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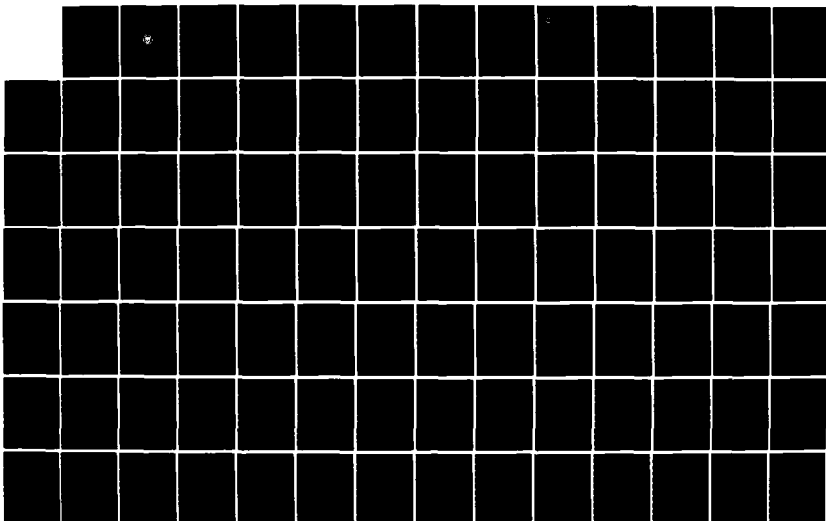
ARMY INDUSTRIAL FUND ANALYTICAL STUDY (AIFAS)(U) ARMY
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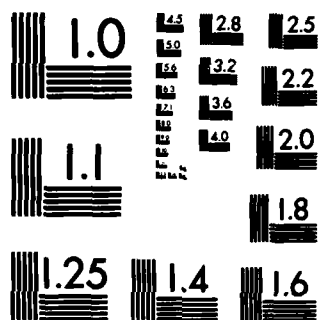
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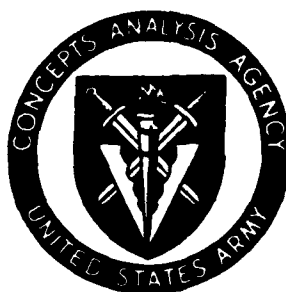
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STUDY REPORT
CAA-SR-84-15

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ARMY INDUSTRIAL FUND ANALYTICAL STUDY (AIFAS)

SEPTEMBER 1984



PREPARED BY
REQUIREMENTS AND RESOURCES DIRECTORATE
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ARMY INDUSTRIAL FUND ANALYTICAL STUDY
(AIFAS)

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

- (1) The alternative to the current Army Industrial Fund (AIF) financial management system, which is to track the supply function separately by appropriation, would increase the annual financial management costs of the AIF installation as well as require initial implementation costs.
- (2) The alternative would disrupt the current financial management process since two financial management systems would be in operation at the installations adding to management complexity.
- (3) The alternative may decrease the cost control capability of the installation commander.
- (4) The implementation of the alternative would not have a significant impact above the installation level.
- (5) The alternative would improve ability of the installations to respond to DA appropriated fund inquiries.

THE MAIN ASSUMPTIONS of this work which may affect the findings are as follows:

- (1) Research and development will not be funded under AIF with the exception of the US Army Missile Command (MICOM).
- (2) Definition of AIF functions will remain unchanged during the study period.
- (3) HQDA will continue to support AIF activities.

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

- (1) Only the Army Industrial Fund is considered in detail.
- (2) Detailed accounting procedures for managing the fund are not addressed.
- (3) Only the supply function is removed from the AIF and tracked by appropriation in the alternative.

THE SCOPE OF THE STUDY was taken to include a cost-benefit study to evaluate the alternative using the current financial management of AIF activities as the base case. A qualitative examination of the current process and the alternative was made.

THE STUDY OBJECTIVES were:

- (1) To review and evaluate the current AIF financial management system.
- (2) To define an alternative financial management system retaining AIF, but with the supply function tracked by appropriation, and evaluate its costs and benefits compared to the current system.

THE BASIC APPROACH in doing this study can be defined as follows:

- (1) A cost-benefit comparison of an alternative with supply function separately tracked by appropriation versus the current AIF system was made by:
 - (a) Using an unequal cost/equal benefit approach.
 - (b) Selecting AIF installation groups and typical installations to represent all installations in the group.
 - (c) Performing a detailed analysis of typical installations.
 - (d) Generalizing results to all other installations in groups.
- (2) The study also examined the current financial management systems for AIF from the installations through HQDA level.
- (3) Examination of the industrial funds for other services, e.g., Navy and Air Force, was performed at HQDA level to review other possible management systems for AIF.
- (4) The study examined other functions within the AIF and made recommendations on additional studies and implementation.

THE REASON FOR PERFORMING THE STUDY is that the Army is confronted with the recurring need to justify the retention of certain functions in the AIF. During the budget process, OSD has suggested that the Army separate the supply function from the AIF in the budget. A cost-benefit study may indicate whether or not the financial management would be more cost effective if the supply function was removed from the AIF.

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

THE STUDY EFFORT was directed by Kenneth R. Simmons, Requirements and Resources Directorate.

COMMENTS AND QUESTIONS may be sent to the Assistant Director for Requirements and Resources, US Army Concepts Analysis Agency, 8120 Woodmont Avenue, Bethesda, MD 20814-2797.

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) AIFAS reviewed and evaluated the current Army Industrial Fund (AIF) financial management system and performed a cost-benefit analysis of the current AIF compared to the alternative of maintaining AIF but tracking the supply function under separate appropriation. AIF installations were identified into groups. Costs were determined for each of the typical installations in the group and then extrapolated to the other installations in the group to provide an Army-wide cost/savings estimate. A qualitative assessment of the current and alternative systems was also made.			

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STUDY REPORT
CAA-SR-84-15

ARMY INDUSTRIAL FUND ANALYTICAL STUDY

(AIFAS)

SEPTEMBER 1984

PREPARED BY
REQUIREMENTS AND RESOURCES DIRECTORATE

US ARMY CONCEPTS ANALYSIS AGENCY

8120 WOODMONT AVENUE
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DEPARTMENT OF THE ARMY
US ARMY CONCEPTS ANALYSIS AGENCY
8120 WOODMONT AVENUE
BETHESDA, MARYLAND 20814-2797

26 SEP 1984

SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

Deputy Chief of Staff for Logistics
Department of the Army
ATTN: DALO-ZB
Washington, DC 20310

1. Reference letter, DALO-ZB, 16 March 1984, subject as above.
2. Subject letter directed the US Army Concepts Analysis Agency (CAA) to conduct a study to evaluate the single financial management system of the Army Industrial Fund (AIF) versus alternatives.
3. Attached is the final report that documents our analysis of the single financial management system of AIF and evaluates the alternative of removing the supply function from AIF and tracking by separate appropriation.
4. This agency expresses appreciation to all commands and agencies which have contributed to this study. Questions and/or inquiries should be directed to the Chief, Resource and Investment Analysis Division (ATTN: CSCA-RQR), Requirements and Resources Directorate, US Army Concepts Analysis Agency, 8120 Woodmont Avenue, Bethesda, Maryland 20814-2797.

David C. Hardison

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DAVID C. HARDISON
Director

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ARMY INