development - General Purpose Forces
- 3 = Operational Systems Development - Intelligence and Communications
- 6 = Research and Development
- 9 = Administration and Associated Activities

(3) Some of the disconnects are necessary, i.e. the finance and accounting system and Department of Defense (DOD) need an additional Budget Activity for Reimbursables and DOD needs one for Undistributed Programs; but the Budget Activity Numbers for Reimbursables differ. DOD's is #35, Reimbursable Programs; and the F&A system's is #9, Reimbursable Orders. The differences, even though justifiable, can be confusing.

(4) Some information provided by the current literature appears to be outdated. For example, AR 37-112 specifies that the fourth digit of the RDTE AMS Code for Program 6 is a repeat of the second digit. However, the fourth digit now is the historical Budget Activity.

b. These observations are presented here to preclude the possibility that readers might be confused or misled by one or another of the referenced publications if they have occasion to pursue independent research. In this report the "disconnects" were resolved by questioning the POC's, by selecting the AR with the latest date, or simply by accepting practice over publication.

## CHAPTER 3

### INTERRELATIONSHIP OF RDTE PROJECT NUMBERS TO THE PPBES

3-1. Introduction. The Army's Planning, Programming, Budgeting, and Execution System (PPBES) is a comprehensive, dynamic, and complex process. Its principal products are The Army Plan, the Five Year Defense Program, and the Budget. During the execution phase of the annual cycle, programs are executed and Army resources are managed. The intent of this chapter is to show the interrelationship of RDTE Project Numbers to the PPBES.

#### 3-2. Revisions to the PPBES Handbook.

a. Prior to 1982, the name of the Army's primary resource management system was the Planning, Programming, and Budgeting System (PPBS). The execution phase was a part of the budgeting function. In 1982, when the third edition of the handbook was published, execution became a separate function and the name was changed to the Planning, Programming, Budgeting, and Execution System (PPBES):

"Army and other defense managers more and more perceive that emphasis on planning, programming, and budgeting overlooks an essential system ingredient. The three-phase focus, they believe, subordinates concern for how well program and budget execution applies resources to achieve intended purposes. As a first step to reemphasize the need to review program and budget execution, the Army has renamed its primary resource management system."<sup>1</sup>

b. Another major change in the system is the replacement of mission areas by the following which were structured around basic Army functions:<sup>2</sup>

#### FUNCTIONS

Structure  
Man  
Equip  
Train  
Mobilize

---

<sup>1</sup> PPBES Handbook, 3d Ed., 1982, pps. xxv-xxvi

<sup>2</sup> Ibid. p. xvi

Deploy  
Sustain  
Provide Facilities

The above functions were used for prioritization in the May 1983 Program Objective Memorandum (POM).

3-3. Planning. The principal product of the planning function is The Army Plan. It conveys guidance and establishes operational priorities for program construction, supporting preparation of command Program Analysis and Resource Review (PARR) documents and the Program Objective Memorandum (POM).

#### ARMY PLANNING CYCLE

| <u>PHASE</u>          | <u>PERIOD</u>                 | <u>PRODUCT</u>                      |
|-----------------------|-------------------------------|-------------------------------------|
| Requirements planning | Mid-February<br>to Mid-August | Army planning<br>force requirements |
| Objectives planning   | July to late<br>August        | Constrained<br>objective force      |
| Planning decision     | Mid-September                 | The Army Plan                       |

There is no direct relationship with the RDTE Project Numbers; however, the decisions made will determine programs which directly affect their structure and usage.

3-4. Programming. The programming function translates planning decisions into a balanced allocation of forces, manpower, materiel, and funds. Each PPBES cycle advances the program one fiscal year. The baseline for each new cycle is the Army portion of the Five Year Defense Program (FYDP), which is the official summary of programs approved by the Secretary of Defense and reflected in the President's budget. The Program Element is the basic building block of the FYDP.

a. The Program Element. The FYDP RDTE Project Number Listing published by ODCSRDA lists all RDTE Project Numbers by Program Element. There may be one or more RDTE projects in a Program Element. For example, in FY 83, the Program Element #63712 (Mapping and Geodesy) contains RDTE Project Numbers 1S563712D580 (Field Army Mapping) and 1A563712DT44 (Digital Topographic Support) but 136 of the 211 Program Elements funded in FY 83 contain only one project. The RDTE Project Numbers - specifically their Project Serial Numbers - identify the projects used to execute the Program Element. However, ODCSRDA cautions that the FYDP is a programming document rather than an execution document, and that Program Elements in the FYDP may not be the same used during execution of a project, especially in the outyears.

b. Program Development Increment Packages (PDIP's). Each program is described by a PDIP. Most of the continuing programs are safe from serious challenge; they form a program "core". Above the core, there is competition for the limited resources. PDIP's are ranked, integrated into functional programs, prioritized on the basis of functional analysis, and adjusted by the Program and Budget Committee (PBC) through program review. ODCSRDA publishes

a listing of RDTE Project Numbers by PDIF.

3-5. Budgeting. There are two stages in the budgeting phase: Budget Formulation which comprises development of Army budget estimates for review and approval as part of the President's budget, and Budget Justification which relates to the process of congressional review and approval. These activities express the program need for dollars and manpower as requests for congressional appropriations. Exhibit R-1 (Supporting Data for the President's Budget) is at the Program Element level; RDTE Project Numbers are not in this document. Exhibit R-1 contains the proposed RDTE portion of the Army budget which is forwarded to the Office of the Secretary of Defense for inclusion in the OSD Budget. Program Budget Decisions (PBD's) help translate approved programs into budget estimates. This is an iterative process.

a. Program Budget Decision (PBD). The PBD's distribute resources among Budget Activities (See Figure 3-1). Project Numbers do not contain PBD numbers. In the RDTE Appropriation #2040, the PBD's and the Budget Subactivities (BSA) have the same nomenclature and use the same numbering system. An ODAB representative advised that for all practical purposes they are identical. See Table 3-1 for a list of RDTE Budget Subactivities taken from DOD publication dated June 1982, and the Subactivities that were the subjects of PBD's in FY 83. The differences simply may be a function of time.

b. DOD Budget Subactivities (BSA). These three digit numbers do not appear in RDTE Project Numbers. However, it should be noted that their nomenclature and that of Army Mission Areas (AMA) bear a striking resemblance. Actually, many have the same names as Army Mission Areas as well as Program Budget Decisions (PBD). For example:

| <u>NOMENCLATURE</u>     | <u>PBD</u> | <u>BSA</u> | <u>AMA</u> |
|-------------------------|------------|------------|------------|
| Land Warfare            | 230        | 230        | 210        |
| Air Warfare             | 235        | 235        | 220        |
| Theater Nuclear Warfare | 246        | 246        | 240        |
| Chemical Warfare        | 248        | 248        | 270        |
| Etc.                    |            |            |            |

Although "Missions Areas" have been replaced in the "deciding process" by "Functions", it appears that Mission Areas will remain very much a part of the PPBS unless the Budget Subactivities/Program Budget Decisions are renamed.

3-6. Execution. The Secretary of the Army is accountable for program execution and day-to-day management of Army resources. In response to initiatives introduced by the Reagan administration for better defense management, concern has centered on how well program and budget execution applies resources to achieve intended purposes. The Chief of Staff of the Army directed that an execution function be incorporated into the PPBS in order to encourage and accelerate needed procedures which has resulted in the

PDIIP  $\Rightarrow$  PROGRAM  $\Rightarrow$  BUDGET

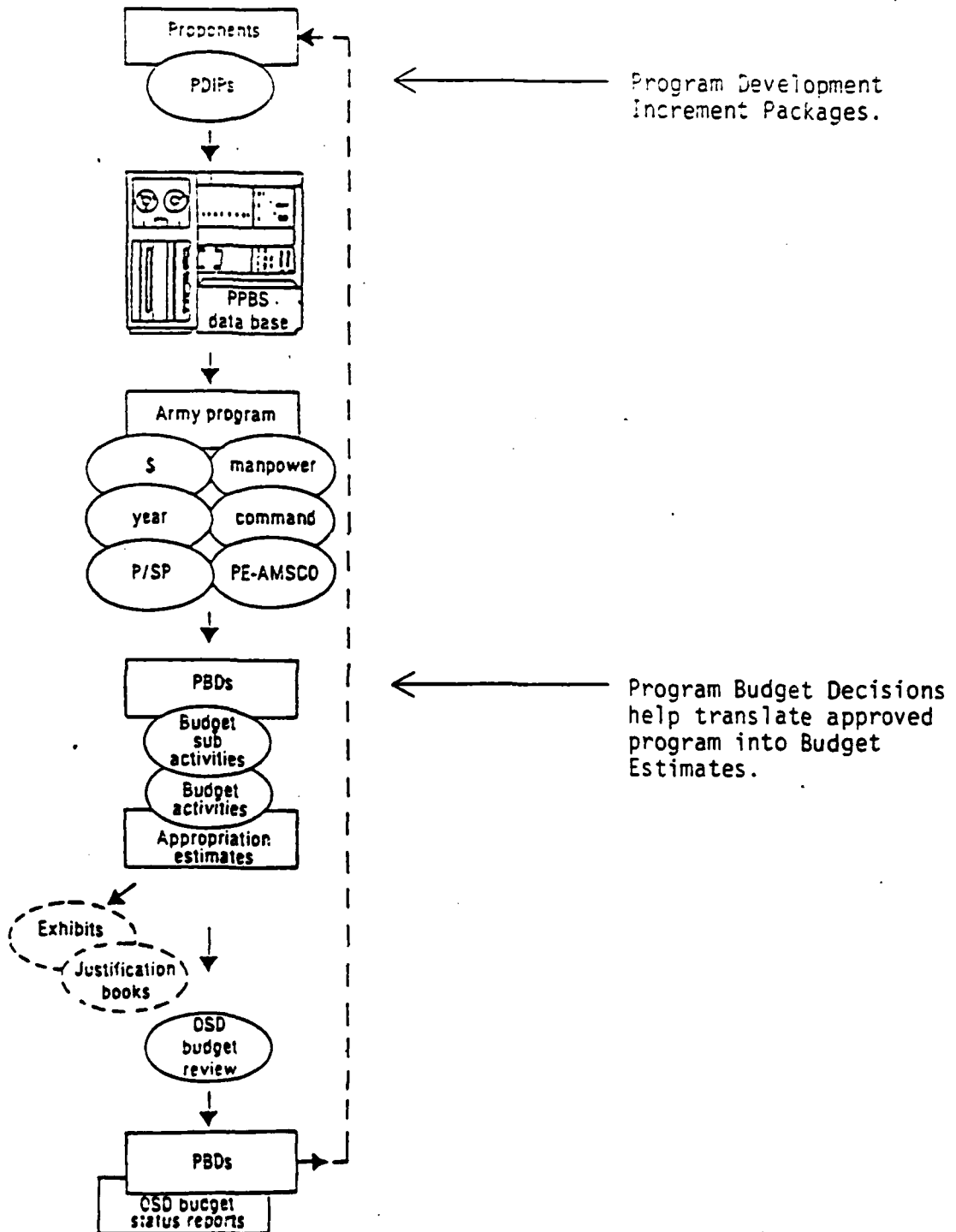


Figure 3-1

BUDGET SUBACTIVITIES/PROGRAM BUDGET DECISIONS

| <u>BSA</u> | <u>NOMENCLATURE</u>           | <u>FY 83 PBD</u> |
|------------|-------------------------------|------------------|
| 100        | Reimb Program                 |                  |
| 197        | Prod Invest Fnd               |                  |
| 200        | Defense Research              | 200              |
| 204        | Explor Develop                | 204              |
| 216        | Avd Tech Demo                 | 216              |
| 220        | Strat Off-A&D                 | 220              |
| 224        | Strat Def-A&D                 | 224              |
| 228        | Strat C31 & Sup               | 228              |
| 230        | Land Warfare                  | 230              |
| 235        | Air Warfare                   | 235              |
| 246        | Theater Nuc War               | 246              |
| 248        | Chem Warfare                  | 248              |
| 250        | Defwide C31 Sup               | 250              |
| 252        | Theater & Tac C31             | 252              |
| 254        | Mobility                      | 254              |
| 256        | Warfare C&C                   | 256              |
| 260        | Defwide Mission               | 260              |
| 262        | EW&C3 Cntermeas               |                  |
| 270        | Mgmt & Support                | 270              |
| 275        | Test & Evaluation             | 275              |
| 296        | Cong Act - R&D, A             | 296              |
|            | Consolidated Crypt Prog       | 330              |
| 331        | GDIP                          | 331              |
|            | Foreign Counterintelligence   | 335              |
|            | Other Def Intel Prog Adj      | 336              |
|            | Emerg & Extra - Ord Exp Limit | 340              |
| 350        | Comm Sec Prog                 | 350              |
| 401        | Indust Fund, A                |                  |
| 697        | JRWA                          |                  |

Table 3-1

RDTE.<sup>3</sup> The execution function includes the planning and allocating of funds to carry out approved programs, obligation and disbursing these funds, and the associated reporting and review. It is a long-standing procedure. It includes activities during program and budget execution to finance unbudgeted requirements and to conduct selected resource management reviews.

a. Flow of Funds. After the President signs an appropriation act, the Treasury issues Appropriation Warrants to the Army. Concurrently, the Office of Management and Budget (OMB) apportions the funds and the Office of the Secretary of Defense (OSD) releases the programs. The Funds Control Officer at USAFAC assures that all elements balance; i.e., there is obligation authority with respect to given programs, and the cash is available for disbursement. Then, upon request of Appropriation Directors, the funds are allocated by USAFAC, and suballocated or allotted by Special Operating Agencies/General Operating Agencies (SOA/GOA) to installations in order to execute approved programs. Figure 3-2 shows this flow of funds.

b. The Army's finance and accounting system uses the RDTE AMS Code to account for RDTE funds. The RDTE Project Numbers are converted to RDTE AMS Code by ODCSRDA and sent to USAFAC for publication in AR 37-100-XX. The Army agencies involved in RDTE activities report to USAFAC in terms of the RDTE AMS Code, not by RDTE Project Numbers. (See Listing 1 for file dump of data received from the field.)

(1) Listing 1. The number "21" at the beginning of each line stands for "Army". The next field gives the last number of the fiscal year funds, followed by the RDTE Appropriation Symbol, 2040. The third field, 0000, currently is not used. Positions 3 and 4 of the fourth field give the Operating Agency Number (6D for the first line) of the reporting activity. The last eleven positions of that field contain the RDTE AMS Code (the decimal within the AMS Code is not printed). The fifth field repeats the Program Element and OSD Classification. The sixth field gives the data code:

BC = Funds Available - Direct  
BJ = Obligations - Direct  
BD = Deobligations of Prior Year Obligations  
BK = Disbursements (Non-Interfund) Direct  
BF = Commitments Outstanding  
2B = DA Unobligated Balance  
2E = DA Unliquidated Balance  
etc.

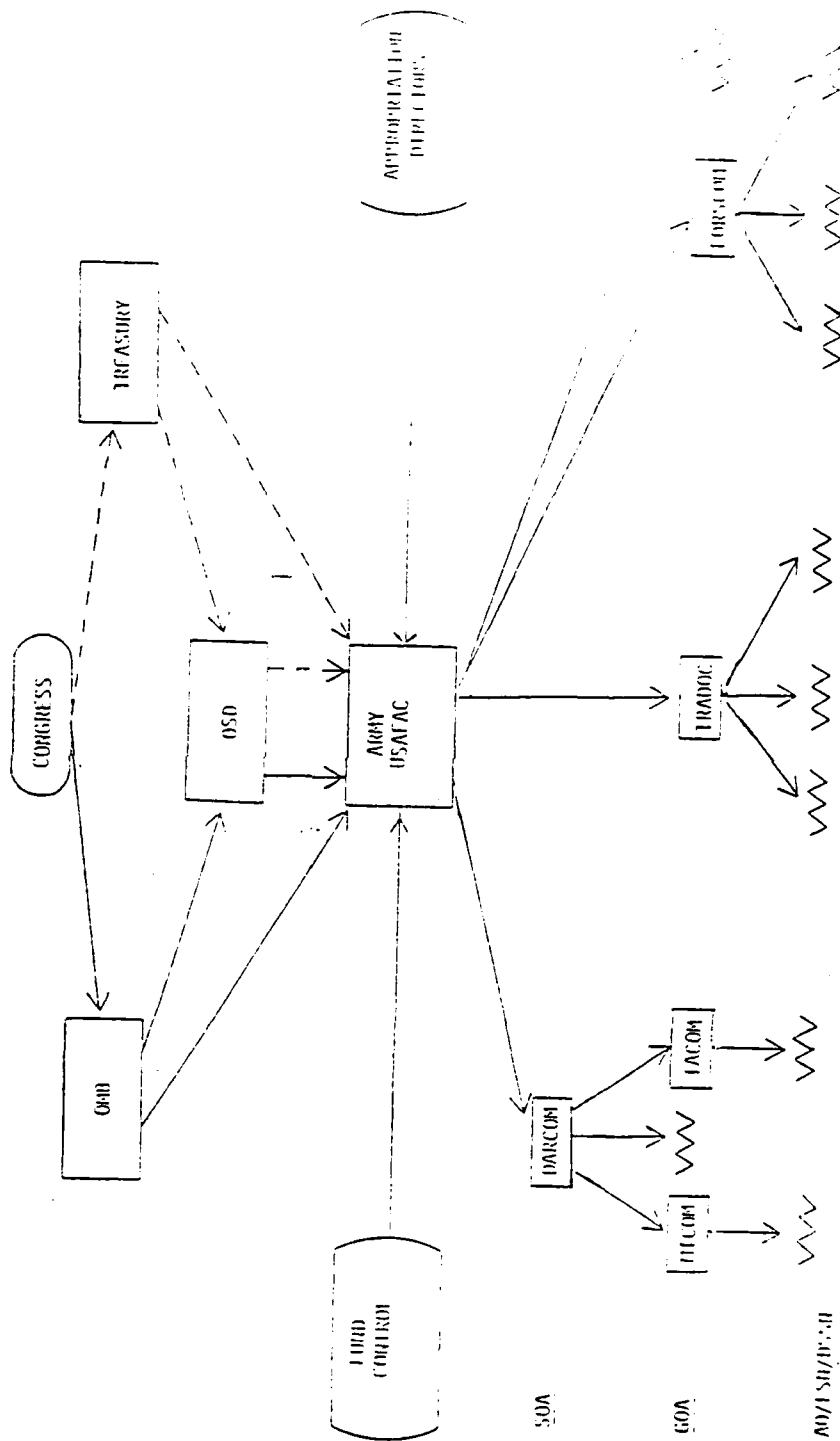
The dollars and cents are in the next to last field. Example: 0000440900000 equals \$4,409,000.00. The last field gives mode of transmission and processing data. This raw data is organized by USAFAC to produce another listing (see Listing 2).

(2) Listing 2. This listing gives the total amount per RDTE AMS Code obligated, disbursed, etc., reported by RDTE activities in the field.

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<sup>3</sup>PPBES Handbook, 3d Ed., 1982, pps. 8-2,3

# FLOW OF FUNDS





RIN HCG-323

| WASIC APPROPRIATION | DATA CODE | YEAR | AMOUNT FIELD  | PROG/PROJ   |
|---------------------|-----------|------|---------------|-------------|
| 32040               | BJ        | 1    | 3,235,024.00  | 24373069700 |
| 22040               | BJ        | 2    | 136,400.00    | 24373069700 |
| 12040               | BJ        | 3    | 25,460.23     | 24373069700 |
| TOTAL AMOUNT--      |           |      | 3,417,184.23  |             |
| 32040               | BM        | 1    | 55,037.14     | 24373069700 |
| 22040               | BM        | 2    | 649,034.97    | 24373069700 |
| 12040               | BM        | 3    | 2,493,383.35  | 24373069700 |
| TOTAL AMOUNT--      |           |      | 3,201,955.46  |             |
| 32040               | BP        | 1    | 6,402,310.40  | 24373069700 |
| TOTAL AMOUNT--      |           |      | 6,402,310.40  |             |
| 22040               | ZH        | 2    | 3,041,400.00  | 24373069700 |
| TOTAL AMOUNT--      |           |      | 3,041,400.00  |             |
| 22040               | ZE        | 2    | 20,465,326.75 | 24373069700 |
| 12040               | ZE        | 3    | 6,216,481.89  | 24373069700 |
| TOTAL AMOUNT--      |           |      | 26,681,808.64 |             |
| 32040               | BA        | 1    | 36,317,000.00 | 24373169000 |
| TOTAL AMOUNT--      |           |      | 36,317,000.00 |             |
| 32040               | BC        | 1    | 36,317,000.00 | 24373169500 |
| 22040               | BC        | 2    | 13,102.61     | 24373169700 |
| TOTAL AMOUNT--      |           |      | 36,330,102.61 |             |
| 22040               | BD        | 2    | 25,405.77     | 24373169000 |
| TOTAL AMOUNT--      |           |      | 26,405.77     |             |
| 32040               | BJ        | 1    | 16,926,356.10 | 24373169000 |
| 22040               | BJ        | 2    | 12,993.38     | 24373169000 |
| 12040               | BJ        | 3    | 439.91        | 24373169000 |
| TOTAL AMOUNT--      |           |      | 16,939,789.39 |             |
| 32040               | BM        | 1    | 2,345,338.17  | 24373169000 |
| 22040               | BM        | 2    | 12,116,682.63 | 24373169000 |
| 12040               | BM        | 3    | 107,010.29    | 24373169000 |
| 02040               | BM        | 4    | 19,581.06     | 24373169000 |
| TOTAL AMOUNT--      |           |      | 14,549,619.09 |             |

CHAPARRAL

SAN HAWK / HIR



Consider only excerpt, the last block of entries in Listing 1. The project is SAM HAWK HILL. Disbursements have been made from FY 80, FY 82, FY 83, and FY 84 RDTE funds. RDTE funds are available for disbursement for four years. At the end of FY 84, the FY 80 RDTE accounts will be closed and their balances (if any) will be merged into an RDTE "M" account. Disbursements can be made from the "M" account to satisfy Government liabilities; however, these disbursements cannot be "tracked" by project. The audit trail ends.

c. USAFAC Accounting Reports. As programs are executed, the data reported to USAFAC by the field is subjected to numerous analyses, reconciliations and reviews before the data are consolidated and accounting reports are prepared and distributed. (See Table 3-2 for a list of major RDTE Accounting Reports.)

USAFAC

MAJOR RDTE ACCOUNTING REPORTS

Flash Report on Obligation Status

Report on Budget Execution

Appropriation Status by Fiscal Year Programs and Subaccount

Report on Obligations

Report on Reimbursable Transactions

Status of Approved Operating Budget

Table 3-2

## CHAPTER 4

### RDTE PROJECT NUMBERS VIS-A-VIS SYSTEM CORRELATION

4-1. Approach. Following research on current rules, regulations, and practice in assigning, structuring and defining RDTE Project Numbers, an attempt was made to correlate FY 83 RDTE Project Numbers with the "Total Army" on a system basis in order to test the initial hypothesis that a significant portion of a major Army system's RDTE costs can be obtained if the system's projects can be identified.

a. RDTE Project Number List. The list at Appendix B contains 411 project numbers. They were taken from the May 83 FYDP RDTE Project Listing. ODCSRDA advised that the entries containing dollars in the FY 83 column are valid (i.e., funded). A comparison was made between these project numbers and the RDTE AMS Codes listed in AR 37-100-83. The number of AR 37-100-83 entries was greater. Some of the projects represented by an RDTE AMS Code did not become funded - this regulation is published before the fact - and there were AMS Codes for Reimbursables and Carrier Accounts which are used in the finance and accounting system but have no counterpart in the RDTE Project Number system. Reimbursables are those accounts, by Budget Activity, which represent efforts in behalf of others, and Carrier Accounts are maintained as repositories of costs that cannot be identified with a project but that later may be transferred to accounts of specific projects. Field Two of the listing at Appendix B contains the RDTE AMS Codes specific to each RDTE Project Number; however, this listing of RDTE AMS Codes is not all-inclusive since it does not contain the Reimbursables and Carrier Accounts.

b. System List. A list of Army systems was taken from Tables 4-3 and 4-4 of a draft paper prepared in the Office of the Director of Cost Analysis titled, "A Mission Area Structure for the Management of Army Resources", DCA-P-XX, September 1981. This list was used because it is the only one known to exist that is "totally exhaustive and mutually exclusive" in capturing the total Army. The System List is at Appendix C and gives the systems by class. The following shows the number of systems in each materiel and non-materiel class:

| <u>CLASS</u>                        | <u>NUMBER OF SYSTEMS</u> |
|-------------------------------------|--------------------------|
| <u>MATERIEL</u>                     |                          |
| Aircraft                            | 8                        |
| Missiles                            | 18                       |
| Electronics                         | 29                       |
| Tracked Combat Vehicles             | 7                        |
| Cannon, Artillery, Mortars and Guns | 8                        |
| Engineering and Related Systems     | 5                        |
| Ground Vehicles                     | 11                       |
| Ammunition                          | 1                        |
| Other                               | 9                        |
| Subtotal                            | 96                       |

NON-MATERIEL

|                                                 |   |
|-------------------------------------------------|---|
| Health                                          | 1 |
| Installation Management                         | 5 |
| Personnel and Related Services                  | 5 |
| Support Outside Army                            | 2 |
| Defense Research/Advanced Technical Development | 1 |
| Intelligence Activities                         | 3 |
| Army Headquarters                               | 5 |
| Training                                        | 4 |
| Ground Combat/Combat Support                    | 5 |
| Transportation/Traffic Management               | 2 |
| Engineer Services/Civil Works                   | 3 |
| Police and Security                             | 2 |
| Production Base Support                         | 1 |
| Central Supply and Maintenance                  | 5 |

Subtotal 52

Grand Total 148

An attempt was made to crosswalk the RDTE Project Numbers to the systems with emphasis on the Selected Acquisition Report (SAR) systems.

4-2. Observations. Several observations were made during the correlation efforts.

a. Conflict of Rules. There is a "conflict of rules" for defining systems within the Army which indicates a need for a unified "Systems Language".

(1) Comparison of Program Development Increment Packages (PDIP's), Baseline Cost Estimates (BCE's), Selected Acquisition Report (SAR) systems, and systems as defined by the Appropriation Directors at ODCSRDA showed variations as to what constitutes a system - as opposed to a non-system - and what that system includes with respect to modifications, support equipment, ammunition, armament, etc.

(2) Some Appropriation Directors include modifications in their systems; some do not include modifications unless required in specific cases such as SAR's. Another variation is the inclusion in a system of only a portion of a project. For example, the Baseline Cost Estimate for Blackhawk contains portions of the following projects:

|              |                                   |
|--------------|-----------------------------------|
| 1X464711D665 | A/C Surveillance Equipment        |
| 1A464268D106 | A/C Component Improvement Program |

The remaining funds in these "split" projects may or may not be included in other materiel system BCE's. Rules also differ on whether ammunition should be included. For purposes of this study, ammunition is a system which includes all RDTE costs relating to ammunition; however, others may consider ammunition to be a component of a system. For example, RDTE costs for 120MM Tank Gun Ammo Development are included in the M1 Abrams Tank system as defined

the Appropriation Director and in the BPA.

The definitions in the draft paper which supplied the System List at Appendix C were used in this study; however, some systems were undefined and some were not clearly defined. In those cases and for purposes of this study, "working" definitions were formulated. For example, Defense Research would relate to projects providing joint benefits with Department of Defense, NATO, and other government agencies and industry; all other projects in categories 1 and 2 (Research and Exploratory Development) which could not be associated with other defined systems would be cross-walked to the system Materiel/Combat Development Activities. It should be noted, therefore, that this study may have contributed another set of rules to those now existing and that the correlation tables may not "track" with PDIP's, BCE's, etc.

b. Difficulty in Relating Schema to Systems. If the RDTE Project Number's nomenclature contained the name of a system (M1 Tank, Chaparral, Cobra TOW, UH-60A Blackhawk, etc.) or, if the Program Element's nomenclature contained the name of a system, then no difficulty was encountered in cross-walking the project number to the system. When these conditions did not prevail, then it was hoped that the schema would be helpful (see Chapter 2 for schema). Unfortunately, the combinations of Program, Budget Activity, Category, and OSD Classification did not provide much help in identifying systems:

| <u>PROGRAM</u> | <u>BUDGET ACTIVITY</u> | <u>CATEGORY</u> | <u>OSD CLASSIFICATION</u> |
|----------------|------------------------|-----------------|---------------------------|
| 1              | 3                      | None            | D                         |
| 2              | 4                      | None            | D                         |
| 3              | 4                      | None            | D                         |
| 3              | 5                      | None            | D                         |
| 6              | 1                      | 1               | A,B                       |
| 6              | 1                      | 2               | A,D                       |
| 6              | 2                      | 3               | A,D                       |
| 6              | 3                      | 3               | D                         |
| 6              | 4                      | 3,4,5           | D                         |
| 6              | 5                      | 3,4             | D                         |
| 6              | 6                      | 3               | A                         |
| 6              | 6                      | 4               | D                         |
| 6              | 6                      | 5               | M,D                       |

(1) For example, consider the following combinations:

|      |                   |                                 |
|------|-------------------|---------------------------------|
| 611A | Program 6         | = Research & Development        |
|      | Budget Activity 1 | = Technology Base               |
|      | Category 1        | = Research                      |
|      | OSDC A            | = Applied Research              |
| 665M | Program 6         | = Research & Development        |
|      | Budget Activity 6 | = Defensewide Mission Support   |
|      | Category 5        | = Management & Support          |
|      | OSDC M            | = Management Support            |
| 35D  | Program 3         | = Intelligence & Communications |
|      | Budget Activity 5 | = Intelligence & Communications |
|      | OSDC D            | = Development-Test-Evaluation   |

|      |                   |                               |
|------|-------------------|-------------------------------|
| 6335 | Program 6         | = Research & Development      |
|      | Budget Activity 1 | = Strategic Programs          |
|      | Category 3        | = Advanced Development        |
|      | OSDC D            | = Development-Test-Evaluation |

They provide information, often redundant, concerning the phase and nature of activity but few "clues" to system correlation.

(a) All modifications/improvements were in Program 2 (General Purpose Forces), but not all of the projects in Program 2 appeared to be modifications/improvements. All were in Budget Activity 4 (Tactical Programs) and all were in the OSD Classification D (Development-Test-Evaluation).

(b) All of the RDTE Project Numbers associated with materiel systems contained the OSD Classification D (Development-Test-Evaluation); however, the numbers associated with non-materiel systems could contain OSD Classification D, A, B, or M. Therefore, while this information provided a check on correlation with materiel systems, it was of little value for non-materiel systems.

(2) There is a striking similarity/redundancy in nomenclature of Program Elements and RDTE Project Numbers. In FY 83, there were 211 Program Elements and 411 RDTE Project Numbers (averaging 1.9 projects per element). However, 136 (approximately 33.0%) of the Program Elements contained only one RDTE Project Number each and, in almost all cases, they had the same nomenclature. Examples follow:

| <u>PROGRAM ELEMENT</u> | <u>RDTE PROJECT</u> |
|------------------------|---------------------|
| CHAPARRAL              | CHAPARRAL           |
| MATERIALS              | MATERIALS           |
| MISSILE TECHNOLOGY     | MISSILE TECHNOLOGY  |
| GRASS BLADE            | GRASS BLADE         |
| PERSHING II            | PERSHING II         |

Examples of a few cases where there was only one project to an element and their nomenclature was not the same:

| <u>PROGRAM ELEMENT</u>     | <u>RDTE PROJECT</u>        |
|----------------------------|----------------------------|
| TANK SYSTEMS               | M1 TANK (ABRAMS)           |
| JOINT TACTICAL FUSION PROG | ALL SOURCE ANALYSIS SYS    |
| COMBAT SUPPORT SYS         | SMOKE MUNITIONS & MATERIAL |

Fewer Program Elements would be needed if they were generic rather than specific in nomenclature.

(3) When a project progresses from one category to another category (such as from Advanced Development to Engineering Development) the Program Element changes because the category designator is the second digit of the Program Element. For example, the Pershing II Program Element was 63311. Now it is 64311. The nomenclature remained the same; the number changed. Sometimes the Program Element Serial Number also changes. In FY 78, the Program Element for GRASS BLADE was 63317. It changed to 64313 (the second

1. First digits changed.

4. The RDTE Project Serial Number also may change. If a project changes category during a fiscal year, one could be 1X463620D998 and the other listed as 1X464620D998. Changes in Program Element and Project Serial Number could obstruct audit trails in tracking system costs.

5) Some RDTE Project Numbers proved extremely difficult to cross-walk to a system; however, the problem may be attributable to the list of systems, not necessarily to the project numbers. For example, consider the RDTE Project Number 1X463723D335 (Communicative Technology). There are several systems in the system list that might be appropriate:

| <u>SYSTEM</u>                          | <u>SYSTEM CLASS</u>          |
|----------------------------------------|------------------------------|
| Automation/Communications Systems      | Installation Management      |
| Tactical Satellite Communications      | Electronics                  |
| Communications Intelligence Systems    | Electronics                  |
| Communications Security Systems        | Electronics                  |
| Theater/Tactical Communication Systems | Electronics                  |
| Communications Combat Support          | Ground Combat/Combat Support |

The first step is to get any information possible from the schema. For RDTE Project Number 1X463723D335, the schema gives the following:

Organization = DARCOM  
Internal Designator X = Project Manager  
Budget Activity = Tactical Programs  
Program Element 63723 = Command and Control  
    6 = Program 6 (Research and Development)  
    3 = Category 3 (Advanced Development)  
    7 = Historical Budget Activity (Other Equipment)  
    23 = Program Element Serial Numbers when used with  
        the first three digits.  
OSD Classification = Development-Test-Evaluation  
Project Serial Number 335 = Communicative Technology

The schema does not solve the problem which is to select one of the above systems. However, the Program Element provides a clue. There is a system class named Installation Management which "sort of" relates to Command and Control. A search is made for other RDTE Project Numbers containing Program Element #63723 (Command and Control). The following are located:

1X463723D101 (Tactical Automation)  
1X463723D185 (Military Software Standardization)  
1X463723D186 (Military Computer Family)

A decision is made to place RDTE Project Number 1X463723D335 (Communicative Technology) in the Automation/Communications Systems. This decision is based on the fact that other RDTE Project Numbers in the same Program Element contain words such as Automation, Software, and Computer; therefore, it follows that Communicative Technology also pertains to automation. Granted, the argument may be tenuous; however, this case is presented to show the

nature of problems encountered in the correlation efforts and to underscore the need for a unified "Systems Language" within the Army and a coding scheme which would effectively identify projects to those systems.

4-3. Correlation Statistics. This section attempts through the use of some statistical data to show the degree of correlation achievable with today's RDTE Project Number structure.

a. Correlation Tables are at Appendices D, and E:

Appendix D - Correlation Table One  
(Materiel Systems)

Appendix E - Correlation Table Two  
(Non-Materiel Systems)

b. There were 411 FY 83 RDTE Project Numbers and 148 Systems:

| <u>NUMBER</u> |                                                                         | <u>PERCENTAGE</u> |
|---------------|-------------------------------------------------------------------------|-------------------|
| 85            | RDTE Project Numbers were identified with 32 of 96 Materiel Systems     | 20.7%             |
| 326           | RDTE Project Numbers were identified with 22 of 52 Non-Materiel Systems | 79.3%             |
| <u>411</u>    |                                                                         | <u>100%</u>       |

All RDTE Project Numbers were crosswalked to 54 of 148 systems, and account for 100% of the FY 83 RDTE funds in the Current Approved Program as of May 83. Projects were associated with 10 of 13 SAR systems.

c. It should be noted again that RDTE costs (commitments, obligations, disbursements, etc.) must be tracked in the finance and accounting system by RDTE AMS Code. Although 100% of the RDTE Project Numbers were crosswalked to systems, 100% of RDTE costs cannot be tracked. At the end of the fourth year appropriation accounts expire and balances remaining (if any) are merged into "M" accounts. Further disbursements/adjustments cannot be tracked by project/system.

d. The finance and accounting system also maintains RDTE AMS Codes for Carrier Accounts which contain costs not identifiable with a project/system, but which eventually should reach a zero balance. Until these costs are identified, total costs of a project/system cannot be tracked.

e. The practice of "splitting" costs of a project between systems presents serious problems to tracking system costs. For example, portions of two RDTE projects are included in the Blackhawk Baseline Cost Estimate. The remaining costs of these are attributable to other material or non-materiel systems.

1. In order to present the correlation results pictorially, seven figures follow:

(1) Figure 4-1 shows the number and percentage of projects identified with materiel and non-materiel systems.

(2) Figure 4-2 shows the RDTE funds associated with materiel and non-materiel systems. Together, Figures 4-1 and 4-2 show that materiel systems account for 20.7% of the projects and 24.7% of RDTE funds; and that non-materiel systems account for 79.3% of the projects and 75.3% of the funds.

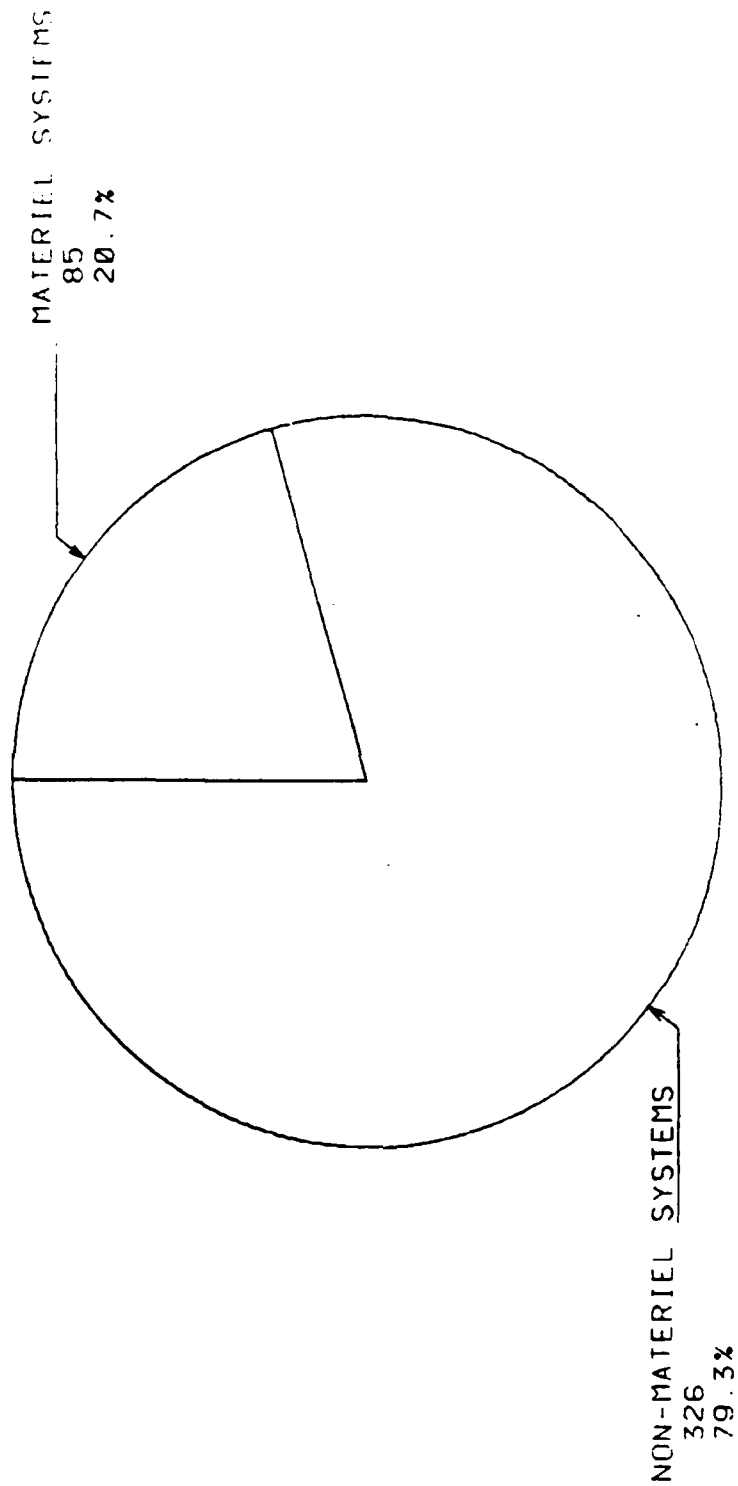
(3) Figures 4-3 and 4-4 show the distribution of projects among materiel and non-materiel system classes. The system class "Electronics" contains the most materiel system projects (29 of 85) and the system class "Defense Research/Advanced Technical Development" contains the most non-materiel system projects (216 of 326).

(4) Figure 4-5 shows the RDTE funds associated with these two large classes. Electronics represent only 4.5% of total RDTE funds; Defense Research/Advanced Technical Development represent 62.3% of total RDTE funds.

(5) Figures 4-6 and 4-7 show the distribution of projects by category for materiel and non-materiel systems.

4-4. Summary. Correlation efforts show that 100% of the RDTE Project Numbers can be crosswalked to a list of Army systems given that the list is "totally exhaustive and mutually exclusive" in capturing the total Army. However, there is a conflict of rules within the Army for defining systems, i.e. what constitutes a system as opposed to a non-system and what that system includes with respect to modifications, support equipment, ammunition, armament, etc. Also, the numbering systems (schemata) of RDTE Project Numbers, Program Elements and RDTE AMS Codes do not effectively identify projects to systems. These findings indicate a need for a unified "Systems Language" within the Army and a single schema that can effectively identify RDTE projects to those systems.

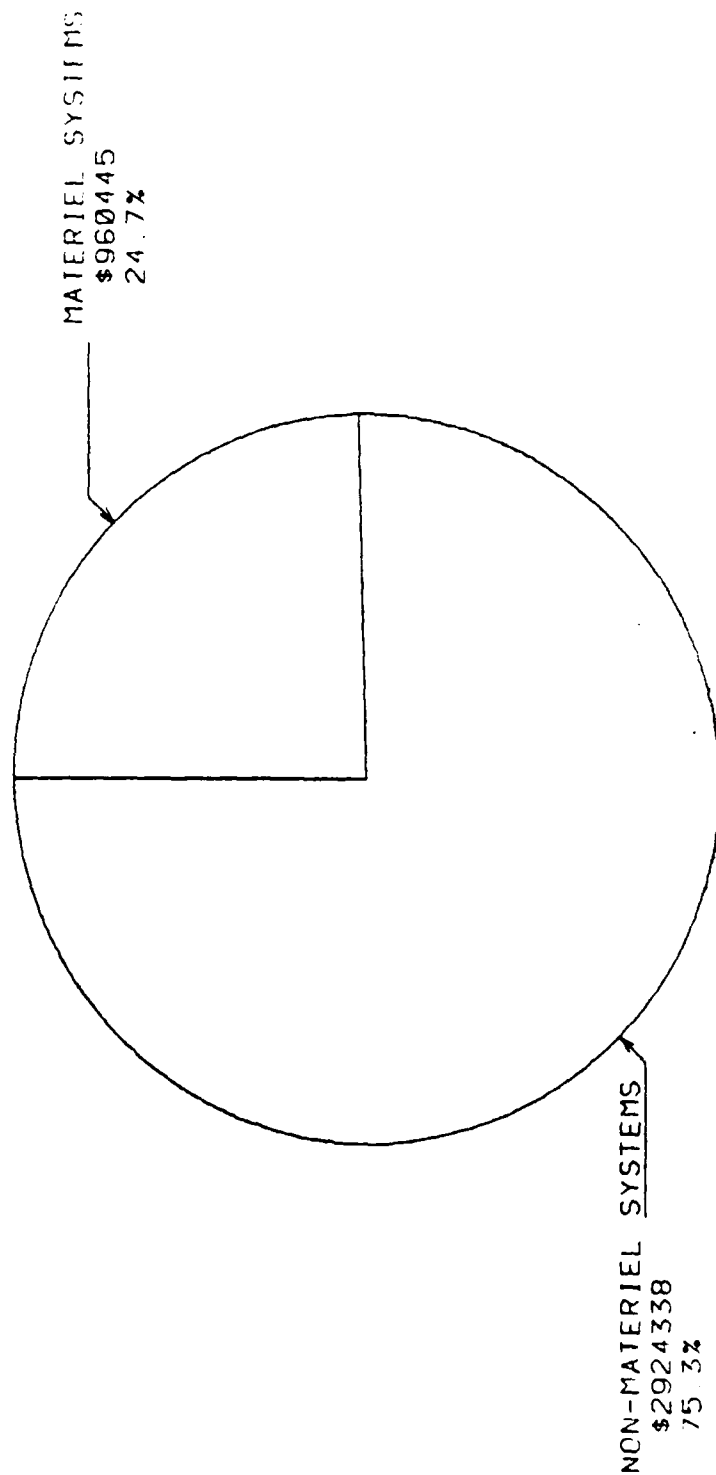
FY 83 PROJECT NUMBERS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF RDTE PROJECT NUMBERS

FIGURE 4-1

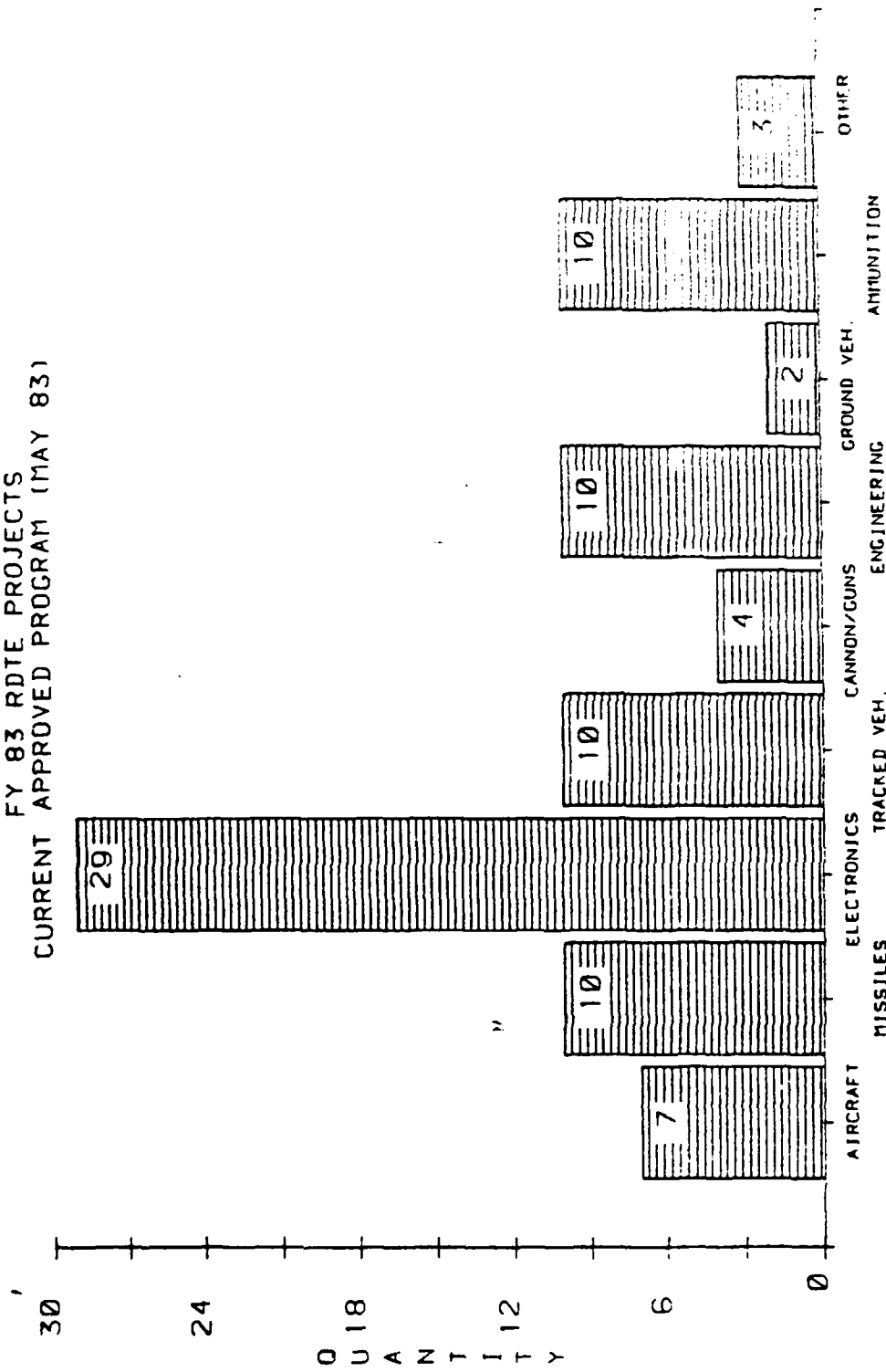
FY 83 PROJECT NUMBERS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF RDTE PROJECT DOLLARS

FIGURE 4-2

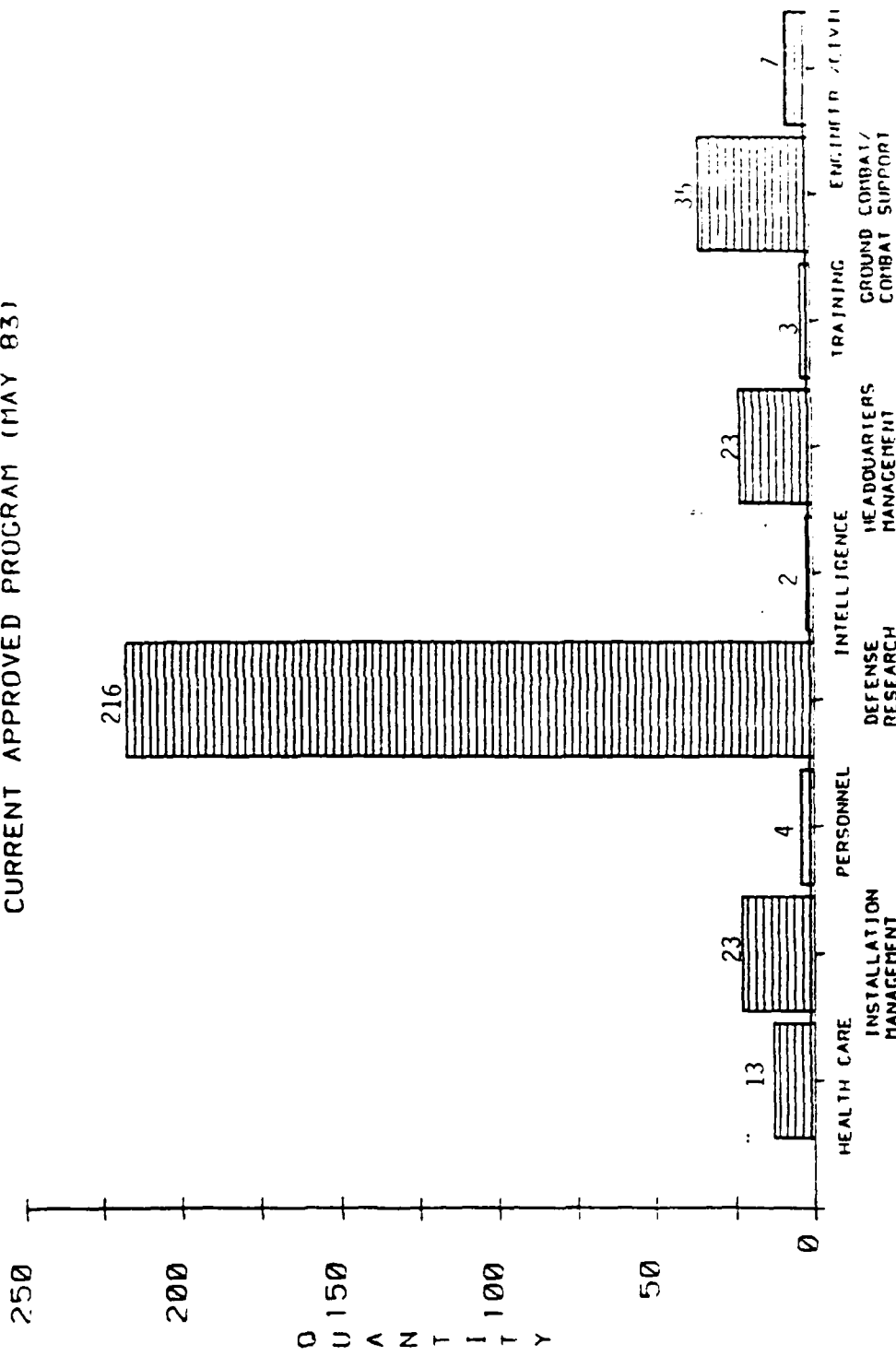
FY 83 RDTE PROJECTS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF RDTE PROJECT NUMBERS BY MATERIEL SYSTEM CLASS

FIGURE 4-3

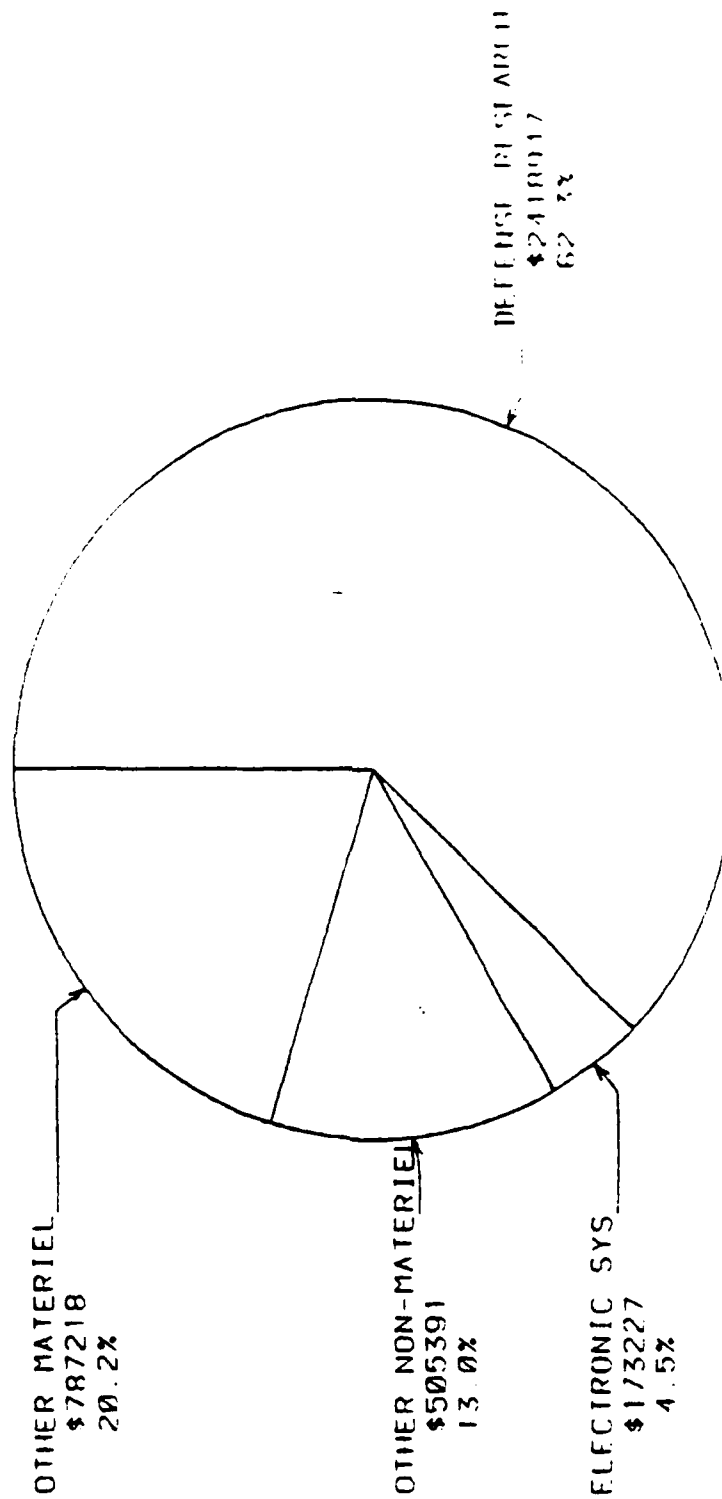
FY 83 RDTE PROJECTS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF RDTE PROJECT NUMBERS BY NON-MATERIEL SYSTEM CLASS

FIGURE 4-4

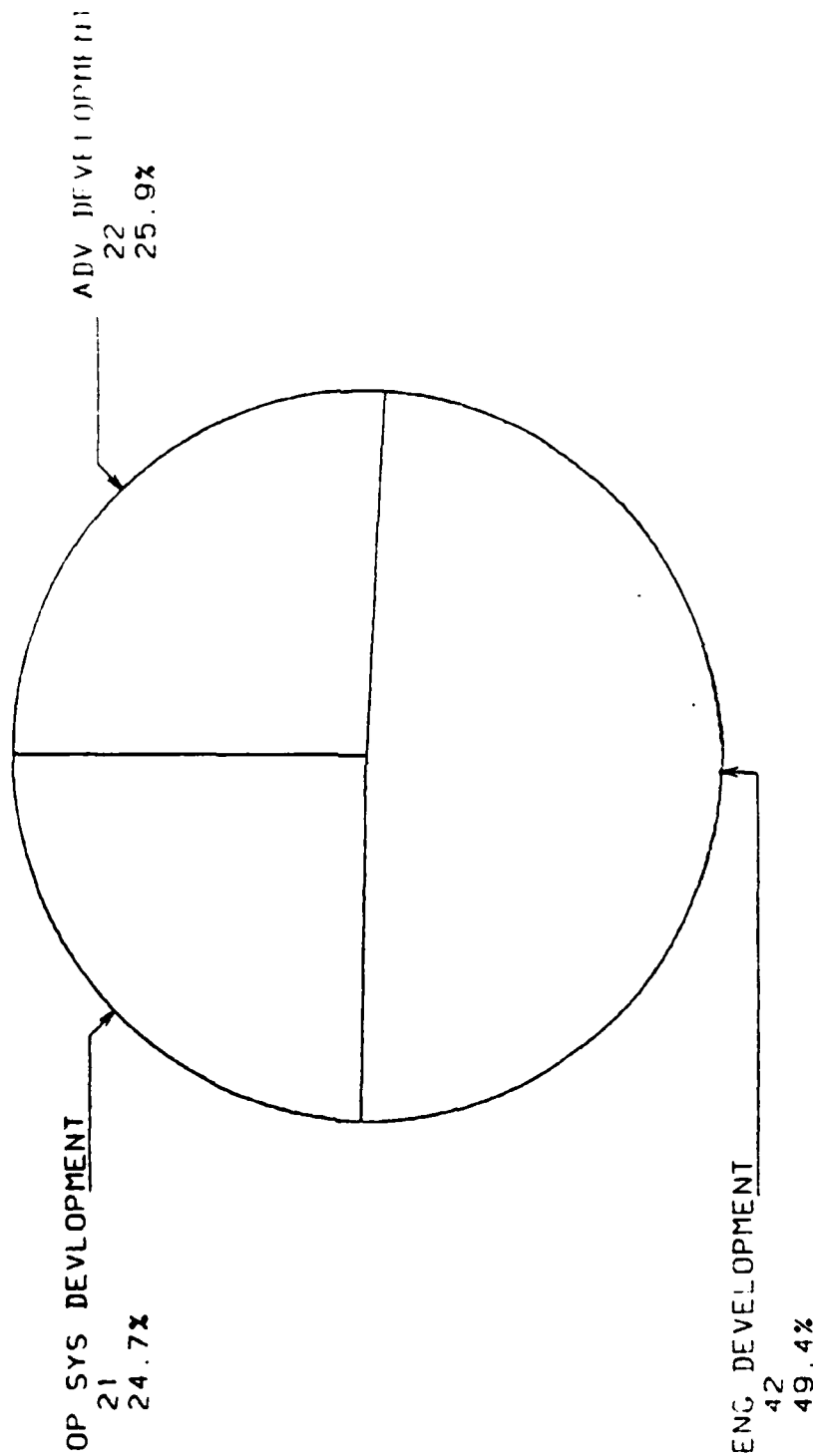
FY 83 PROJECT NUMBERS  
CURRENT APPROVED PROGRAM (MAY 83)



DOLLAR VALUE OF TWO LARGEST SYSTEM CLASSES

FIGURE 4-5

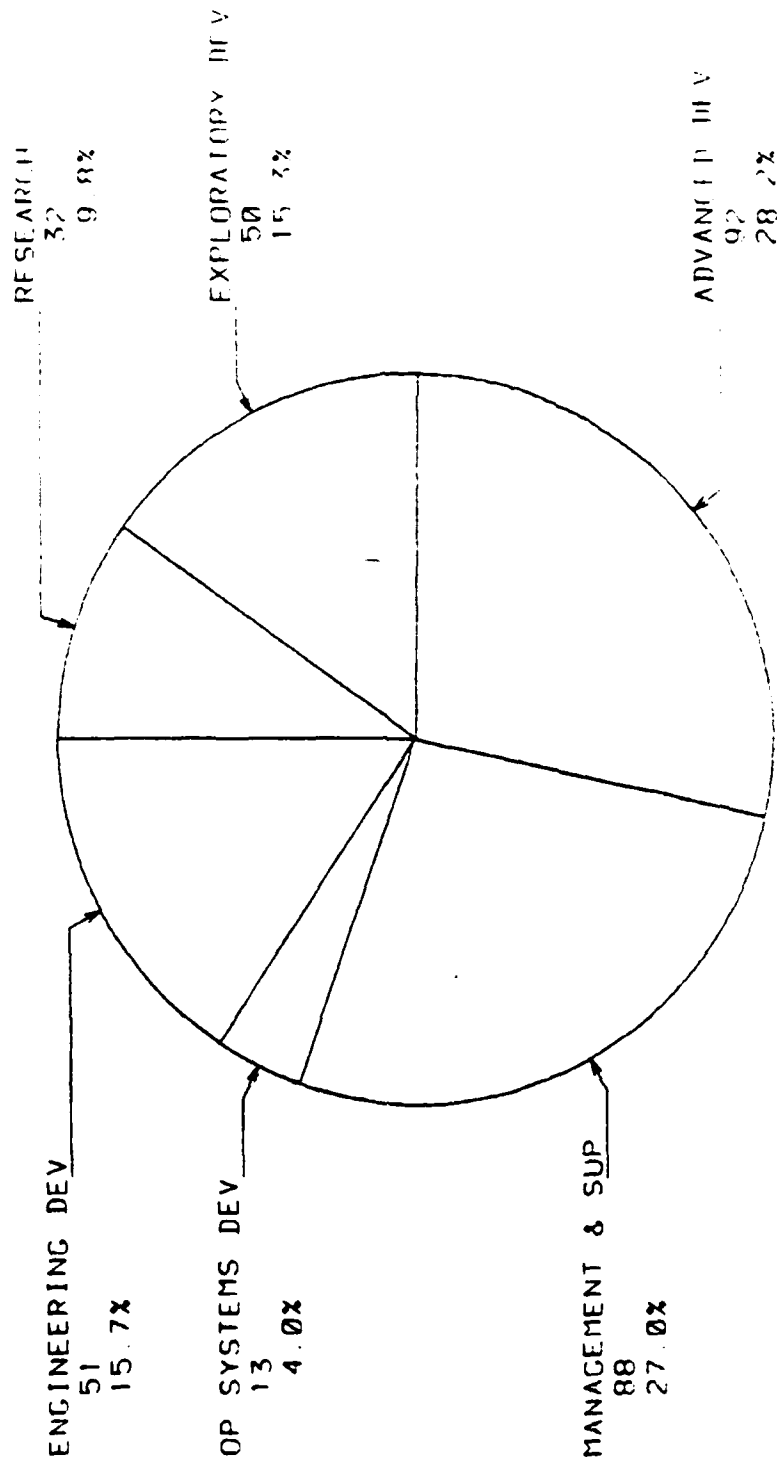
FY 83 PROJECT NUMBERS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF MATERIEL SYSTEM RDT&E PROJECT NUMBERS  
BY FYDP PROGRAM CATEGORY

FIGURE 4-6

FY 83 PROJECT NUMBERS  
CURRENT APPROVED PROGRAM (MAY 83)



DISTRIBUTION OF NON-MATERIEL SYSTEM PROJECT NUMBERS  
BY FYDP PROGRAM CATEGORY

FIGURE 4-7

## CHAPTER 5

### ALTERNATIVE ARCHITECTURES

5-1. Feasibility of Architectural Change. The purpose of the study was to determine the ability of the current RDTE Project Numbers to identify RDTE costs of major Army materiel and non-materiel systems. It was determined that 100 percent of the RDTE Project Numbers could be correlated with total Army systems, but that costs of systems as tracked by RDTE AMS Code would be less than 100 percent and that system costs would be fragmented; i.e., in order to track system costs it would be necessary to know how to put the "pieces" together. The intent of this chapter is to present ways in which RDTE Project Numbers and their RDTE AMS counterparts could be restructured/redefined and/or used to assist in identifying RDTE costs of major Army systems.

5-2. Barriers to System Cost Monitorship. During the search for ways in which the schema could be restructured/redefined, two constraints were recognized. First, effort should be made to maintain or improve upon the close relationship of the RDTE Project Numbers and their RDTE AMS Codes and, second, effort should center on changes which would facilitate system identification.

a. Example 1. At present there is a close relationship between RDTE Project Numbers and RDTE AMS Codes:

|                     |                             |
|---------------------|-----------------------------|
| RDTE Project Number | 1 X 4 6 3 6 2 0 D G 2 0 0 0 |
| RDTE AMS Code       | 643 6 2 0 . G 2 0 0 0       |

The third digit and the second digit of the RDTE Project Number and the RDTE AMS Code, respectively, match. They should be properly aligned; that can be accomplished by advancing the number two positions to the right:

|                     |                                                                    |
|---------------------|--------------------------------------------------------------------|
| RDTE Project Number | 1 X <span style="margin-left: 2em;">6 4</span> 3 6 2 0 D G 2 0 0 0 |
| RDTE AMS Code       | 6 4 3 6 2 0 . G 2 0 0 0                                            |

The ninth position gives the OSD Classification (D). This position corresponds to the decimal point in the AMS Code (the decimal point is not used in USAFAC reports). Therefore, the OSD Classification could replace the Budget Activity that was moved:

|       |                                                    |           |
|-------|----------------------------------------------------|-----------|
| 1 X D | <span style="margin-left: 1em;">6 4 3 6 2 0</span> | G 2 0 0 0 |
|-------|----------------------------------------------------|-----------|

No information has been lost. The result is a closer relationship:

|                     |                             |
|---------------------|-----------------------------|
| RDTE Project Number | 1 X D 6 4 3 6 2 0 G 2 0 0 0 |
| RDTE AMS Code       | 6 4 3 6 2 0 G 2 0 0 0       |

Now that the numbers are aligned, consideration can be given to system identification.

b. Example 2. The following RDTE Project Numbers were funded in FY 83

for the M1 Tank as defined in the Baseline Cost Estimate:

|                |                                  |
|----------------|----------------------------------|
| 1X423735D33000 | M1E1 Block Improvement Program   |
| 1X464620DG2000 | Tank, M1 ABRAMS)                 |
| 1X464630D06400 | 120 MM Tank Gun Ammo Development |
| 1X464630D06000 | 120 MM Gun Development           |
| 1X464630D28700 | Tank Systems Integration         |
| 1X464632D17300 | Tank Target Practice             |
| 1X463633D16100 | Tank Ammunition and Fuzes        |

Even if the numbers were realigned, no information is available to identify the "piece-parts" of the system without some knowledge of how the system is defined. The result is that realignment, while "nice", has not provided system identification. Approaches should be formulated with a view to capturing RDTE costs on a system basis. Discussions on some approaches follow.

5-3. Approaches. Three approaches to obtaining system RDTE costs follow. The first does not involve restructure; rather, it is a procedure that employs data that are readily available to obtain an approximation of a major system's total RDTE costs. The second approach involves adding a new Budget Activity to provide system identification of major systems. The third approach also involves digit realignment to provide identification of the major system "class" as well as the specific system.

a. Approach #1.

(1) The concept of this approach is that by using system-unique project numbers (this term will be used to mean either RDTE Project Numbers or their related RDTE AMS Codes) in conjunction with other PPBES data, a high percentage of major systems' RDTE actual costs/obligations could be tracked/derived. Actually, five steps would have to be accomplished. The first step would be to identify all current fiscal year project numbers totally attributable to each major system. Next, the approved program amount associated with the identified project numbers would be obtained from USAFAC data files (information supplied by ODCSRDA) and summed for each system. The total approved program amount for each set of system project numbers would then be compared with the current fiscal year RDTE estimate in the latest Baseline Cost Estimate (BCE) for each system. The next step would be the identification/explanation of any difference between the systems' approved program and the BCE's. The last step is the actual tracking/derivation of the systems's RDTE actual cost/obligations.

(2) A test of the above approach was conducted. Because the Current Approved Programs supplied to USAFAC by ODCSRDA are classified, permission was received from ODCSRDA to use the amounts in the FY 83 column of the FYDP RDTE Project Listing of May 83, which at that point in time reflected the Current Approved Program. Three SAR (Selected Acquisition Report) systems were used in the test - the UH60 (BLACKHAWK) aircraft, the PATRIOT missile system, and the M1 (ABRAMS) tank. The criteria used in selecting the systems were that they had a significant FY 83 RDTE program, a recent BCE available, and represented three different materiel system classes. The BCE data used in this test were obtained from the following:

# BASELINE COST ESTIMATES

|           |                                               |
|-----------|-----------------------------------------------|
| BLACKHAWK | Total R&D Funding Profile,<br>BCE, March 1983 |
| PATRIOT   | Program Manager's BCE,<br>January 1982        |
| ABRAMS    | Program Manager's BCE,<br>April 1982          |

(3) The FY 83 current dollars expressed in the BCE's for PATRIOT and M1 ABRAMS Tank had been calculated with inflation indices promulgated by OSD and published in 1982. The FY 83 current dollars in the BLACKHAWK BCE had been calculated with updated indices published in early 1983. To provide consistency among systems, the BLACKHAWK data were deflated to constant dollars and then re-inflated with the index for FY 83, as published in 1982. The decision to change the BLACKHAWK data rather than the PATRIOT and M1 data was made in order to avoid bias. That is, the difference would have been smaller because the index published in 1983 showed a lower rate of inflation.

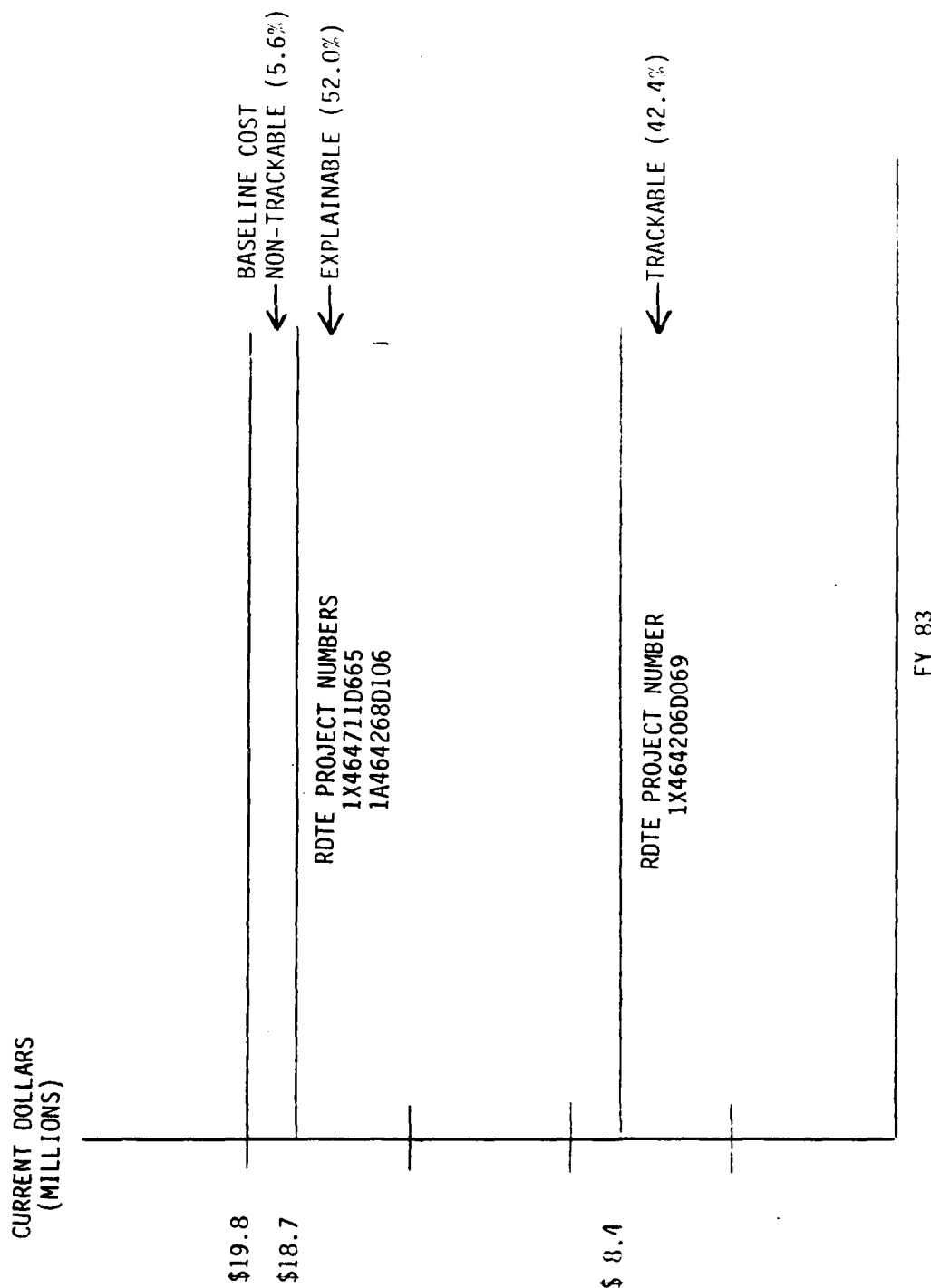
(4) The next step in the test was to determine how much of each systems's FY 83 RDTE estimate in the BCE could be identified from the projects in the current approved program and explain the differences if any. Differences were caused by "split" projects in the BCE (claiming only a portion of a project), and increases or decreases not reflected in both the BCE and current approved program due to timing of preparation. And, of course, errors in rounding would not be trackable. Figures 5-1, 5-2, and 5-3 graphically show the results in terms of the percentage of the BCE that the projects identified and percentages for some of the differences that are explainable. The data below supports the initial hypothesis that a significant percentage of a major system's RDTE costs could be tracked if the system's projects could be identified:

| <u>SYSTEM</u>          | <u>PERCENT OF COSTS IDENTIFIED/EXPLAINED</u> |
|------------------------|----------------------------------------------|
| BLACKHAWK Aircraft     | 94.40%                                       |
| PATRIOT Missile System | 99.15%                                       |
| M1 ABRAMS Tank System  | 93.20%                                       |

(5) This approach could be implemented unilaterally because all the data sources needed are available, and it would not impact on any of the current procedures in the PPBES. The approach could satisfy to a great extent the need for RDTE cost data; however, it would not provide total RDTE dollars and would not address the system fragmentation inherent in the current project number structure and in the "M" accounting procedures which effectively obstruct efforts to collect total actual (historical) RDTE cost by system.

b. Approach #2. This approach would add a new Budget Activity - Major Systems - but would not involve realignment of digits. The Program Element Serial Number (last two digits of the Program Element) would give the specific major system. For example:

RDTE  
FY 83 BLACKHAWK PROGRAM



FY 83

RDTE  
FY 83 PATRIOT PROGRAM

CURRENT DOLLARS  
(MILLIONS)

\$47.3  
\$46.9

RDTE PROJECT NUMBERS  
1X464307D212  
1X464307D213  
1X464307D291

← BASELINE COST ESTIMATE  
NON-TRACKABLE (.85%)  
← TRACKABLE (99.15%)

FY 83

RDTE  
FY 83 M1 PROGRAM

CURRENT DOLLARS  
(MILLIONS)

\$117.4  
\$109.4

BASELINE COST ESTIMATE  
← NON-TRACKABLE (6.8%)

← TRACKABLE (93.2%)

RDTE PROJECT NUMBERS

1X464620DG20  
1X464630D287  
1X423735D330  
1X464630D060  
1X464630D064  
1X464632D173  
1X463633D161

FY 83

1. The first two digits of the RDTE Project Number are the same as the first two digits of the RDTE AMS Code.

Where: T = New Budget Activity, Major System.  
AA = Alphanumeric Characters for Specific Major System

Since Exhibit B-1 (Supporting Data for the President's Budget) is at Program Element level, and arranged by Budget Activity, the major systems would be visible and easily identified.

(1) It should be noted that there could be several Program Elements per major system. Digit Number 5 in the RDTE Project Number (same as Digit Number 3 in the RDTE AMS Code) gives the Category. Some projects in a system could be in different categories (some in Advanced Development and others in Engineering Development, for example). Each project with a different category would mean another Program Element for the same system:

|                     |             |                         |
|---------------------|-------------|-------------------------|
| RDTE Project Number | 1 X 7   6 3 | Advanced Development    |
|                     | 1 X 7   6 4 | Engineering Development |
| RDTE AMS Code       | 673         | Advanced Development    |
|                     | 674         | Engineering Development |

Digit Number 4 in the RDTE Project Number (same as Digit Number 1 in the RDTE AMS Code) gives the Defense Program. This is the first digit of the Program Element. Some projects in a major system could be in different Programs. Each project with a different program number would mean another Program Element for the same system:

|                     |           |                                   |
|---------------------|-----------|-----------------------------------|
| RDTE Project Number | 1 X 7   6 | Program 6, Research & Development |
|                     | 1 X 7   2 | Program 2, General Purpose Forces |
| RDTE AMS Code       | 6         | Program 6, Research & Development |
|                     | 2         | Program 2, General Purpose Forces |

For example, if the system code for the M1 Tank should happen to be "M1", then in FY 83, there would have been two Program Elements:

PROGRAM ELEMENT

646M1

PROJECTS

G20 - Tank, M1 (ABRAMS)  
064 - 120 MM Tank Gun Ammo Development  
060 - 120 MM Gun Development  
287 - Tank Systems Integration  
173 - Tank Target Practice  
161 - Tank Ammunition and Fuzes

If the category is Systems Operational Development, the Program is 1, 2, or 3. It is not Program 6.

(2) If there is no objection to having more than one Program Element per major system in Exhibit R-1, then this would be a simple approach to tracking RDTE costs of major systems.

(3) However, there must be consensus on how a major system is defined. If modifications (Operational Systems Development) are not to be included in a system, then it would not matter that modifications are in Program 2.

c. Approach #3. This approach would add a Budget Activity - Major Systems, involve realignment of digits in the project numbers, and provide additional information to facilitate tracking of system RDTE costs. That information would identify the following:

System Class  
System  
System Project(s)

At the present time, only the System Projects are identified. The revised schema follows:

|                     |                               |
|---------------------|-------------------------------|
| RDTE Project Number | 1 X D 4 6 7 6 A A B B C C 0 0 |
| RDTE AMS Code       | 6 7 6 A A B B C C 0 0         |

|        |                                |                               |
|--------|--------------------------------|-------------------------------|
| Where: | 1 = RDTE Agency                | No change                     |
|        | X = Internal Designator        | No change                     |
|        | D = OSD Classification         | Realigned                     |
|        | 4 = Category                   | Realigned                     |
|        | 6 = Program                    | No change                     |
|        | 7 = Budget Activity            | "7" for Major Systems         |
|        | 6 = Historical Budget Activity | No change                     |
|        | AA = System Class              | Program Element Serial Number |
|        | BB = System                    | Added                         |
|        | CC = Project Serial Number     | Two digits instead of three   |
|        | OO = Task                      | No change                     |

One digit has been added to the RDTE Project Number but no digits were added to the RDTE AMS Code. Since the Project Serial Number will not stand alone (it will be system-specific), two alphanumeric positions will be sufficient. It should be noted that the Program Element still contains five digits. Even the Program Element in the RDTE AMS Code which formerly contained an extra digit now contains only five digits.

(1) This approach would require coordination between agencies involved in programming, budgeting and execution functions, since it impacts on the Program Element which is common to both the RDTE Project Numbers and

RDTE AMS Code.

(2) The Program Element contributes greatly to system identification. As mentioned in Chapter 4, many Program Elements contain only one project and, in almost all cases, the nomenclature is identical. This has resulted in an excessive number of Program Elements (211 Program Elements to 400 RDTE Project Numbers). The goal in this approach was to make the Program Element more generic in nature so that more projects could be included in one Program Element. This would reduce the number of Program Elements needed and would greatly reduce the activity required in maintaining the Program Element list. As it is now, the list must be revised whenever any of the Program Element's digits change. For example, a change in Category such as from Advanced Development to Engineering Development requires a new Program Element.

(3) Caveats. The realignment of digits as mentioned at the beginning of this chapter should cause little difficulty in implementation. No information is lost either to the RDTE Project Number or RDTE AMS Code. However, an additional realignment was made above. The Category digit, because it may change and generate another Program Element, was moved out of the Program Element. It is retained in the RDTE Project Number, but is no longer in the RDTE AMS Code. If the Category digit is critical to finance and accounting system processing, then this approach is sensitive in that respect. Also, since modifications always are in Program 2 (General Purpose Forces) while the other components of the system are in Program 6 (Research and Development), modifications could not be tracked as part of a system. This is because the first digit of the Program Element gives the Defense Program and, thus, there would be two Program Elements for the same system class.

(4) Although some turmoil might be expected as adjustments are made, and the addition of a new Budget Activity would require coordination with OSD, this approach would provide RDTE costs of major systems and satisfy to a significant degree the requirement for cost feedback.<sup>4</sup> The basic rationale for this approach is that major systems should be important enough to justify one separate Budget Activity and require identification of all RDTE funds/costs associated with specific major systems. This parallels the current concept of the ASARC/DSARC process, SAR reporting, and Functional (System) PDIP's.

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<sup>4</sup>Reference DACS-DPZ-A Memorandum, dated 29 Apr 83, subject: Integration of Weapons Systems Costing, Programming, and Execution Management Systems, which is just the latest of many requirements for cost feedback.

## CHAPTER 6

### SUMMARY

6-1. The Study. This study was conducted as part of a continuing effort to obtain actual (historical) systems' life cycle costs from the Army's finance and accounting data. The objectives of the study were:

Develop insights and information on the assignment and structure of RDTE Project Numbers and their interface with related resource management systems. Produce appropriate flow diagrams.

Develop correlation tables to relate RDTE Project Numbers to the total Army, with emphasis on Selected Acquisition Report (SAR) systems.

Collect and compare RDTE costs of selected systems with their Baseline Cost Estimates.

a. The publications that were researched provided technical details on the assignment and structure of RDTE Project Numbers and the information systems employed to control RDTE funds; however, personal contact with operations personnel provided a "walk through" of the process that brought a broader understanding and a greater awareness of the tasks involved, and the opportunity to identify and investigate the related resource management systems.

b. There is a close relationship between RDTE Project Numbers and their RDTE AMS Codes:

|                     |                             |
|---------------------|-----------------------------|
| RDTE Project Number | 1 X 4 6 4 6 2 0 D G 2 0 0 0 |
| RDTE AMS Code       | 644 6 2 0 . G 2 0 0 0       |

Both contain the Program Element (AMS Code Program Element contains an extra digit); both contain the Project Serial Number followed by two digits reserved for the Project Task (zero-filled at DA level):

|                       |       |
|-----------------------|-------|
| Program Element       | 64620 |
| Project Serial Number | G20   |
| Task Number           | 00    |

c. The initial hypothesis was that a significant portion of RDTE costs of a major system could be tracked if the system's projects could be identified. Although RDTE Project Numbers are not used in the Army's finance and accounting system, their counterpart - RDTE AMS Code - is closely related and available for tracking RDTE costs. Research supports the initial hypothesis that although 100 percent of a system's RDTE costs cannot be identified, a significant portion can be identified.

d. System costs are fragmented, i.e., a system's RDTE funds may be allocated in several projects. For example, the M1 Tank system may include two or several different projects depending on who is defining the system. Therefore, in order to track system costs, the projects pertaining to the system must be identified. As a consequence of system fragmentation, it became necessary to locate a set of "rules" which could be used to define a "system". The set that was used yielded a list of systems that was both totally exhaustive and mutually exclusive in capturing the total Army. It was determined, however, that the Army does not have a unified "Systems Language". Comparisons were made with other resource management procedures such as Selected Acquisition Reports (SAR), Program Development Increment Packages (PDIP's), Baseline Cost Estimates, and Appropriation Manager's systems at DA level. System definitions were different.

e. Even if a "system" can be defined adequately, 100 percent of the RDTE costs of that system are not trackable in the finance and accounting system. RDTE projects can be tracked for only four years. At the end of the fourth year, the appropriation accounts are retired. Any funds not disbursed are merged into an "M" account. After the balances are merged, funds may be disbursed to satisfy Government liabilities; however, the transactions cannot be associated with an RDTE Project. Consequently, "total" RDTE costs of a system are not available even if the system is well-defined.

f. Correlation Tables were developed by attempting to crosswalk the FY 83 RDTE Project Numbers to a list of materiel and non-materiel systems taken from tables in a draft paper prepared in the Office of the Director of Cost Analysis titled, "A Mission Area Structure for the Management of Army Resources", DCA-P-XX, September 1981. A summary of the crosswalk statistics follows:

| <u>NUMBER</u> |                                                                                  | <u>PERCENTAGES</u> |
|---------------|----------------------------------------------------------------------------------|--------------------|
| 85            | RDTE Project Numbers<br>were identified with<br>32 of 96 Materiel Systems        | 20.7%              |
| 326           | RDTE Project Numbers<br>were identified with<br>22 of 52 Non-Materiel<br>Systems | 79.3%              |
| <u>411</u>    | <u>FY 83 RDTE Project Numbers</u>                                                | <u>100.0%</u>      |

All RDTE Project Numbers were crosswalked to 54 of the 148 available systems, and account for 100% of the FY 83 RDTE funds in the Current Approved Program as of May 83. Ten of 13 SAR systems were identified. It should be noted again that RDTE costs (commitments, obligations, disbursements, etc.) must be tracked in the finance and accounting system by RDTE AMS Code; and although 100% of RDTE Projects can be crosswalked to systems, 100% of the systems' RDTE costs cannot be identified since the appropriation accounts expire after the fourth year. At the present time, there is no way to track transactions in the "M" account by RDTE Project.

g. Three approaches to obtaining system RDTE costs were developed. The

first approach involves a procedure which uses the current RDTE Project Numbers, augmented by other data available in the PPBES, to obtain an approximation of total systems' RDTE costs. The second approach addresses a change in Budget Structure; and the third adds a new Budget Activity and realigns the digits in the project numbering systems.

Approach #1. This procedure evolved from an effort to use the current RDTE Project Numbers, augmented by information available in other PPBES documents, to obtain an approximation of total systems' RDTE costs. It can be implemented unilaterally because it does not require restructure of RDTE Project Numbers or RDTE AMS Code. The data sources are the RDTE Project Numbers in the Current Approved Program and the Baseline Cost Estimates. This procedure was tested on three SAR systems. A summary of the results is shown below:

| <u>SYSTEM</u>          | <u>PERCENT OF BASELINE COST<br/>ESTIMATE IDENTIFIED/EXPLAINED</u> |
|------------------------|-------------------------------------------------------------------|
| BLACKHAWK Aircraft     | 94.40%                                                            |
| PATRIOT Missile System | 99.15%                                                            |
| M1 ABRAMS Tank System  | 93.20%                                                            |

The results of the test indicate that a large portion of system RDTE costs could be determined with this procedure; and, as noted previously, it could be accomplished without the need to restructure/redefine the project numbers. It would not impact on any of the current procedures in the PPBES. This approach could be exercised in the short run since all of the data sources are at hand. It could satisfy to a large extent the need for RDTE cost data; however, it would not provide the total RDTE dollars, and it would not address the problems inherent in the current Budget Structure and in "M" accounting procedures which effectively obstruct efforts to collect actual (historical) cost data by system.

(2) Approach #2. This approach would add a new Budget Activity and reserve the last two digits of the Program Element (P.E.) as the system designator:

|                     |                             |
|---------------------|-----------------------------|
| RDTE Project Number | 1 X 7 6 4 6 A A D G 2 0 0 0 |
| RDTE AMS Code       | 674 6 A A . G 2 0 0 0       |

Where: 7 = New Budget Activity, Major Systems  
AA = Alphanumeric Characters Identifying  
Specific Major System

The current, and new, Budget Activities are shown below:

1. Technology Base
2. Advanced Technical Development
3. Strategic Programs
4. Tactical Programs
5. Intelligence and Communications
6. Defensewide Mission Support
- NEW-----7. Major Systems

The reasons for adding a Budget Activity are: First, Exhibit 4-1 Supporting Data for the President's Budget is at Program Element Level. RDTE Project Numbers do not appear in Exhibit 4-1. The Program Elements in Exhibit 4-1 are arranged by Budget Activity. If there is only one Budget Activity for major systems, then these major systems would appear in one section, be highly visible and identifiable. Second, since the second digit in the RDTE AMS Code Program Element always matches the Budget Activity number and since the projects in a system normally may be in different Budget Activities, there could be more than one RDTE AMS Code Program Element per major system; however, a constant ("7") as a Budget Activity for major systems would solve this problem.

(b) The two alphanumeric digits reserved for specific system identification would be sufficient to identify the desired number of systems; the systems would be visible in the budget; and RDTE costs could be tracked by system in the Army's finance and accounting system.

(c) However, there are two other digits in the Program Element which may differ among a system's projects and generate additional Program Elements for a specific system: The FYDP Program (1st digit) and the FYDP Category (2d digit in the RDTE Project Number and 3d digit in the RDTE AMS Code). If there is no objection to having more than one Program Element per Major System, then this Approach would be appropriate. It does not involve realignment of digits either in the RDTE Project Number or RDTE AMS Code.

(3) Approach #3. This approach would add a new Budget Activity as above for Major Systems, but it also would involve realignment of digits (restructure) in order to improve the close relationship between the RDTE Project Numbers and RDTE AMS Code and to avoid generation of multiple Program Elements per major system. In addition to system identification, this approach also provides identification of Major System Class. That is, for the Blackhawk, for example, the Class is Aircraft, the System is Blackhawk, and the Project is UH-60 Feasibility Demonstration. The revised schema is shown below:

|                     |                               |
|---------------------|-------------------------------|
| RDTE Project Number | 1 X D 4 6 7 6 A A B B C C 0 0 |
| RDTE AMS Code       | 6 7 6 A A B B C C 0 0         |

---

|        |                                |                               |
|--------|--------------------------------|-------------------------------|
| Where: | 1 = RDTE Agency                | No change                     |
|        | X = Internal Designator        | No change                     |
|        | D = OSD Classification         | Realigned                     |
|        | 4 = Category                   | Realigned                     |
|        | 6 = Program                    | No change                     |
|        | 7 = Budget Activity            | "7" for Major Systems         |
|        | 6 = Historical Budget Activity | No change                     |
|        | AA = System Class              | Program Element Serial Number |
|        | BB = Major System              | Added                         |
|        | CC = Project Serial Number     | Two digits instead of three   |
|        | OO = Task                      | No change                     |

One digit has been added to the length of the Project Number but the AMS Code has not been lengthened. Since the Project Serial Number will be system-specific, two alphanumeric positions will be sufficient.

(a) This approach would require extensive coordination between agencies involved in programming, budgeting and execution functions, since it impacts upon the Program Element which is common to both the RDTE Project Numbers and their RDTE AMS Codes. Since ODCSRDA converts RDTE Project Numbers to RDTE AMS Codes for use in the finance and accounting system, it seems wise to maintain as close a relationship as possible between the RDTE Project Number and the RDTE AMS Code. Realignment of digits is needed to avoid generation of multiple Program Elements per major system. A new Budget Activity, for major systems, would insure that they are listed together in one section of the budget and are highly visible.

(b) This approach is sensitive with respect to system modifications and FYDP category. Modifications currently are not in Program 6 (Research and Development); they are in Program 2 (General Purpose Forces). Since the Program Element's first digit gives the program, there would be two Program Elements for systems which contained modification projects unless one of two courses was pursued. First, all modifications could be moved to Program 6; or, modifications could be recognized apart from the major system in a Budget Activity called "Modifications". It depends on how a major system is defined: with or without modifications. As the result of realignment, one bit of information, the FYDP Category, does not now appear in both the RDTE Project Number and RDTE AMS Code. It is missing from the RDTE AMS Code. If the category digit is critical to finance and accounting system processing, then this approach is sensitive in that respect.

6-2. Concluding Thoughts. In order to satisfy the many expressions of need for cost feedback, the following are required:

1. A unified "Systems Language"
2. A "Common Architecture"

a. Unified Systems Language. System codes have no value if consensus does not exist as to exactly what constitutes a system - as opposed to a non-system - or what a system includes with respect to modifications, ammunition, armament, support equipment, etc. There are a number of procedures used within the Army to manage its major systems; however, system definitions vary. There is no definitive set of "rules" to follow.

b. Common Architecture. Reporting schemata used in the Army's finance and accounting system vary by appropriation. For example, BLIN's are used in Procurement while RDTE AMS Code is used for Research, Development, Test and Evaluation. A common architecture would facilitate the identification of system costs which cut across appropriation lines.

c. Together, a unified systems language and a common architecture would serve to repair the disconnects, and restore communication/feedback, between the functional areas of the Planning, Programming, Budgeting and Execution System to insure that Army resources are managed efficiently and effectively.

APPENDIX F

LIST OF REFERENCES

ARMY CIRCULARS

A-11 Preparation and Submission of Budget  
Estimates, June 1981  
A-34 Instruction on Budget Execution, July 1976  
(as amended)  
A-109 Major System Acquisition, 5 April 1976  
(as amended)

ARMY REGULATIONS

AR 1-1 Planning, Programming and Budgeting within  
the Department of the Army, 25 May 1976  
AR 11-13 Cost Analysis Program, 10 October 1975  
AR 37-100 Army Management Structure Code, 1 August 1980  
AR 37-100-83 The Army Management Structure (AMS),  
July 1982  
AR 37-108 General Accounting and Reporting for Finance  
and Accounting Offices, 15 Nov 1975  
(as amended)  
AR 37-112 Management Accounting for the RDTE  
Appropriation, 15 March 1982  
AR 37-151 Accounting and Reporting for Operating  
Agencies, September 1975 (as amended)  
AR 37-200 Selected Acquisition Reports, 1 March 1979  
AR 70-1 Army Research, Development and  
Acquisition, 1 May 1975  
AR 70-6 Management of the Army Research, Development,  
Test and Evaluation Appropriation,  
12 November 1974  
AR 70-9 Army Research and Development Information  
System Program Planning and On-Going  
Work Reporting, 1 May 1981  
AR 1000-1 Basic Policies for System Acquisition,  
1 May 1983

DEPARTMENT OF DEFENSE

DOD 5000.1 Major Systems Acquisition, 29 March 1983  
DOD 5000.2 Major Systems Acquisition Procedures,  
8 March 1983  
DOD 7000.1 Resource Management Systems of the  
Department of Defense, 22 August 1966  
DOD 7110.1-M Budget Guidance Manual, 4 August 1981

## LIST OF REFERENCES

DOD 7220.9-R

Accounting Guidance Handbook,  
1 February 1978

### OTHER REFERENCES

1. Army Guidance, Volume II, 3 September 1982
2. CSP 11-5 Army Program (Chief of Staff Regulation), 17 August 1982
3. DA Budget Directive, 5 July 1983
4. Departmental Budgetary Reporting System, Functional Description, 19 February 1983
5. Five Year Defense Program RDTE Project List, May 1983
6. Internal Working System, Users' Manual, 1 October 1981
7. Planning, Programming, Budgeting, and Execution System Handbook, 3d Edition, 1982
8. Program Development Increment Package Procedures, 1981

In addition to the above publications, information was obtained from personnel assigned to the following:

U.S. Army Finance and Accounting Center

Office of the Deputy of Staff for  
Research, Development, and Acquisition

U.S. Army Research, Development and  
Acquisition Information Systems Agency

Office of the Chief of Staff (Program  
Analysis and Evaluation Directorate)

## APPENDIX E

### PROJECT NUMBER - AMS CODE LIST

The following list contains FY 83 Funded RDTE Project Numbers, their associated RDTE AMS Codes, and common nomenclature. The RDTE Project Numbers were taken from the Five Year Defense Program RDTE Project Listing dated May 83. RDTE AMS Codes are from AR 37-100-83.

[illegible]

|                |              |                                     |
|----------------|--------------|-------------------------------------|
| 1L161102AH100  | 611102.H100  | RESEARCH IN COMBAT SUPPORT RESEARCH |
| 1L161102AH200  | 611102.H200  | RESEARCH IN ART OF EQUIP FOR THE    |
|                |              | IND SOLDIER                         |
| 1L161102AH5700 | 611102.H5700 | RESEARCH IN SCIENT PROBE WITH MIL   |
|                |              | APPL                                |
| 1L161102AH6000 | 611102.H6000 | RESEARCH IN LARGE CALIBER ARTAMENTS |
| 1L161102AH6100 | 611102.H6100 | RESEARCH IN FIRE CONT & IN SMALL    |
|                |              | CAL ARTAMENT                        |
| 1L161102AH6300 | 611102.H6300 | RESEARCH IN ELECTRONIC WARFARE      |
| 1L161102AH6800 | 611102.H6800 | PROCESSES IN POLLUTION ABATEMENT    |
|                |              | TECHNOLOGY                          |
| 1L161102BS0400 | 611102.S0400 | IDENT & HEALTH EFFECTS OF MIL       |
|                |              | POLLUTANTS                          |
| 1L161102BS1000 | 611102.S1000 | RESEARCH ON MIL DISEASE, INJURY &   |
|                |              | HEALTH HAZARDS                      |
| 4A161102AT2200 | 611102.T2200 | RESEARCH IN SOIL AND ROCK MECH      |
| 4A161102AT2300 | 611102.T2300 | BASIC RESEARCH IN MILITARY          |
|                |              | CONSTRUCTION                        |
| 4A161102AT2400 | 611102.T2400 | RESEARCH IN SNOW, ICE, & FROZEN     |
|                |              | GROUND                              |
| 1L161102A31500 | 611102.31500 | NIGHT VISION AND ELECTROOPTICS      |
|                |              | RESEARCH                            |
| 4A161102BS2000 | 611102.S2000 | RESEARCH IN GEODETIC, GEOGRAPHICS,  |
|                |              | MAPPING SCIENCES                    |
| 1L161102BS3A00 | 611102.S3A00 | RESEARCH IN ATMOSPHERIC SCIENCES    |
| 1L161102A71A00 | 611102.71A00 | RESEARCH IN DEF SYS FOR CHEM        |
|                |              | WARFARE/BIO WARFARE                 |
| 1L161102B74A00 | 611102.74A00 | RESEARCH IN HUMAN ENGINEERING       |
| 2D161102B74F00 | 611102.74F00 | PERSONNEL PERFORMANCE AND TRAINING  |
| 1L162105AH8400 | 612105.H8400 | MATERIALS                           |
| 1L162111AH7100 | 612111.H7100 | ATMOSPHERIC INVESTIGATIONS          |
| 1L162120AH2500 | 612120.H2500 | NUC WEAP EFF RES, NEAR MD WAVE      |
|                |              | TECH, FLUID TECH                    |
| 1L162201DH9600 | 612201.H9600 | AIRCRAFT WEAPONS TECHNOLOGY         |
| 1L162202AH3500 | 612202.H8500 | AIRCRAFT AVIONICS TECHNOLOGY        |
| 1L162209AH7600 | 612209.H7600 | AERONAUTICAL TECHNOLOGY             |
| 1L162210D28300 | 612210.28300 | AIRPORT TECHNOLOGY                  |
| 1L162303A21400 | 612303.21400 | MISSILE TECHNOLOGY                  |
| 1L162307A13900 | 612307.13900 | LASER WEAPONS TECHNOLOGY            |



|              |              |                                     |
|--------------|--------------|-------------------------------------|
| 642777.87000 | 642777.87000 | HEALTH HAZARDS OF MILITARY MATERIAL |
| 642777.87000 | 642777.87000 | MEDICAL FACTORS LIMITING            |
| 642777.87000 | 642777.87000 | EFFECTIVENESS                       |
| 642781.74500 | 642781.74500 | MILITARY ENERGY TECHNOLOGY          |
| 623102.06800 | 623102.06800 | PREDICTIBILITY/RELIABILITY          |
| 623102.07100 | 623102.07100 | MATERIALS SCALE-UP/STRUCTURES       |
| 623104.15000 | 623104.15000 | DEMONSTRATION                       |
| 623201.44700 | 623201.44700 | FUELS AND EQUIPMENT                 |
| 623201.87200 | 623201.87200 | DEMONSTRATOR ENGINES                |
| 623207.89700 | 623207.89700 | PROPULSION COMPONENTS               |
| 623209.83300 | 623209.83300 | AVIONICS EQUIPMENT                  |
| 623209.84500 | 623209.84500 | CARGO HANDLING EQUIPMENT            |
| 623211.84100 | 623211.84100 | AVIATION LIFE SUPPORT EQUIPMENT     |
| 623211.31300 | 623211.31300 | ADVANCED STRUCTURES                 |
| 623211.31400 | 623211.31400 | RESEARCH AIRCRAFT SYSTEMS           |
| 623211.31500 | 623211.31500 | ADVANCED ROTOR SYSTEMS              |
| 643215.07900 | 643215.07900 | ADVANCED FLIGHT CONTROLS            |
| 623216.83400 | 623216.83400 | JOINT SURVIVABILITY INVESTIGATIONS  |
| 623216.83900 | 623216.83900 | ROTORCRAFT SYS INTEGRATION          |
| 643217.02400 | 643217.02400 | SIMULATOR (RSIS)                    |
| 623218.26600 | 623218.26600 | FLIGHT SIMULATOR COMPONENT          |
| 623221.31200 | 623221.31200 | GREATER SLOPE                       |
| 643302.09900 | 643302.09900 | AIRDROP EQUIPMENT AND TECHNIQUES    |
| 643303.21600 | 643303.21600 | NAP-OF-THE-EARTH ESSENTIAL          |
| 633304.21500 | 633304.21500 | EQUIPMENT                           |
| 623306.23200 | 623306.23200 | ANTI-TACTICAL MISSILE               |
| 633308.99100 | 633308.99100 | MLRS TERMINALLY GUIDED WARHEAD      |
| 623313.08700 | 623313.08700 | BALLISTIC MIS DEF ADV TECH PROGRAM  |
| 623313.26100 | 623313.26100 | 155MM FIRE AND FORGET               |
| 623324.18000 | 623324.18000 | BALLISTIC MIS DEF SYS TECH PROGRAM  |
| 623602.11800 | 623602.11800 | MISSILES AND ROCKET COMPONENTS      |
| 643604.13500 | 643604.13500 | FIBER OPTICS GUIDANCE               |
| 643604.45300 | 643604.45300 | HTTB-DISTRIBUTION DATA TEST         |
| 643604.48300 | 643604.48300 | COMBAT VEHICLE TECHNOLOGY           |
| 623606.00600 | 623606.00600 | NUCLEAR WEAPON DEVELOPMENT SUPPORT  |
| 623606.60800 | 623606.60800 | NUCLEAR EFFECTS SUPPORT TEAM        |
| 623607.62700 | 623607.62700 | RADIOLOGICAL DETECTION MEASURING    |
|              |              | EQUIPMENT                           |
|              |              | LANDMINE WARFARE DEVELOPMENT        |
|              |              | COUNTERMINE AND BARRIER DEVELOPMENT |
|              |              | JOINT SERVICE SMALL ARMS PROGRAMS   |
|              |              | (JSSAP)                             |

2

|              |              |                                               |
|--------------|--------------|-----------------------------------------------|
| 643731.83600 | 643731.83600 | COMBAT MEDICAL MATERIEL                       |
| 643734.70900 | 643734.70900 | MILITARY CONSTRUCTION AND ENGINEERING         |
| 643736.70900 | 643736.70900 | ENERGY SYSTEMS TEST                           |
| 643738.22400 | 643738.22400 | NSD ARMOR/ANTI-ARMOR                          |
| 643739.79300 | 643739.79300 | HUMAN FACTORS IN TNG & OPERATIONAL EFFECT     |
| 643740.59300 | 643740.59300 | SHORAD-C2 SYSTEMS                             |
| 643742.F3200 | 643742.F3200 | ADVANCED ELECTRONIC DEVICES                   |
| 643743.79400 | 643743.79400 | EDUCATION AND TRAINING                        |
| 643744.79500 | 643744.79500 | TRAINING SIMULATION                           |
| 643745.92500 | 643745.92500 | ALL SOURCE ANALYSIS SYSTEMS                   |
| 643746.55500 | 643746.55500 | SINCGARS-V                                    |
| 643747.61000 | 643747.61000 | FOOD ADVANCED DEVELOPMENT                     |
| 643747.66900 | 643747.66900 | CLOTHING AND EQUIPMENT                        |
| 643748.24400 | 643748.24400 | ATSS LANGUAGE UTILIZATION AND STANDARDS       |
| 643748.U2900 | 643748.U2900 | AUTOMATIC TEST SUPPORT SYSTEMS (ATSS)         |
| 643749.46200 | 643749.46200 | TECHNICAL VULNERABILITY REDUCTION             |
| 643750.80800 | 643750.80800 | DRUG AND VACCINE DEVELOPMENT                  |
| 643751.99300 | 643751.99300 | MEDICAL DEFENSE AGAINST CHEMICAL WARFARE      |
| 643752.99400 | 643752.99400 | DEMILITARIZATION CONCEPTS                     |
| 643755.25100 | 643755.25100 | PROTECTIVE EW EQUIPMENT                       |
| 643755.HH300 | 643755.HH300 | AIRBORNE RADAR JAMMER                         |
| 643755.K1300 | 643755.K1300 | NON-COMM ELEC COUNTERMEASURES SYS             |
| 643755.K1400 | 643755.K1400 | EXPENDABLE JAMMERS                            |
| 643761.19000 | 643761.19000 | ELECTRONIC WARFARE SUSCEPTIBILITY SUPPORT     |
| 643761.23500 | 643761.23500 | MISSILE CCM TECHNOLOGY                        |
| 643762.K1500 | 643762.K1500 | ADV COMMUNICATIONS ELEC COUNTERMEASURE DEMON  |
| 643762.K1600 | 643762.K1600 | COMBAT VEHICLE SELF-PROTECT DEMONSTRATION     |
| 643763.90700 | 643763.90700 | INDUST BASE BIOLOGICAL WARFARE VACCINES/DRUGS |
| 643764.99500 | 643764.99500 | MEDICAL CHEM DEFENSE LIFE SPT MATERIEL        |
| 643766.90700 | 643766.90700 | TACTICAL ELECTRONIC SURVEILLANCE SYS          |

[illegible]

MISSILE  
 AIRCRAFT  
 BRONCO  
 CAPTOR  
 AVIATION  
 UH-60  
 AAR  
 COBRA  
 SYNTHETIC FLIGHT TRAINING SYSTEM  
 AIRCRAFT EQUIPMENT DEVELOPMENT  
 ARMY HELICOPTER IMPROVEMENT PROGRAM  
 JOINT SVCS VERT LIFT AIRCRAFT DEV  
 PROG  
 AIRCRAFT COMPONENT IMPROVEMENT  
 PROGRAM  
 PATRIOT (SAR-D)  
 PATRIOT (ECOT ENHANCEMENT)  
 PATRIOT (NATO)  
 HELIBORNE MISSILE-HELLFIRE  
 PERSHING II  
 GRADE BLADE  
 MLRS  
 DIVAD GUN  
 ALL SOURCE ANALYSIS SYSTEM (ASAS)  
 AWACS INTERFACE  
 MOBILE HEAVY MORTAR  
 MULTIPURPOSE AMMUNITION  
 SMOKE MORTAR ROUNDS  
 BATTALION MORTAR SYSTEMS  
 IMPROVED 155MM NUCLEAR PROJECTILE  
 COMMAND CONTROL AND SECURITY SYSTEM  
 SMOKE MUNITIONS AND MATERIAL  
 SLURAE  
 MINE NEUTRALIZATION/DETECTION  
 FVS  
 MINE SYSTEMS  
 MODULAR PACK MINE SYSTEM  
 GENSS AT/AP MINES  
 TANK M1 (ABRAMS)  
 LIGHT ANTITANK LEAP TEST & EVAL  
 HMMVV  
 HMMVV (MTLC)  
 FISTV  
 INDIRECT FIRE TAG MUNITIONS  
 120MM GUN DEVELOPMENT  
 120MM TANK GUN AND DEVELOPMENT  
 TANK SYSTEMS INTEGRATION  
 FIELD ARTILLERY AMMUNITION (NATO)

[illegible]

E-10

[illegible]

# SECRET

| SECRET       | SECRET       | SECRET       |
|--------------|--------------|--------------|
| 665898.70300 | 665898.70400 | 665898.70500 |
| 665898.70600 | 665898.70700 | 665898.70800 |
| 665898.70900 | 665898.71000 | 665898.71100 |
| 665898.71200 | 665898.71300 | 665898.71400 |
| 665898.71500 | 665898.71600 | 665898.71700 |
| 665898.71800 | 665898.71900 | 665898.72000 |
| 665898.72100 | 665898.72200 | 665898.72300 |
| 665898.72400 | 665898.72500 | 665898.72600 |
| 665898.72700 | 665898.72800 | 665898.72900 |
| 665898.73000 | 665898.73100 | 665898.73200 |
| 665898.73300 | 665898.73400 | 665898.73500 |
| 665898.73600 | 665898.73700 | 665898.73800 |
| 665898.73900 | 665898.74000 | 665898.74100 |
| 665898.74200 | 665898.74300 | 665898.74400 |
| 665898.74500 | 665898.74600 | 665898.74700 |
| 665898.74800 | 665898.74900 | 665898.75000 |
| 665898.75100 | 665898.75200 | 665898.75300 |
| 665898.75400 | 665898.75500 | 665898.75600 |
| 665898.75700 | 665898.75800 | 665898.75900 |
| 665898.76000 | 665898.76100 | 665898.76200 |
| 665898.76300 | 665898.76400 | 665898.76500 |
| 665898.76600 | 665898.76700 | 665898.76800 |
| 665898.76900 | 665898.77000 | 665898.77100 |
| 665898.77200 | 665898.77300 | 665898.77400 |
| 665898.77500 | 665898.77600 | 665898.77700 |
| 665898.77800 | 665898.77900 | 665898.78000 |
| 665898.78100 | 665898.78200 | 665898.78300 |
| 665898.78400 | 665898.78500 | 665898.78600 |
| 665898.78700 | 665898.78800 | 665898.78900 |
| 665898.79000 | 665898.79100 | 665898.79200 |
| 665898.79300 | 665898.79400 | 665898.79500 |
| 665898.79600 | 665898.79700 | 665898.79800 |
| 665898.79900 | 665898.80000 | 665898.80100 |
| 665898.80200 | 665898.80300 | 665898.80400 |
| 665898.80500 | 665898.80600 | 665898.80700 |
| 665898.80800 | 665898.80900 | 665898.81000 |
| 665898.81100 | 665898.81200 | 665898.81300 |
| 665898.81400 | 665898.81500 | 665898.81600 |
| 665898.81700 | 665898.81800 | 665898.81900 |
| 665898.82000 | 665898.82100 | 665898.82200 |
| 665898.82300 | 665898.82400 | 665898.82500 |
| 665898.82600 | 665898.82700 | 665898.82800 |
| 665898.82900 | 665898.83000 | 665898.83100 |
| 665898.83200 | 665898.83300 | 665898.83400 |
| 665898.83500 | 665898.83600 | 665898.83700 |
| 665898.83800 | 665898.83900 | 665898.84000 |
| 665898.84100 | 665898.84200 | 665898.84300 |
| 665898.84400 | 665898.84500 | 665898.84600 |
| 665898.84700 | 665898.84800 | 665898.84900 |
| 665898.85000 | 665898.85100 | 665898.85200 |
| 665898.85300 | 665898.85400 | 665898.85500 |
| 665898.85600 | 665898.85700 | 665898.85800 |
| 665898.85900 | 665898.86000 | 665898.86100 |
| 665898.86200 | 665898.86300 | 665898.86400 |
| 665898.86500 | 665898.86600 | 665898.86700 |
| 665898.86800 | 665898.86900 | 665898.87000 |
| 665898.87100 | 665898.87200 | 665898.87300 |
| 665898.87400 | 665898.87500 | 665898.87600 |
| 665898.87700 | 665898.87800 | 665898.87900 |
| 665898.88000 | 665898.88100 | 665898.88200 |
| 665898.88300 | 665898.88400 | 665898.88500 |
| 665898.88600 | 665898.88700 | 665898.88800 |
| 665898.88900 | 665898.89000 | 665898.89100 |
| 665898.89200 | 665898.89300 | 665898.89400 |
| 665898.89500 | 665898.89600 | 665898.89700 |
| 665898.89800 | 665898.89900 | 665898.90000 |
| 665898.90100 | 665898.90200 | 665898.90300 |
| 665898.90400 | 665898.90500 | 665898.90600 |
| 665898.90700 | 665898.90800 | 665898.90900 |
| 665898.91000 | 665898.91100 | 665898.91200 |
| 665898.91300 | 665898.91400 | 665898.91500 |
| 665898.91600 | 665898.91700 | 665898.91800 |
| 665898.91900 | 665898.92000 | 665898.92100 |
| 665898.92200 | 665898.92300 | 665898.92400 |
| 665898.92500 | 665898.92600 | 665898.92700 |
| 665898.92800 | 665898.92900 | 665898.93000 |
| 665898.93100 | 665898.93200 | 665898.93300 |
| 665898.93400 | 665898.93500 | 665898.93600 |
| 665898.93700 | 665898.93800 | 665898.93900 |
| 665898.94000 | 665898.94100 | 665898.94200 |
| 665898.94300 | 665898.94400 | 665898.94500 |
| 665898.94600 | 665898.94700 | 665898.94800 |
| 665898.94900 | 665898.95000 | 665898.95100 |
| 665898.95200 | 665898.95300 | 665898.95400 |
| 665898.95500 | 665898.95600 | 665898.95700 |
| 665898.95800 | 665898.95900 | 665898.96000 |
| 665898.96100 | 665898.96200 | 665898.96300 |
| 665898.96400 | 665898.96500 | 665898.96600 |
| 665898.96700 | 665898.96800 | 665898.96900 |
| 665898.97000 | 665898.97100 | 665898.97200 |
| 665898.97300 | 665898.97400 | 665898.97500 |
| 665898.97600 | 665898.97700 | 665898.97800 |
| 665898.97900 | 665898.98000 | 665898.98100 |
| 665898.98200 | 665898.98300 | 665898.98400 |
| 665898.98500 | 665898.98600 | 665898.98700 |
| 665898.98800 | 665898.98900 | 665898.99000 |
| 665898.99100 | 665898.99200 | 665898.99300 |
| 665898.99400 | 665898.99500 | 665898.99600 |
| 665898.99700 | 665898.99800 | 665898.99900 |
| 665898.10000 | 665898.10000 | 665898.10000 |

## APPENDIX C

### SYSTEM LIST

The following list of Army systems (materiel and non-materiel) was used in constructing the correlation tables. It was taken from Tables 4-3 and 4-4 of an ODCA draft paper, titled "A Mission Area Structure for the Management of Army Resources," DCA-P-XX, dated September 1981.

\*\*\* SYSTEM LIST \*\*\*

MATERIEL SYSTEMS

| <u>CLASS</u> | <u>SYSTEM</u>                                                                                                                                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AIRCRAFT     | AH-1S<br>AAH-64<br>OH-58C<br>RPV<br>UH-1<br>UH-60A<br>CH-47D<br>AHIP                                                                                                                                                                                           |
| MISSILES     | TOW<br>IMAAWS<br>DRAGON<br>PERSHING<br>MLRS<br>LANCE<br>HONEST JOHN<br>SERGEANT<br>CSWS<br>DSWS<br>REDEYE<br>STINGER<br>CHAPARRAL<br>ROLAND<br>HAWK<br>NIKE HERCULES<br>PATRIOT<br>HELLFIRE                                                                    |
| ELECTRONICS  | PEWS<br>MILES<br>IRETS<br>ARTBASS<br>TACFIRE<br>RADAR CHRONOGRAPH, M90<br>BCS<br>GLLD<br>FIREFINDER<br>AN/TM0-31<br>FORWARD AREA LASER WEAPON<br>SOTAS<br>TRAILBLAZER<br>QUICKLOOK<br>QUICKFIX<br>GUARDRAIL<br>TEAMPACK<br>ELECTRONICS COUNTERMEASURES SYSTEMS |

\*\*\* SYSTEM LIST \*\*\*

MATERIEL SYSTEMS

CLASS

SYSTEM

ELECTRONICS

COMMUNICATIONS INTELLIGENCE SYSTEMS  
INTEL DATA COLL & PROCESSING SYS  
AN/MYD-4  
COMPUTER SYSTEMS  
TRITAC  
CNCS  
LOCATION SYSTEMS  
TACSATCOM  
THEATER/TACTICAL COMMUNICATIONS SYSTEMS  
COMMUNICATION SECURITY SYSTEMS  
MANUEVER CONTROL SYSTEM

TRACKED COMBAT VEHICLES

M1  
M60A3  
M113/M557  
IFV/CFV  
MPG/AMAS  
FISTV  
FAASV

CANNON ARTILLERY, MORTARS & GUN

MORTAR SYSTEMS  
M198  
M109  
M101  
M102  
OFT  
VULCAN  
DIVAD

ENGINEERING & RELATED SYSTEMS

CEV  
UET  
IMPROVED FLOAT BRIDGE SYS  
MINE/COUNTERMINE SYS  
WATER PURIFICATION EQUIP

GROUND VEHICLES

SUSV  
FORKLIFTS  
M88  
M578  
LACV-30  
M809  
M915  
M878  
SEMI TRAILER, 34 TON

\*\*\* SYSTEM LIST \*\*\*

MATERIEL SYSTEMS

| <u>CLASS</u>    | <u>SYSTEM</u>                                                                                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GROUND VEHICLES | HEMTT<br>HMMWV                                                                                                                                                                                                                              |
| AMMUNITION      | AMMUNITION                                                                                                                                                                                                                                  |
| OTHER           | UNIT WEAPONS SYSTEMS<br>PROTECTIVE MASKS<br>DECONTAMINATION APPARATUSES<br>BIOLOGICAL DETECT & WARNING SYS<br>NBC SHELTER SYSTEM, MS1<br>DSU/GSU MAINTENANCE SYSTEMS<br>SLEEP<br>MOBILE FIELD KITCHEN TRAILER<br>TOPOGRAPHIC SUPPORT SYSTEM |

\*\*\* SYSTEM LIST \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                 | <u>SYSTEM</u>                                                                                                                                                                                               |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HEALTH CARE                  | FIELD MEDICAL SUPPORT<br>HEALTH CARE IN FACILITIES<br>MEDICAL MANAGEMENT HQ<br>MEDICAL PROFESSIONAL DEVELOPMENT<br>MEDICAL MANPOWER/PERSONNEL MGT<br>MEDICAL MATERIEL MANAGEMENT<br>MISC MEDICAL ACTIVITIES |
| INSTALLATION MANAGEMENT      | INSTALLATION MGT HQ<br>HOUSING SUPPORT<br>INSTALLATION MAINT/SVC OPS<br>MORALE & WELFARE OPS<br>AUTOMATION/COMMUNICATIONS SVCS                                                                              |
| PERSONNEL & RELATED SERVICES | TACTICAL PERSONNEL & ADMIN OPS<br>PSYOPS/CIVIL AFFAIRS OPS<br>PERSONNEL/ADMIN/FIN SVCS<br>RECRUITING<br>RESERVE COMPONENT SUPPORT                                                                           |
| SUPPORT OUTSIDE ARMY         | DOD/JOINT SUPPORT<br>SUPPORT TO OTHER GOVT AGENCIES<br>SUPPORT TO OTHER NATIONS                                                                                                                             |
| DEFENSE RSCH/ADV TECH DEV    | DEFENSE RESEARCH<br>MATERIEL/COMBAT DEV ACTIVITIES                                                                                                                                                          |
| INTELLIGENCE ACTIVITIES      | THEATER/TACTICAL INTELLIGENCE<br>ARMY-WIDE INTELLIGENCE<br>DOD/NATIONAL INTELLIGENCE                                                                                                                        |
| ARMY HEADQUARTERS            | ARMY MANAGEMENT HEADQUARTERS<br>CLOSE COMBAT COMMAND & CONTROL<br>FIRE SUPPORT/AIR DEF COM & CONT<br>COMBAT SUPPORT COMMAND & CONTROL<br>COMBAT SVC SUPPORT COM & CONT                                      |
| TRAINING                     | PRECOMMISSIONING TRAINING<br>TRAINING MGT/DEVELOPMENT<br>UNIT TRAINING ACTIVITIES<br>ACCESSION/PROFESSIONAL TRAINING                                                                                        |

\*\*\* SYSTEM LIST \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                 | <u>SYSTEM</u>                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------|
| GROUND COMBAT/COMBAT SUPPORT | CLOSE COMBAT<br>FIRE SUPPORT<br>AIR DEFENSE<br>NBC COMBAT SUPPORT<br>COMMUNICATIONS COMBAT SUPPORT       |
| TRANSPORTATION/TRAFFIC MGT   | TRANS COMBAT SVC SUPPORT OPS<br>TRANSPORTATION OPS                                                       |
| ENGINEER SVCS/CIVIL WORKS    | ENGINEER COMBAT SUPPORT<br>BASE/FACILITY ENG SUPPORT<br>ENGINEER COMBAT SVC SUPPORT                      |
| POLICE & SECURITY            | POLICE COMBAT SUPPORT<br>NON-TACTICAL POLICE SUPPORT                                                     |
| PRODUCTION BASE SUPPORT      | PRODUCTION BASE SUPPORT                                                                                  |
| CENTRAL SUPPLY & MAINT       | TACTICAL SUPPLY OPS<br>TACTICAL MAINT OPS<br>WHOLESALE SUPPLY<br>SERVICE OPERATIONS<br>DEPOT MAINTENANCE |

APPENDIX I

CORRELATION TABLE ONE  
(Materiel System

This table gives the RDTE Project Numbers associated with the materiel systems.

\*\*\* CORRELATION TABLE ONE \*\*\*

MATERIEL SYSTEMS

| <u>CLASS</u> | <u>SYSTEM</u> | <u>PROJECT NUMBER</u>            | <u>ABBREVIATURE</u>                     |
|--------------|---------------|----------------------------------|-----------------------------------------|
| AIRCRAFT     | AH-1E         | 1X464312D63900                   | COBRA/TOW                               |
|              | *AAH-64       | 1X464207D42500<br>1A464217D27500 | AAH<br>SYNTHETIC FLIGHT TRAINING SYSTEM |
|              | RPV           | 1A263725DK6100<br>1A464730D04000 | RPV/DRONES<br>RPV                       |
|              | *UH-60A       | 1X464206D06900                   | UH-60 FEASIBILITY DEMONSTRATION         |
|              | AHIP          | 1X464220D51800                   | ARMY HELICOPTER IMPROVEMENT PROGRAM     |

MISSILES

|           |                                                    |                                                                 |
|-----------|----------------------------------------------------|-----------------------------------------------------------------|
| TOW       | 1X423724D33600                                     | HEAVY ANTITANK ASSAULT WEAPON SYSTEM (TOW)                      |
| *PERSHING | 1X464311D59900                                     | PERSHING II                                                     |
| *MLRS     | 1L463303D21600<br>1X464314D56400                   | MLRS TERMINALLY GUIDED WARHEAD<br>MLRS                          |
| CHAPARRAL | 1X423730D69700                                     | CHAPARRAL                                                       |
| HAWK      | 1X423731D69000                                     | SAM HAWK/HIP                                                    |
| *PATRIOT  | 1X464307D21200<br>1X464307D21300<br>1X464307D29100 | PATRIOT (SAM-D)<br>PATRIOT (ECCM ENHANCEMENT)<br>PATRIOT (NATO) |
| *HELLFIRE | 1X464310D07400                                     | HELIBORNE MISSILE-HELLFIRE                                      |

ELECTRONICS

ELECTRONICS COUNTERMEASURES SYSTEMS

|                |                                                       |
|----------------|-------------------------------------------------------|
| 1L263762DK1500 | ADV COMMUNICATIONS ELECT COUNTERMEASURE DEMONSTRATION |
| 1E463755D25100 | PROTECTIVE EW EQUIPMENT                               |
| 1E463755DHH300 | AIRBORNE RADAR JAMMER                                 |
| 1H463755DK1200 | COMMUNICATIONS ELECTRONIC COUNTERMEASURES SYSTEMS     |
| 1H463755DK1300 | NON-COMM ELECTRONIC COUNTERMEASURES SYSTEMS           |
| 1H463755DK1400 | EXPENDABLE JAMMERS                                    |
| 1F464750DHH500 | MULTI-ECM (HTLD)                                      |

\*Selected Acquisition Report (SAR) Systems

\*\*\* CORRELATION TABLE ONE \*\*\*

MATERIAL SYSTEMS

| <u>CLASS</u>       | <u>SYSTEM</u>                             | <u>PROJECT NUMBER</u> | <u>DESCRIPTION</u>                               |
|--------------------|-------------------------------------------|-----------------------|--------------------------------------------------|
| ELECTRONICS (CONT) |                                           |                       |                                                  |
|                    | ELECTRONICS COUNTERMEASURES SYSTEM (CONT) |                       |                                                  |
|                    | 1X464750DL1200                            |                       | COMMUNICATIONS ELECTRONIC COUNTERMEASURES SYSTEM |
|                    | 1X464750DL1400                            |                       | EXPENDABLE JAMMERS                               |
|                    | COMMUNICATIONS INTELLIGENCE SYSTEM        |                       |                                                  |
|                    | 1X464704DL7300                            |                       | REMOTELY MONITORED BATTLEFIELD SENSOR SYSTEMS    |
|                    | *TRITAC                                   |                       |                                                  |
|                    | 1X428010D10400                            |                       | JOINT TACTICAL COMMUNICATIONS (TRI-TAC) OFFICE   |
|                    | 1X428010D10700                            |                       | MODIFICATION TO ARMY TRI-TAC INTERFACE           |
|                    | 1X428010D11000                            |                       | MOBILE SUBSCRIBER EQUIPMENT                      |
|                    | 1X428010D11100                            |                       | DIGITAL GROUP MULTIPLEXERS (TRI-TAC)             |
|                    | 1X428010D41400                            |                       | OTHER SERVICES ASSIGNED TRI-TAC TASKS            |
|                    | 1X428010D11600                            |                       | FACILITY SUPPORT ELEMENT (TRI-TAC)               |
|                    | 1X428010D11700                            |                       | SHORT RANGE WIDE-BAND RADIO (SRWR) ASSEMBLAGES   |
|                    | 1X428010D11900                            |                       | MODULAR RECORD TRAFFIC TERMINAL                  |
|                    | 1X428010D17200                            |                       | NET RADIO INTERFACE                              |
|                    | 1X428010D17800                            |                       | JOINT TEST SUPPORT (TRI-TAC)                     |
|                    | 1X428010D22200                            |                       | AUTOMATIC COMMUNICATIONS CENTRAL OFFICE          |
|                    | LOCATION SYSTEMS                          |                       |                                                  |
|                    | 1X464727DC9800                            |                       | POSITION LOCATION REPORTING SYSTEM               |
|                    | 1X564778D16800                            |                       | NAVSTAR GPS EQUIPMENT                            |
|                    | TACSATCOM                                 |                       |                                                  |
|                    | 1X533142D25300                            |                       | DEFENSE SATELLITE COM SYS, DCS (PHASE II)        |
|                    | 1X533142D45000                            |                       | SATELLITE COMMUNICATIONS                         |
|                    | 1X533142D45600                            |                       | TACTICAL SATELLITE COMMUNICATIONS (TACSATCOM)    |
|                    | THEATER/TACTICAL COMMUNICATIONS SYSTEMS   |                       |                                                  |
|                    | 1X463746D55500                            |                       | SINCGARS-V                                       |
|                    | COMMUNICATION SECURITY SYSTEMS            |                       |                                                  |
|                    | 1C533401D49100                            |                       | COMMUNICATIONS SECURITY EQUIP AND TECHNIQUES     |
|                    | MANUEVER CONTROL SYSTEM                   |                       |                                                  |
|                    | 1S423740D48400                            |                       | MANUEVER CONTROL SYSTEM                          |
|                    | TRACKED COMBAT VEHICLES                   |                       |                                                  |
|                    | *M1 (ABRAMS)                              |                       |                                                  |
|                    | 1X423735D33000                            |                       | M1E1 BLOCK IMPROVEMENT PROGRAM                   |

\*\*\* CORRELATION TABLE ONE \*\*\*

MATERIEL SYSTEMS

| <u>CLASS</u>                                          | <u>SYSTEM</u>      | <u>PROJECT NUMBER</u> | <u>MONONCLATURE</u>                        |
|-------------------------------------------------------|--------------------|-----------------------|--------------------------------------------|
| TRACKED COMBAT VEHICLES (CONT)                        |                    |                       |                                            |
|                                                       | M1 (ABRAMS) (CONT) |                       |                                            |
|                                                       |                    | 1X464620082001        | TANK, M1 (ABRAMS)                          |
|                                                       |                    | 1X464630006000        | 120MM GUN DEVELOPMENT                      |
|                                                       |                    | 1X464630028700        | TANK SYSTEMS INTEGRATION                   |
|                                                       | *IFV/DFV           | 1X423735D33200        | FIGHTING VEHICLE IMPROVEMENT               |
|                                                       |                    | 1X464616D25800        | FVS                                        |
|                                                       | MPG/AMAS           | 1G463635D16600        | MOBILE PROTECTED GUN-FAR TERM              |
|                                                       |                    | 1X463635D17000        | MOBILE PROTECTED GUN-NEAR TERM             |
|                                                       | FISTV              | 1X464626DF2300        | FISTV                                      |
|                                                       | FAASV              | 1L463632D10900        | FIELD ARTILLERY AND<br>SPT VEHICLE (FAASV) |
| CANNON ARTILLERY, MORTARS & GUN<br>MORTAR SYSTEMS     |                    |                       |                                            |
|                                                       |                    | 1X464323D34700        | MOBILE HEAVY MORTAR                        |
|                                                       |                    | 1X464601D14400        | SMOKE MORTAR ROUNDS                        |
|                                                       |                    | 1G464601D22700        | BATTALION MORTAR SYSTEMS                   |
|                                                       | *DIVAD             | 1X464318D64800        | DIVAD GUN                                  |
| ENGINEERING & RELATED SYSTEMS<br>MINE/COUNTERMINE SYS |                    |                       |                                            |
|                                                       |                    | 1X263606D00600        | LANDMINE WARFARE DEVELOPMENT               |
|                                                       |                    | 1G263606D060800       | COUNTERMINE AND BARRIER<br>DEVELOPMENT     |
|                                                       |                    | 1X463619D00500        | LANDMINE SYSTEMS                           |
|                                                       |                    | 1M463619D60600        | COUNTERMINE AND BARRIER SYSTEMS            |
|                                                       |                    | 1X463619DHH600        | VOLCANO (HTLD)(LANDMINE<br>BARRIER SYSTEM) |
|                                                       |                    | 1M464612D14500        | SLUFAE                                     |
|                                                       |                    | 1M464612D41500        | MINE NEUTRALIZATION/DETECTION              |
|                                                       |                    | 1M464619D01600        | MINE SYSTEMS                               |
|                                                       |                    | 1X464619D08800        | MODULAR PACK MINE SYSTEM                   |
|                                                       |                    | 1M464619DS6800        | GEMSS AT/AP MINES                          |
| GROUND VEHICLES<br>HMMWV                              |                    |                       |                                            |
|                                                       |                    | 1E464624DH1700        | HMMWV                                      |
|                                                       |                    | 1E464624DHH400        | HMMWV (HTLD)                               |

\*\*\* CORRELATION TABLE ONE \*\*\*

MATERIAL SYSTEMS

| <u>CLASS</u> | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>ABBREVIATURE</u> |
|--------------|---------------|-----------------------|---------------------|
|--------------|---------------|-----------------------|---------------------|

AMMUNITION:

AMMUNITION:

|                |                                      |
|----------------|--------------------------------------|
| 1M463628D00700 | FIELD ARTILLERY AMMUNITION AND FUZES |
| 1X463628D27600 | SENSE AND DESTROY ARMOR (SADARM)     |
| 1X463633D16100 | TANK AMMUNITION AND FUZES            |
| 1X463633D16400 | LONG POD PENETRATOR                  |
| 1M464601D03000 | MULTIPURPOSE AMMUNITION              |
| 1X464603D38500 | IMPROVED 155MM NUCLEAR PROJECTILE    |
| 1X464630D06400 | 120MM TANK GUN AMMO DEVELOPMENT      |
| 1X464631D28600 | FIELD ARTILLERY AMMUNITION (NATO)    |
| 1X464632D17300 | TANK TARGET PRACTICE                 |
| 1X464632D62100 | 105MM TANK AMMUNITION                |

OTHER:

PROTECTIVE MASKS

|                |                                |
|----------------|--------------------------------|
| 1M464725D01900 | INDIVIDUAL CHEMICAL PROTECTION |
|----------------|--------------------------------|

TOPOGRAPHIC SUPPORT SYSTEM

|                |                             |
|----------------|-----------------------------|
| 1S563712D58000 | FIELD ARMY MAPPING          |
| 1A563712DT4400 | DIGITAL TOPOGRAPHIC SUPPORT |

APPENDIX I

CORRELATION TABLE TWO  
(Non-Material Systems)

This table gives the RDTE Project Numbers associated with the non-material systems.

\*\*\* CORRELATION TABLE \*\*\*

MATERIEL STATES

| <u>NAME</u>                           | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>MONONCLATURE</u>                              |
|---------------------------------------|---------------|-----------------------|--------------------------------------------------|
| <u>HEALTH CARE</u>                    |               |                       |                                                  |
| <u>FIELD MEDICAL SUPPORT</u>          |               |                       |                                                  |
|                                       |               | 3S162772A87400        | CARE OF COMBAT CASUALTIES                        |
|                                       |               | 3S162775A83500        | COMBAT MAXILLOFACIAL INJURY                      |
|                                       |               | 3S463732D83600        | COMBAT MEDICAL MATERIEL                          |
|                                       |               | 3S464717D83200        | COMBAT MEDICAL MATERIEL                          |
| <u>HEALTH CARE IN FACILITIES</u>      |               |                       |                                                  |
|                                       |               | 3A161101A91000        | IN-HOUSE LABORATORY-MEDICAL R&D                  |
|                                       |               | 3M161102B81000        | RESEARCH ON MIL DISEASE, INJURY & HEALTH HAZARDS |
|                                       |               | 3M162734A87500        | MEDICAL DEFENSE AGAINST CHEMICAL AGENTS          |
|                                       |               | 3M162770A87000        | RISK ASSESSMENT OF MILITARY DISEASE HAZARDS      |
|                                       |               | 3M162770A87100        | PREVENTION OF MILITARY DISEASE HAZARDS           |
|                                       |               | 3E162777A87800        | HEALTH HAZARDS OF MILITARY MATERIEL              |
|                                       |               | 3E162777A87900        | MEDICAL FACTORS LIMITING EFFECTIVENESS           |
|                                       |               | 3M463750D80800        | DRUG AND VACCINE DEVELOPMENT                     |
| <u>MISC MEDICAL ACTIVITIES</u>        |               |                       |                                                  |
|                                       |               | 3E162720A83500        | MILITARY MEDICAL ENVIRONMENTAL QUALITY           |
| <u>INSTALLATION MANAGEMENT</u>        |               |                       |                                                  |
| <u>INSTALLATION MAINT/SVC OPS</u>     |               |                       |                                                  |
|                                       |               | 1E463747D61000        | FOOD ADVANCED DEVELOPMENT                        |
|                                       |               | 1L463747D66900        | CLOTHING AND EQUIPMENT                           |
| <u>AUTOMATION/COMMUNICATIONS SVCS</u> |               |                       |                                                  |
|                                       |               | 1X463723D10100        | TACTICAL AUTOMATION                              |
|                                       |               | 1X463723D18500        | MILITARY SOFTWARE STANDARDIZATION                |
|                                       |               | 1X463723D18600        | MILITARY COMPUTER FAMILY                         |
|                                       |               | 1X463723D33500        | COMMUNICATIVE TECHNOLOGY                         |
|                                       |               | 1C464701D48700        | TACTICAL MULTICHANNEL COMMUNICATIONS             |
|                                       |               | 1C464701D48800        | TACTICAL NET RADIO COMMUNICATIONS                |
|                                       |               | 1X464727D18300        | TACTICAL DISPLAY SYSTEMS                         |
|                                       |               | 1S464727D18400        | TACTICAL COMPUTER SYS/ TACTICAL COMP TERMINAL    |
|                                       |               | 1P665801MM1900        | ROUTE-AUTOMATED DATA PROCESSING EQUIP(DARCOM)    |
|                                       |               | 1P665801MM2100        | SPECIAL PURPOSE EQUIPMENT-DARCOM                 |
|                                       |               | 3A665801MM2200        | SPECIAL PURPOSE EQUIPMENT-TSG                    |
|                                       |               | 4A665801MM2300        | SPECIAL PURPOSE EQUIPMENT-QCE                    |
|                                       |               | 5X665803MY1100        | HARDIS SUPPORT                                   |
|                                       |               | 5X665803MY1400        | HARDIS PROPONENT SUPPORT                         |
|                                       |               | 1P665890MM8200        | ARRADCOM-INST.AUDIOVISUAL                        |

\*\*\* CORRELATION TABLE TWO \*\*\*

NON-MATERIAL SYSTEMS

| <u>CLASS</u> | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>DESCRIPTION</u> |
|--------------|---------------|-----------------------|--------------------|
|--------------|---------------|-----------------------|--------------------|

INSTALLATION MANAGEMENT (CONT)

AUTOMATION/COMMUNICATIONS SVCS (CONT)

|                |                           |
|----------------|---------------------------|
| 1P665890MM8300 | CECOM-INST.AUDIOVISUAL    |
| 1P665890MM8400 | ERADCOM-INST.AUDIOVISUAL  |
| 1P665890MM8500 | NERADCOM-INST.AUDIOVISUAL |
| 1P665890MM8600 | MICOM-INST.AUDIOVISUAL    |
| 1P665890MM8700 | NATION R&D LABORATORIES   |
| 1P665890MM8800 | TACOM-INST.AUDIOVISUAL    |

PERSONNEL & RELATED SERVICES

TACTICAL PERSONNEL & ADMIN OPS

|                |                                    |
|----------------|------------------------------------|
| 20161102B74F00 | PERSONNEL PERFORMANCE AND TRAINING |
|----------------|------------------------------------|

PSYOPS/CIVIL AFFAIRS OPS

|                |                                           |
|----------------|-------------------------------------------|
| 20263739A79300 | HUMAN FACTORS IN TNG & OPERATIONAL EFFECT |
|----------------|-------------------------------------------|

PERSONNEL/ADMIN/FIN SVCS

|                |                                  |
|----------------|----------------------------------|
| 20162722A79100 | MANPOWER, PERSONNEL AND TRAINING |
| 20263731A79200 | MANPOWER AND PERSONNEL           |

DEFENSE RSCH/ADV TECH DEV

DEFENSE RESEARCH

|                |                                               |
|----------------|-----------------------------------------------|
| 1L162623AH2100 | JSSAP                                         |
| 1L162724AH9900 | JOINT SERVICES FOOD/ NUTRITION TECHNOLOGY     |
| 1M263607D62700 | JOINT SERVICE SMALL ARMS PROGRAMS (JSSAP)     |
| 1L463215D07900 | JOINT SURVIVABILITY INVESTIGATIONS            |
| 1L463706D29700 | IFF (NATO)                                    |
| 1C464222D21100 | JOINT SVCS VERT LIFT AIRCFT DEV PROG          |
| 1T464702D45100 | ARMY SUPPORT OF JTIDS                         |
| 1X464712D32400 | USA/NATO TACTICAL C3 SYSTEMS INTEROPERABILITY |
| 1X464779D29800 | JINTACCS (NATO)                               |
| 1X464779D30900 | JINTACCS (ARMY)                               |
| 1X464779D31000 | JINTACCS (EXECUTIVE AGENT)                    |
| 1T465710D04900 | JOINT CHEMICAL CONTACT POINT & TEST           |
| 8X665301D61400 | KWAJALEIN MISSILE RANGE                       |
| 2T665802M79800 | INTERNATIONAL COOPERATIVE RES AND DEV         |
| 1Z665803M73100 | GOVT, INDUST DATA EXCHG                       |
| 1W665805D62000 | PROG/ADV GRP ON ELECT DEVS                    |
| 1G665805DF2100 | DDO MUNITIONS EFFECTIVENESS                   |
| 1W665806DE9700 | NATO SMALL ARMS EVALUATION                    |
|                | HELSTF (DDO)                                  |

\*\*\* CORRELATION TABLE TWO \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                   | <u>SUBJECT</u> | <u>PROJECT NUMBER</u> | <u>CORRELATURE</u>                                 |
|--------------------------------|----------------|-----------------------|----------------------------------------------------|
| DEFENSE RECH (ADV TECH DEV     | (CONT)         |                       |                                                    |
| DEFENSE RESEARCH               | (CONT)         |                       |                                                    |
|                                |                | 1W665872DE9800        | RIF-OSD                                            |
|                                |                | 8X665872DQ0400        | RIF-ETD (OSD)                                      |
| MATERIEL/COMBAT DEV ACTIVITIES |                |                       |                                                    |
|                                |                | 1X312814D33300        | SPECIAL PROGRAM                                    |
|                                |                | 1X312821D33800        | CLASSIFIED PROGRAM                                 |
|                                |                | 1X423726D32200        | ADVANCED FIELD ARTILLERY<br>TACTICAL DATA SYSTEM   |
|                                |                | 1X423726DHH400        | FATDS (HTLD)                                       |
|                                |                | 1X423735D34100        | 105 MM TANK GUN ENH.                               |
|                                |                | 1X423739D23300        | AN/TSC - 73 MODIFICATIONS                          |
|                                |                | 1G423743D00800        | 155 MM SP HDRS IMPROVEMENT                         |
|                                |                | 1H531327D38200        | TECRAS (TECH RECON & SURVIVAL)                     |
|                                |                | 1X533111D48100        | STRATEGIC COMMUNICATIONS<br>(STARCOM)              |
|                                |                | 1X533126D14900        | LONG HAUL COMMUNICATIONS (DCS)                     |
|                                |                | 1L161101A91A00        | IN-HOUSE LABORATORY-DARCOM                         |
|                                |                | 2T161101A91B00        | IN-HOUSE LABORATORY-ARI                            |
|                                |                | 4A161101A91D00        | IN-HOUSE LABORATORY-COE                            |
|                                |                | 1L161102AF2200        | RESEARCH IN VEHICLE MOBILITY                       |
|                                |                | 1L161102AH4000        | SIGNALS WARFARE LABORATORY                         |
|                                |                | 1L161102AH4200        | RESEARCH IN MATERIALS<br>AND MECHANICS             |
|                                |                | 1L161102AH4300        | RESEARCH IN BALLISTICS                             |
|                                |                | 1L161102AH4400        | RESEARCH IN FLUIDIC<br>NUCLEAR EFFECTS & ORD ELECT |
|                                |                | 1L161102AH4500        | AIR MOBILITY RESEARCH                              |
|                                |                | 1L161102AH4600        | RESEARCH IN COMBAT SURV/<br>TARGET ACQ             |
|                                |                | 1L161102AH4700        | ELECTRONIC DEVICES RESEARCH                        |
|                                |                | 1L161102AH4800        | COMMUNICATIONS RESEARCH                            |
|                                |                | 1L161102AH4900        | MISSILE AND HIGH ENERGY<br>LASER RESEARCH          |
|                                |                | 1L161102AH5100        | COMBAT SUPPORT RESEARCH                            |
|                                |                | 1L161102AH5200        | RESEARCH IN SPT OF EQUIP<br>FOR THE IND SOLDIER    |
|                                |                | 1L161102BH5700        | RESEARCH IN SCIEN PROB<br>WITH MIL APPL            |
|                                |                | 1L161102AH6000        | RESEARCH IN LARGE CALIBER<br>ARMAMENTS             |
|                                |                | 1L161102AH6100        | RESEARCH IN FIRE CONT<br>& IN SMALL CAL ARMAMENT   |
|                                |                | 1L161102AH6300        | RESEARCH IN ELECTRONIC WARFARE                     |
|                                |                | 1L161102AH6800        | PROCESSES IN POLLUTION<br>ABATEMENT TECHNOLOGY     |
|                                |                | 3E161102BS0400        | IDENT & HEALTH EFFECTS<br>OF MIL POLLUTANTS        |

\*\*\* CORRELATION TABLE TWO \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                          | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>NO DESCRIPTION</u>                               |
|---------------------------------------|---------------|-----------------------|-----------------------------------------------------|
| DEFENSE RSCH/ADV TECH DEV (CONT)      |               |                       |                                                     |
| MATERIEL/COMBAT DEV ACTIVITIES (CONT) |               |                       |                                                     |
|                                       |               | 4A161102AT2200        | RESEARCH IN SOIL AND ROCK TECH                      |
|                                       |               | 4A161102AT2300        | BASIC RESEARCH IN MILITARY CONSTRUCTION             |
|                                       |               | 4A161102AT2400        | RESEARCH IN SNOW, ICE, & FROZEN GROUND              |
|                                       |               | 4L161102A31800        | NIGHT VISION AND ELECTROOPTICS RESEARCH             |
|                                       |               | 4A161102B52C00        | RESEARCH IN GEODETIC, GEOGRAPHIC & MAPPING SCIENCES |
|                                       |               | 4L161102B53A00        | RESEARCH IN ATMOSPHERIC SCIENCES                    |
|                                       |               | 4L161102A71A00        | RESEARCH IN DEF SYS FOR CHEM WARFARE/BIO WARFARE    |
|                                       |               | 4L161102B74A00        | RESEARCH IN HUMAN ENGINEERING                       |
|                                       |               | 4L162105AH8400        | MATERIALS                                           |
|                                       |               | 4L162111AH7100        | ATMOSPHERIC INVESTIGATIONS                          |
|                                       |               | 4L162120AH2500        | NUC WEAP EFF RES, NEAR MM WAVE TECH, FLUID TECH     |
|                                       |               | 4L162201DH9600        | AIRCRAFT WEAPONS TECHNOLOGY                         |
|                                       |               | 4L162202AH8500        | AIRCRAFT AVIONICS TECHNOLOGY                        |
|                                       |               | 4L162209AH7600        | AERONAUTICAL TECHNOLOGY                             |
|                                       |               | 4L162210D28300        | AIRDROP TECHNOLOGY                                  |
|                                       |               | 4L162303A21400        | MISSILE TECHNOLOGY                                  |
|                                       |               | 4L162307A13900        | LASER WEAPONS TECHNOLOGY                            |
|                                       |               | 4L162601AH9100        | TANK AND AUTOMOTIVE TECHNOLOGY                      |
|                                       |               | 4L162603AH1800        | LARGE CALIBER AND NUCLEAR TECHNOLOGY                |
|                                       |               | 4L162617AH1900        | SMALL CALIBER AND FIRE CONTROL TECHNOLOGY           |
|                                       |               | 4L162618AH8000        | BALLISTICS TECHNOLOGY                               |
|                                       |               | 4M162622A55200        | SMOKE AND OBSCURANT MUNITIONS                       |
|                                       |               | 4L162622A55400        | CHEMICAL MUNITIONS                                  |
|                                       |               | 4L162701AH9200        | COMMUNICATIONS-TECHNOLOGY                           |
|                                       |               | 4L162703AH9300        | COMBAT SURVEILLANCE, TARGET ACQ & IDENT             |
|                                       |               | 4L162704AF2500        | MILITARY ENVIRONMENTAL CRITERIA DEVELOPMENT         |
|                                       |               | 4L162705AH9400        | ELECTRON AND ELECTRONIC DEVICES                     |
|                                       |               | 4L162706A55300        | OF DEFENSE AND GENERAL INVESTIGATIONS               |
|                                       |               | 4A162707A85500        | TOPOGRAPHIC AND GEODETIC TECHNOLOGY                 |
|                                       |               | 4L162709DH9500        | NIGHT VISION AND ELECTRO-OPTICS INVEST              |
|                                       |               | 4L162715A04200        | TACTICAL ELECTRONIC WARFARE TECHNOLOGY              |

\*\*\* CORRELATION TABLE \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                          | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>NOMENCLATURE</u>                              |
|---------------------------------------|---------------|-----------------------|--------------------------------------------------|
| DEFENSE RSCH/ADV TECH DEV (CONT)      |               |                       |                                                  |
| MATERIEL COMBAT DEV ACTIVITIES (CONT) |               |                       |                                                  |
|                                       |               | 1L162716A90400        | TACTICAL ELECTRONIC WARFARE TECHNIQUES           |
|                                       |               | 1L162716AH7000        | HUMAN FACTORS ENGINEERING IN SYS DEVELOPMENT     |
|                                       |               | 2D162717A79000        | HUMAN PERFORMANCE EFFECTIVENESS & SIMULATION     |
|                                       |               | 4A162719AT4000        | MOBILITY AND WEAPONS EFFECTS TECHNOLOGY          |
|                                       |               | 1L162720D04800        | ENVIRONMENTAL QUALITY RESEARCH & DEVELOPMENT     |
|                                       |               | 4A162720A89600        | ENVIRONMENTAL QUALITY FOR CONST & OPR OF MIL FAC |
|                                       |               | 1L162723AH9800        | CLOTHING AND EQUIPMENT TECHNOLOGY                |
|                                       |               | 1L162723A42700        | TACTICAL RIGID-WALL SHELTERS                     |
|                                       |               | 5X162725DY1000        | RESEARCH AND DEVELOPMENT MULTI-COMMAND DATA SYS  |
|                                       |               | 1X162727A23000        | NON-SYSTEMS TRAINING DEVICES TECHNOLOGY          |
|                                       |               | 4A162730AT4200        | COLD REGIONS ENGINEERING TECHNOLOGY              |
|                                       |               | 4A162731AT4100        | MILITARY FACILITIES ENGINEERING TECHNOLOGY       |
|                                       |               | 1L162733AH2000        | MOBILITY EQUIPMENT TECHNOLOGY                    |
|                                       |               | 1L162733AHH200        | DECEPTION DEVICES (HTLO)                         |
|                                       |               | 1L162746A09400        | TACTICAL ADP TECHNOLOGY                          |
|                                       |               | 4A162781AT4500        | MILITARY ENERGY TECHNOLOGY                       |
|                                       |               | 1L263102D06500        | PRODUCIBILITY/RELIABILITY                        |
|                                       |               | 1L263102D07100        | MATERIALS SCALE-UP/STRUCTURES DEMONSTRATION      |
|                                       |               | 1L263104D15000        | FUELS AND EQUIPMENT                              |
|                                       |               | 1L263201D44700        | DEMONSTRATOR ENGINES                             |
|                                       |               | 1L263201DB7200        | PROPULSION COMPONENTS                            |
|                                       |               | 1A263207DB9700        | AVIONICS EQUIPMENT                               |
|                                       |               | 1L263209DB3300        | CARGO HANDLING EQUIPMENT                         |
|                                       |               | 1L263211DB4100        | ADVANCED STRUCTURES                              |
|                                       |               | 1L263211D31300        | RESEARCH AIRCRAFT SYSTEMS                        |
|                                       |               | 1L263211D31400        | ADVANCED ROTOR SYSTEMS                           |
|                                       |               | 1L263211D31500        | ADVANCED FLIGHT CONTROLS                         |
|                                       |               | 1L263216DB3400        | ROTORCRAFT SYS INTEGRATION SIMULATOR (RSIS)      |
|                                       |               | 1L263216DB3900        | FLIGHT SIMULATOR COMPONENT                       |
|                                       |               | 1L263218D26600        | AIRDROP EQUIPMENT AND TECHNIQUES                 |
|                                       |               | 1A263221D31200        | MAP-OF-THE-EARTH ESSENTIAL EQUIPMENT             |
|                                       |               | 1L263313D08700        | MISSILES AND ROCKET COMPONENTS                   |

\*\*\* CORRELATION TABLE \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                          | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>NOMENCLATURE</u>                       |
|---------------------------------------|---------------|-----------------------|-------------------------------------------|
| DEFENSE RSCH/ADV TECH DEV (CONT)      |               |                       |                                           |
| MATERIEL/COMBAT DEV ACTIVITIES (CONT) |               |                       |                                           |
|                                       |               | 1L263313D26400        | FIBER OPTICS GUIDANCE                     |
|                                       |               | 1X263324D18000        | HTTB-DISTRIBUTION DATA TEST               |
|                                       |               | 1L263710DK7000        | NIGHT VISION ADVANCE DEVELOPMENT          |
|                                       |               | 1L263710DK8600        | NIGHT VISION AIRBORNE SYSTEMS             |
|                                       |               | 1L263742DF3200        | ADVANCED ELECTRONIC DEVICES               |
|                                       |               | 2Q263743D79400        | EDUCATION AND TRAINING                    |
|                                       |               | 1T263748DJ2900        | AUTOMATIC TEST SUPPORT SYSTEMS (ATSS)     |
|                                       |               | 1T263748D24400        | ATSS LANGUAGE UTILIZATION AND STANDARDS   |
|                                       |               | 1L263749D46200        | TECHNICAL VULNERABILITY REDUCTION         |
|                                       |               | 1L263752A99400        | DEMILITARIZATION CONCEPTS                 |
|                                       |               | 1L263761D19000        | ELECTRONIC WARFARE SUSCEPTIBILITY SUPPORT |
|                                       |               | 1X263761D23500        | MISSILE COM TECHNOLOGY                    |
|                                       |               | 8X363304D21500        | BALLISTIC MIS DEF ADV TECH PROGRAM        |
|                                       |               | 8X363308D99100        | BALLISTIC MIS DEF SYS TECH PROGRAM        |
|                                       |               | 1X463217D02400        | GREATER SLOPE                             |
|                                       |               | 1A463302D09900        | ANTI-TACTICAL MISSILE                     |
|                                       |               | 1N463604D15300        | NUCLEAR EFFECTS SUPPORT TEAM              |
|                                       |               | 1N463615DE7600        | LETHAL CHEN MATERIEL                      |
|                                       |               | 1X463627DE8200        | SMOKE MUNITIONS AND MATERIAL              |
|                                       |               | 1E463702DG1000        | ADVANCED TACTICAL POWER SOURCES           |
|                                       |               | 1E463702DG1100        | ADVANCED ELECTRICAL ENERGY SOURCES        |
|                                       |               | 1S463705DK8200        | PHYSICAL SECURITY                         |
|                                       |               | 1L463706D24300        | IFF DEVELOPMENTS                          |
|                                       |               | 1X463711D65300        | AIRCRAFT SURVIVABILITY EQUIPMENT          |
|                                       |               | 1X463713D37000        | PLRS/JTIDS HYBRID                         |
|                                       |               | 1L463718D23400        | SURFACE/SURFACE WEAPON ELECTRONIC WARFARE |
|                                       |               | 1E463726DG1400        | CONTAINER DISTRIBUTION EQUIPMENT          |
|                                       |               | 1E463726DK4100        | PET, OIL AND LUB DISTRIBUTION SYS         |
|                                       |               | 1E463726D42800        | TACTICAL RIGID-WALL SHELTER               |
|                                       |               | 1K463730DS6000        | TACTICAL SURVEILLANCE SYSTEMS             |
|                                       |               | 1T463745D92500        | ALL SOURCE ANALYSIS SYSTEMS               |
|                                       |               | 1K463766D90700        | TACTICAL ELECTRONIC SURVEILLANCE SYS      |
|                                       |               | 1A464202DL6200        | AIRCRAFT ROCKET SUBSYSTEMS                |
|                                       |               | 1A464204DC3200        | GROUND SUPPORT EQUIPMENT                  |
|                                       |               | 1A464204DC3300        | CARGO HANDLING EQUIPMENT                  |
|                                       |               | 1A464204DC4500        | AVIATION LIFE SUPPORT SYSTEM              |

\*\*\* CORRELATION TABLE TWO \*\*\*

MATERIEL SYSTEMS

LINE      SUBJECT      PROJECT NUMBER      NOMENCLATURE

DEFENSE RESEARCH TECH DEV (CONT)

MATERIEL COMBAT DEV ACTIVITIES (CONT)

|                |                                         |
|----------------|-----------------------------------------|
| 1A464218D37900 | AIRCRAFT EQUIPMENT DEVELOPMENT          |
| 1A464266D10600 | AIRCRAFT COMPONENT IMPROVEMENT PROGRAM  |
| 1A464321D92600 | ALL SOURCE ANALYSIS SYSTEM (ASAS)       |
| 1X464323D26800 | AWACS INTERFACE                         |
| 1X464309D19100 | SMOKE MUNITIONS AND MATERIAL            |
| 1X464623D06800 | LIGHT ANTITANK WEAP TEST & EVAL         |
| 1X464705D20700 | WICONS                                  |
| 1N464706D51700 | RADIAC EQUIP ENGINEERING DEVELOPMENT    |
| 1S464709D53000 | IFF EQUIPMENT                           |
| 1L464710DL7000 | NIGHT VISION DEVICES                    |
| 1X464712D32300 | SYSTEMS ENGINEERING FOR TACT C3 SYSTEMS |
| 1E464713DL4000 | CLOTHING AND EQUIPMENT                  |
| 1E464713D54800 | MILITARY SUBSISTENCE SYSTEMS            |
| 1E464714D19600 | SILENT POWER GENERATING SOURCES         |
| 1E464717DL3900 | GENERAL SUPPORT EQUIPMENT               |
| 1E464717D42900 | TACTICAL RIGID-WALL SHELTERS            |
| 1S464718DL8200 | PHYSICAL SECURITY                       |
| 1K464740D66200 | TACTICAL SURVEILLANCE SYSTEM            |
| 1T464746D53600 | ATSS FAMILY                             |
| 1K464766D90900 | TACTICAL ELECTR SURVEILLANCE SYS        |
| 1X564201DC9600 | AIRCRAFT NAVIGATION AND CONTROL SYSTEMS |
| 1A564201DC9700 | AVIONICS SYSTEMS                        |
| 1L663738A22400 | NSTD ARMOR/ANTI-ARMOR                   |
| 1X664715D24100 | NSTD COMBINED ARMS                      |
| 1X664715D57300 | PM-TRADE & NAVAL TRG EQUIP CTR SPT      |
| 1S664726D51100 | METEOROLOGICAL DATA SYSTEMS             |
| 6A66S102M98000 | TRADOC STUDIES AND ANALYSES             |
| 6A66S102M98100 | ARMY MODEL IMPROVEMENT PROGRAM-TRADOC   |
| 6A66S102M98200 | ARMY MODEL IMPROVEMENT PROGRAM-DARCOM   |
| 1A66S201D06600 | AVIATION ENGINEERING FLIGHT ACTIVITY    |
| 1W66S702DE9500 | COLD REGIONS TEST CENTER                |
| 1W66S702DE9600 | TROPIC TEST CENTER                      |
| 1W66S702D02600 | TEST DESIGN AND EVALUATION              |
| 1S66S702D12700 | METEOROLOGICAL SPT TO RDIE ACTIVITIES   |
| 1X66S702D20400 | FIELD SMOKE ASSESSMENT                  |
| 1W66S702D57500 | F&D FIELD SUPPORT ACTIVITY              |

\*\*\* CORRELATION TABLE TWO \*\*\*

ARMY-MATERIEL SYSTEMS

| <u>CLASS</u>                          | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>DESCRIPTION</u>                           |
|---------------------------------------|---------------|-----------------------|----------------------------------------------|
| DEFENSE RSCH ADV TECH DEV (CONT)      |               |                       |                                              |
| MATERIEL/COMBAT DEV ACTIVITIES (CONT) |               |                       |                                              |
|                                       |               | 1W66S702D61800        | AVIATION DEVELOPMENT TEST ACTIVITY           |
|                                       |               | 1W66S702D62100        | US ARMY TEST FACILITIES REGISTER             |
|                                       |               | 1W66S702D62300        | INSTRUMENTATION DEV                          |
|                                       |               |                       | USA TEST & EVAL CONDUCT (COM)                |
|                                       |               | 1W66S702D62500        | TEST METHODOLOGY TECH                        |
|                                       |               | 1W66S706M54100        | MATERIEL SYSTEMS ANALYSIS                    |
|                                       |               | 1F66S709D65000        | EXPLOITATION OF FOREIGN ITEMS                |
|                                       |               | 1A66S712DN0100        | OTEA SUPPORT EQUIPMENT                       |
|                                       |               | 6A66S712DV0200        | TEST BOARDS                                  |
|                                       |               | 6A66S712DV0300        | TRADOC INT OPERATIONAL TEST & EVAL (IOTE)    |
|                                       |               | 1A66S712D00100        | OTEA INT OPERATIONAL TEST & EVAL             |
|                                       |               | 6A66S712D91800        | COMMUNICATIONS-ELECTRONICS USER TESTING      |
|                                       |               | 6A66S712D97600        | DEVELOPMENT/ACQUISITION OF THREAT SIMULATORS |
|                                       |               | 6A66S712D98500        | CONCEPTS EVALUATION OF MATERIEL              |
|                                       |               | 6A66S712D98600        | TRADOC SUPPORT EQUIPMENT                     |
|                                       |               | 1Z66S803M72000        | TECHNICAL INFORMATION FUNCTIONAL ACTIVITIES  |
|                                       |               | 1L66S803M72800        | INFORMATION TECHNOLOGY                       |
|                                       |               | 1L66S803M72900        | SYMPOSIA-CONFERENCE/ YOUTH SCIENCE ACTIV     |
|                                       |               | 1L66S803M76100        | TECH INFORMATION ANALYSIS CENTERS            |
|                                       |               | 1L66S803M90300        | SIGNAL INTELL/ELECT WARFARE TECH INFORMATION |
|                                       |               | 1W66S804DE9000        | YUMA PROVING GROUND                          |
|                                       |               | 1W66S804DE9100        | ABERDEEN PROVING GROUND                      |
|                                       |               | 1W66S804DE9200        | DUGWAY PROVING GROUND                        |
|                                       |               | 1W66S804DE9300        | WHITE SANDS MISSILE RANGE                    |
|                                       |               | 1W66S804DE9400        | ARMY ELECTRONIC PROVING GROUND               |
|                                       |               | 4A66S805M85700        | EXPLOSIVE SAFETY STANDARDS                   |
|                                       |               | 1P66S807D61600        | MAINSITE                                     |
|                                       |               | 1P66S808DE8600        | MMT/MACI                                     |
|                                       |               | 1P66S808DHH700        | FAST ATTACK VEHICLE (HTLD)                   |
|                                       |               | 1P66S872ME8800        | RESHAPE-DARCOM                               |
|                                       |               | 1P66S872DE8900        | PIF-DARCOM (DRIP & PECIP)                    |

INTELLIGENCE ACTIVITIES

ARMY-WIDE INTELLIGENCE

|                |                                   |
|----------------|-----------------------------------|
| 1F531307D38100 | SCIENTIFIC/TECHNICAL INTELLIGENCE |
|----------------|-----------------------------------|

\*\*\* CORRELATION TABLE TWO \*\*\*

COMPUTERIZED SYSTEMS

INDEX      ENTERED      PROJECT NUMBER      SIGNATURE

INTELLIGENCE ACTIVITIES (CONT)

000 NATIONAL INTELLIGENCE

1P665801MM1100      GENERAL DEFENSE INTELLIGENCE  
PROGRAM (DDI)

ARMY HEADQUARTERS

ARMY MANAGEMENT HEADQUARTERS

1P665801MM1100      GENERAL ADMINISTRATION  
ACTIVITY-DARCOM  
2T665801MM1500      GENERAL ADMINISTRATION  
STAFF SUPPORT-ARI  
1P665801MM1600      STANDARDIZATION GROUPS  
1P665801MM4100      DARCOM (ALEXANDRIA, VA)  
1P665801MM4200      ARRADCOM-PROG. ACT.(ADM/LOG SPT)  
1P665801MM4300      AVRADCOM-PROG. ACT.(ADM/LOG SPT)  
1P665801MM4400      CECOM-PROG. ACT.  
1P665801MM4500      ERADCOM-PROG. ACT.  
1P665801MM4600      MICOM-PROG. ACT.  
1P665801MM4700      TACOM-PROG. ACT.  
1P665801MM5100      MERADCOM-PROG. ACT.(OPER & SPT)  
1P665801MM5200      NATICK R&D LAB(OPER  
& SPT/PROG ACT)  
1P665801MM5300      TECOM-PROG. ACT.(OPER & SPT)  
3P665898MM0300      COMMAND HQS-TSG  
4P665898MM0400      OCE R&D COMMAND HQS  
1P665898MM6100      DARCOM HQS-AMHA ONLY  
1P665898MM6200      ARRADCOM-AMHA ONLY  
1P665898MM6300      AVRADCOM-AMHA  
1P665898MM6400      CECOM-AMHA ONLY  
1P665898MM6500      ERADCOM-AMHA ONLY  
1P665898MM6600      MICOM-AMHA ONLY  
1P665898MM6700      TACOM-AMHA

FIRE SUPPORT/AIR DEF COM & CONT

1T463740D59300      SHORAD-C2 SYSTEMS

TRAINING

UNIT TRAINING ACTIVITIES

2D263744D79500      TRAINING SIMULATION  
1M464628D25000      INDIRECT FIRE TNG MUNITIONS  
6A665712M99200      NATIONAL TRAINING CENTER SUPPORT

GROUND COMBAT/COMBAT SUPPORT

CLOSE COMBAT

1L263602D11800      COMBAT VEHICLE TECHNOLOGY  
1L263621D60700      COMBAT VEHICLE ENGINE  
1L263621D39500      COMBAT VEHICLE TRANSMISSION  
1L263631D01400      COMBAT VEHICLE HULL AND TURRET

\*\*\* CORRELATION TABLE TWO \*\*\*

NON-MATERIEL SYSTEMS

| <u>CLASS</u>                        | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>DESCRIPTION</u>                            |
|-------------------------------------|---------------|-----------------------|-----------------------------------------------|
| GROUND COMBAT/COMBAT SUPPORT (CONT) |               |                       |                                               |
| CLOSE COMBAT (CONT)                 |               |                       |                                               |
|                                     |               | 1L263631042400        | COMBAT VEHICLE TRACK AND SUSPENSION           |
|                                     |               | 1W263636022100        | COMBAT VEHICLE SURVIVAL-ARMOR                 |
|                                     |               | 1W263636022300        | COMBAT VEHICLE ANTI-ARMOR                     |
|                                     |               | 1L263710DK9700        | NIGHT VISION COMBAT VEHICLES                  |
|                                     |               | 1L263763DK1600        | COMBAT VEHICLE SELF-PROTECT DEMONSTRATION     |
|                                     |               | 1X664715023900        | NSTD INFANTRY                                 |
| FIRE SUPPORT                        |               |                       |                                               |
|                                     |               | 1L263306023200        | 155MM FIRE AND FORGET                         |
| AIR DEFENSE                         |               |                       |                                               |
|                                     |               | 1A263209DB4500        | AVIATION LIFE SUPPORT EQUIPMENT               |
|                                     |               | 1L463718026700        | AIR DEF MIS VULNERABILITY/SUSCEPTIBILITY      |
|                                     |               | 1D464313D11200        | GRASS BLADE                                   |
|                                     |               | 1X464711066500        | AIRCRAFT SURVIVABILITY EQUIPMENT              |
|                                     |               | 1X664715023700        | NSTD ARTILLERY/AIR DEFENSE/ENGINEER           |
| NBC COMBAT SUP. CRT                 |               |                       |                                               |
|                                     |               | 1L263737D18100        | ANTI-RADIATION MISSILE COUNTERMEASURES        |
|                                     |               | 3M263763D80700        | INDUST BASE BIOLOGICAL WARFARE VACCINES/DRUGS |
|                                     |               | 1N463604013500        | NUCLEAR WEAPON DEVELOPMENT SUPPORT            |
|                                     |               | 1N463604048300        | RADIOLOGICAL DETECTION MEASURING EQUIPMENT    |
|                                     |               | 1N463720D60100        | CHML DET & WARNING CONCEPT                    |
|                                     |               | 1N463721DE8100        | CHEMICAL DECONTAMINATION MATERIEL             |
|                                     |               | 1N463721DJ3000        | COLLECTIVE PROTECT MAT FOR ARMORED VEHICLES   |
|                                     |               | 1N463721D60400        | COLLECTIVE CHEMICAL PROTECTION MATERIEL       |
|                                     |               | 3M463751D99300        | MEDICAL DEFENSE AGAINST CHEMICAL WARFARE      |
|                                     |               | 3M463764D99500        | MEDICAL CHEM DEFENSE LIFE SPT MATERIEL        |
|                                     |               | 1X464603D58400        | COMMAND CONTROL AND SECURITY SYSTEM           |
|                                     |               | 1N464724DF4500        | BIOLOGICAL DEFENSE MATERIEL (DET & WARNING)   |
|                                     |               | 1N464725DF9700        | CHEMICAL DEFENSE MATERIEL (DET & WARNING)     |
|                                     |               | 1N464725D01700        | CB COLLECTIVE PROTECTION                      |

\*\*\* CORRELATION TABLE \*\*\*

COMBAT/TECHNICAL SYSTEMS

| <u>SYSTEM</u> | <u>SYSTEM</u> | <u>PROJECT NUMBER</u> | <u>DESCRIPTION</u> |
|---------------|---------------|-----------------------|--------------------|
|---------------|---------------|-----------------------|--------------------|

ARMY COMBAT COMBAT SUPPORT (CONT)

ARMY COMBAT SUPPORT (CONT)

|                |                                                  |
|----------------|--------------------------------------------------|
| 1A464728000000 | COLLECTIVE PROTECTION<br>MATERIALS AND EQUIPMENT |
|----------------|--------------------------------------------------|

COMMUNICATIONS COMBAT SUPPORT

|                |                        |
|----------------|------------------------|
| 1T4331450H5800 | COMMUNICATIONS SYSTEMS |
|----------------|------------------------|

|                |                                        |
|----------------|----------------------------------------|
| 1C463707D24600 | TACTICAL COMMUNICATIONS<br>DEVELOPMENT |
|----------------|----------------------------------------|

|                |                                         |
|----------------|-----------------------------------------|
| 1C463707D43700 | TACTICAL RADIO COMMUNICATIONS<br>SYSTEM |
|----------------|-----------------------------------------|

|                |                                            |
|----------------|--------------------------------------------|
| 1L463718D62600 | CG SYSTEMS VULNERABILITY<br>SUSCEPTIBILITY |
|----------------|--------------------------------------------|

ENGINEER SVC/CIVIL WORKS

ENGINEER COMBAT SUPPORT

|                |                                          |
|----------------|------------------------------------------|
| 4A263734DT0800 | MILITARY CONSTRUCTION<br>AND ENGINEERING |
|----------------|------------------------------------------|

|                |                     |
|----------------|---------------------|
| 4A263734DT0900 | ENERGY SYSTEMS TEST |
|----------------|---------------------|

|                |                           |
|----------------|---------------------------|
| 1E463726D60100 | COMBAT ENGINEER EQUIPMENT |
|----------------|---------------------------|

|                |                           |
|----------------|---------------------------|
| 1F464717DH0100 | COMBAT ENGINEER EQUIPMENT |
|----------------|---------------------------|

BASE/FACILITY ENG SUPPORT

|                |                           |
|----------------|---------------------------|
| 1P665801MM3100 | MINOR CONSTRUCTION-BARCOM |
|----------------|---------------------------|

|                |                        |
|----------------|------------------------|
| 3A665801MM3200 | MINOR CONSTRUCTION-TSG |
|----------------|------------------------|

|                |                        |
|----------------|------------------------|
| 4A665801MM3400 | MINOR CONSTRUCTION-OCE |
|----------------|------------------------|

AD-A139 328

RESULTS OF A RESEARCH STUDY TO IDENTIFY HISTORICAL RDTE  
(RESEARCH DEVELOP..(U) OFFICE OF THE COMPTROLLER OF THE  
ARMY WASHINGTON DC DIRECTORA.. D PHILIPS ET AL. OCT 83  
DCA-P-97

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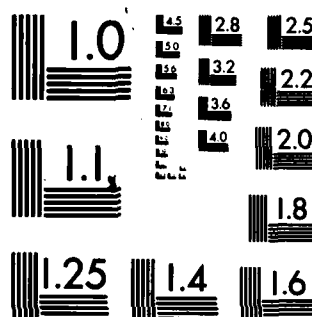
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DATE

FILED

11-11-84

DTIC



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

APPENDIX F

PROGRAM ELEMENT LISTING  
(MAY FY 83 CURRENT APPROVED PROGRAM.)

The following list contains only those Program Elements from the FYDP RDTE  
Project Listing of May 1983, which were funded for FY 83.

# APPENDIX F

## PROGRAM ELEMENT LISTING

(MAY FY 83 CURRENT APPROVED PROGRAM)

| <u>CODE</u> | <u>NOMENCLATURE</u>                 |
|-------------|-------------------------------------|
| 12814       | SPECIAL PROGRAM                     |
| 12821       | CLASSIFIED PROGRAM                  |
| 23724       | HV ANTI-TANK ASSAULT WPN SYS (TOW)  |
| 23726       | ADVANCED FLD ARTY TAC DATA SYSTEM   |
| 23730       | CHAPARRAL                           |
| 23731       | SAM HAWK/HAWK IMP PROG              |
| 23735       | COMBAT VEHICLE IMPROVE PROG         |
| 23739       | ANT/SQ-73 MODIFICATIONS             |
| 23740       | MANEUVER CONTROL SYSTEM (MCS)       |
| 23743       | 155MM SELF-PROP HWTZER IMPROVEMENTS |
| 28010       | JT TACTICAL COMM PROG (TRI-TAC)     |
| 31307       | FOREIGN SCIENCE AND TECH CENTER     |
| 31327       | TECHNICAL RECONN. AND SURVEILLANCE  |
| 31334       | OTHER COMMANDS GDIP ACTIVITIES      |
| 33111       | STRATEGIC ARMY COMMUNICATIONS       |
| 33126       | LONG-HAUL COMMUNICATIONS (DCS)      |
| 33142       | SATCOM GROUND ENVIRONMENT           |
| 33145       | EUCOM C3 SYSTEMS                    |
| 33401       | COMMUNICATIONS SECURITY             |
| 61101       | IN-HOUSE LAB INDEPENDENT RESEARCH   |
| 61102       | DEFENSE RESEARCH SCIENCES           |
| 62105       | MATERIALS                           |
| 62111       | ATMOSPHERIC INVESTIGATIONS          |
| 62120       | NUCLEAR WEAPONS EFFECTS/FLUIDICS    |
| 62201       | AIRCRAFT WEAPONS TECHNOLOGY         |
| 62202       | AIRCRAFT AVIONICS TECHNOLOGY        |
| 62209       | AERONAUTICAL TECHNOLOGY             |
| 62210       | AIRDROP TECHNOLOGY                  |
| 62303       | MISSILE TECHNOLOGY                  |
| 62307       | LASER WEAPONS TECHNOLOGY            |
| 62601       | TANK AND AUTOMOTIVE TECHNOLOGY      |
| 62603       | LARGE CAL AND NUCLEAR TECHNOLOGY    |
| 62617       | SMALL CAL AND FIRE CONTR TECHNOLOGY |
| 62618       | BALLISTICS TECHNOLOGY               |
| 62622       | CHEMICAL AND SMOKE MUNITIONS        |
| 62623       | JOINT SERVICE SMALL ARMS PROGRAM    |
| 62701       | COMMUNICATIONS TECH                 |
| 62703       | CMBT SURV TARGET ACQ/ID             |
| 62704       | MIL ENVIRONMENTAL CRITERIA DEV      |
| 62705       | ELECTRICAL AND ELECTRONIC DEVICES   |
| 62706       | CHEM BIOLOGICAL DEF/GEN INVEST      |
| 62707       | MAPPING - GEODESY                   |

# PROGRAM ELEMENT LISTING

| <u>CODE</u> | <u>NOMENCLATURE</u>                  |
|-------------|--------------------------------------|
| 62709       | NIGHT VISION INVESTIGATIONS          |
| 62715       | TACTICAL ELECTRONIC WARFARE TECH     |
| 62716       | HUMAN FACTORS ENGR IN SYS DEV        |
| 62717       | HUMAN PERFORMANCE EFFECT/SIMULATION  |
| 62719       | MOBILITY AND WEAPONS EFFECTS TECH    |
| 62720       | ENVIRONMENTAL QUALITY TECH           |
| 62722       | MANPOWER/PERSONNEL/TRAINING          |
| 62723       | CLOTHING EQUIP AND SHELTER TECH      |
| 62724       | JT SVC FOOD SYS TECH                 |
| 62725       | COMPUTER AND INFORMATION SCIENCE     |
| 62727       | NON-SYSTEM TRAINING DEVICES          |
| 62730       | COLD REGIONS ENGR TECHNOLOGY         |
| 62731       | MIL FACS ENGR TECHNOLOGY             |
| 62733       | MOBILITY EQUIPMENT TECHNOLOGY        |
| 62734       | MED DEFENSE AGAINST CHEM AGENTS      |
| 62746       | TACTICAL ADP TECH                    |
| 62770       | MILITARY DISEASE HAZARDS TECH        |
| 62772       | COMBAT CASUALTY CAR TECH             |
| 62775       | COMBAT MAXILLOFACIAL INJURY          |
| 62777       | SYSTEMS HEALTH HAZARD PREVENT TECH   |
| 62781       | ENERGY TECH APPL FOR MILITARY FACIL  |
| 63102       | MATERIALS + STRUCTURE ADVANCED DEV   |
| 63104       | FUELS AND LUBRICANTS                 |
| 63201       | AIRCRAFT POWER PLANTS AND PROPULSION |
| 63207       | AIRCRAFT AVIONICS EQUIPMENT          |
| 63209       | AIR MOBILITY SUPPORT                 |
| 63211       | ROTARY WING CNTRLS/ROTORS/STRUCTURE  |
| 63215       | JOINT SURVIVABILITY INVESTIGATIONS   |
| 63216       | SYNTHETIC FLT SIMULATOR DEVELOPMENT  |
| 63217       | GREATER SLOPE                        |
| 63218       | AIRDROP ADVANCEMENT                  |
| 63221       | NOE AVN AND NAVIGATION EQUIPMENT     |
| 63302       | ANTITACTICAL MISSILE SYSTEM          |
| 63303       | SURF-TO-SURF MSL ROCKET SYS          |
| 63304       | BMD ADVANCED TECHNOLOGY              |
| 63306       | TERMINALLY GUIDED PROJECTILES        |
| 63308       | BALLISTIC MSL DEF SYS TECH           |
| 63313       | MSL/ROCKET COMPONENTS                |
| 63324       | ARMY DEV AND EMPLOYMENT ACTV (ADEA)  |
| 63602       | ADVANCED LAND MOB SYSTEMS CONCEPTS   |
| 63604       | NUCLEAR MUNITIONS AND RADIACS        |
| 63606       | LANDMINE WARFARE/BARRIER DEV         |
| 63607       | JOINT SERVICE SMALL ARMS PROGRAM     |
| 63615       | LETHAL CHEMICAL MUNITIONS CONCEPTS   |
| 63619       | LANDMINE/BARRIER SYS                 |
| 63621       | COMBAT VEHICLE PROPULSION SYSTEM     |
| 63627       | COMBAT SUPPORT MUNITIONS             |

# PROGRAM ELEMENT LISTING

| <u>CODE</u> | <u>NOMENCLATURE</u>                  |
|-------------|--------------------------------------|
| 63628       | FIELD ARTILLERY AMMO DEVELOPMENT     |
| 63631       | CMBT VEH TURRET AND CHASSIS SUBSYS   |
| 63632       | ARMORED COMBAT LOG SPT VEH FAMILY    |
| 63633       | TANK AND MORTAR AMMUNITION           |
| 63635       | MOBILE PROJECTED GUN (MPG)           |
| 63636       | COMBAT VEHICLE ARMOR/ANTI-ARMOR      |
| 63702       | ELECTRIC POWER SOURCES               |
| 63705       | PHYSICAL SECURITY                    |
| 63706       | IDENTIFICATION-FRIEND OR FOE DEV     |
| 63707       | COMMUNICATIONS DEVELOPMENT           |
| 63710       | NIGHT VISION ADVANCED DEVELOPMENT    |
| 63711       | AIRCRAFT SURVIVABILITY EQUIPMENT     |
| 63712       | MAPPING AND GEODESY                  |
| 63713       | ADDS-ARMY DATA DISTRIBUTION SYSTEM   |
| 63718       | EW VULNERABILITY/SUSCEPTIBILITY      |
| 63720       | CHEM/BIO DET, WARN & SAMPL MAT CONC  |
| 63721       | CHEMICAL PROTECTIVE MATLS CONCEPTS   |
| 63723       | COMMAND AND CONTROL                  |
| 63725       | REMOTELY PILOTED VEHICLES/DRONES     |
| 63726       | COMBAT SUPPORT EQUIPMENT             |
| 63730       | TACTICAL SURVEILLANCE SYSTEM         |
| 63731       | MANPOWER AND PERSONNEL               |
| 63732       | COMBAT MEDICAL MATERIAL              |
| 63734       | MILITARY ENGINEERING TECHNOLOGY      |
| 63738       | NON-SYSTEM TRAINING DEVICES          |
| 63739       | HUMAN FACTORS IN TNG/OPER EFFECT     |
| 63740       | DIV AIR DEFENSE CMD/CNTRL            |
| 63742       | ADV ELECTRONIC DEVICES DEV           |
| 63743       | EDUCATION AND TRAINING               |
| 63744       | TRAINING SIMULATION                  |
| 63745       | TAC ELECTRONICS SPT MEASURE SYS      |
| 63746       | SINGLE CHANNEL GRD/ABN RADIO SUB-SYS |
| 63747       | SOLDIER SUPPORT/SURVIVABILITY        |
| 63748       | TEST MEAS & DIAGNOSTIC EQUIP DEV     |
| 63749       | TECHNICAL VULNERABILITY REDUCTION    |
| 63750       | DRUG AND VACCINE DEVELOPMENT         |
| 63751       | MEDICAL DEFENSE AGAINST CHEM WARFARE |
| 63752       | DEMILITARIZATION CONCEPTS            |
| 63755       | TAC ELEC C/M SYS                     |
| 63761       | ELEC WARFARE VULN/SUSCEP TECH SPT    |
| 63762       | ELEC WARFARE FEASIBILITY DEVELOPMENT |
| 63763       | INDUSTRIAL BASE BW VACCINES + DRUGS  |
| 63764       | MEDICAL CHEMICAL DEFENSE LIFE SPT    |
| 63766       | TAC ELECTRONIC SURVEILLANCE SYSTEMS  |
| 64201       | AIRCRAFT AVIONICS                    |
| 64202       | AIRCRAFT WEAPONS                     |

PROGRAM ELEMENT LISTING

| <u>CODE</u> | <u>NOMENCLATURE</u>                  |
|-------------|--------------------------------------|
| 64204       | AIR MOBILITY SUPPORT EQUIPMENT       |
| 64206       | UH-60A BLACK-HAWK                    |
| 64207       | ADVANCED ATTACK HELICOPTER           |
| 64212       | COBRA TOW                            |
| 64217       | SYNTHETIC FLIGHT TRAINING SYSTEMS    |
| 64218       | AIRDROP EQUIPMENT DEVELOPMENT        |
| 64220       | ARMY HELICOPTER IMPROVEMENT PROGRAM  |
| 64222       | JOINT SERVICE R/W AIRCRAFT DEV       |
| 64268       | ACFT ENGINE COMPONENT IMPROVE PROG   |
| 64307       | PATRIOT (SAM-D)                      |
| 64310       | HELIBORNE MISSILE-HELLFIRE           |
| 64311       | PERSHING II                          |
| 64313       | GRASS BLADE                          |
| 64314       | MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) |
| 64318       | DIVISION AIR DEFENSE GUN             |
| 64321       | JOINT TACTICAL FUSION PROGRAM        |
| 64323       | TOWED CHAPARRAL                      |
| 64601       | INFANTRY SUPPORT WEAPONS             |
| 64603       | NUCLEAR MUNITIONS                    |
| 64609       | COMBAT SUPPORT SYSTEMS               |
| 64612       | COUNTERMINE AND BARRIERS             |
| 64616       | FIGHTING VEHICLE SYSTEM              |
| 64619       | LANDMINE WARFARE                     |
| 64620       | TANK SYSTEMS                         |
| 64623       | VIPER                                |
| 64624       | HIGH MOB MULTI-PURPOSE WHEELED VEH   |
| 64626       | FIRE INTEGRATION SPT TEAM VEH        |
| 64628       | INDIRECT FIRE TNG MUNITIONS          |
| 64630       | TANK GUN COOPERATIVE DEVELOPMENT     |
| 64631       | FLD ARTY AMMUNITION                  |
| 64632       | 105MM TANK AMMUNITION                |
| 64701       | COMM ENGINEERING DEV                 |
| 64702       | JOINT TACTICAL INFO DISTR SYSTEM     |
| 64704       | UNATTENDED GROUND SENSORS            |
| 64705       | MODULAR INTEG COMM - NAVIGATION SYS  |
| 64706       | RADIOLOGICAL DEFENSE EQUIPMENT       |
| 64709       | IDENTIFICATION-FRIEND OR FOE BQ      |
| 64710       | NIGHT VISION DEVICES                 |
| 64711       | AIRCRAFT SURVIVABILITY EQUIPMENT     |
| 64712       | ARMY COMMAND + CONTROL SYS ENGR      |
| 64713       | CMBT FEEDING/CLOTHING/EQ             |
| 64714       | TACTICAL ELECTRICAL POWER SOURCES    |
| 64715       | NON-SYSTEM TNG DEVICES ENGINEERING   |
| 64717       | GENERAL COMBAT SUPPORT               |
| 64718       | PHYSICAL SECURITY                    |

# PROGRAM ELEMENT LISTING

## CODE

## NOMENCLATURE

|       |                                     |
|-------|-------------------------------------|
| 64724 | CHEM/BIO DET, IDEN, WARN, SAMPL MAT |
| 64725 | CHEM/BIO PROTECTIVE MATERIEL        |
| 64726 | METEOROLOGICAL EQUIPMENT + SYSTEMS  |
| 64727 | COMMAND AND CONTROL                 |
| 64730 | REMOTELY PILOTED VEHICLES           |
| 64740 | TACTICAL SURVEILLANCE SYSTEM        |
| 64746 | AUTOMATIC TEST SUPPORT SYSTEMS      |
| 64750 | TAC ELEC C/M SYS                    |
| 64766 | TAC ELECTRONIC SURVEILLANCE SYSTEMS |
| 64778 | NAVSTAR GLOBAL POS SYS (USER EQ)    |
| 64779 | JT INTEROPERABILITY TAC COMB/CNTRL  |
| 65102 | TRADOC STUDIES AND ANALYSES         |
| 65201 | AVN ENGR FLIGHT ACTY                |
| 65301 | KWAJALEIN MISSILE RANGE             |
| 65702 | SUPPORT OF DEVELOPMENT TESTING      |
| 65706 | MATERIEL SYSTEMS ANALYSIS           |
| 65709 | EXPLOITATION OF FOREIGN ITEMS       |
| 65710 | JOINT CB CONTACT POINT AND TEST     |
| 65712 | SPT OF OPERATIONAL TESTING          |
| 65801 | PROGRAM-WIDE ACTIVITIES             |
| 65802 | INTL COOPERATIVE RESEARCH AND DEV   |
| 65803 | TECHNICAL INFO ACTIVITIES           |
| 65804 | DARCOM MAJ RANGES/TEST FACILITIES   |
| 65805 | MUNITIONS STDZN EFFECT AND SAFETY   |
| 65806 | DOD HIGH ENERGY LASER SYS TEST FACS |
| 65807 | MAINSITE                            |
| 65808 | MFG METHODS + TECHNOLOGY (MACI)     |
| 65872 | PRODUCTIVITY INVESTMENTS            |
| 65890 | INSTL AUDIOVISUAL SPT (R/D)         |
| 65898 | MGT HQ (RESEARCH/DEV)               |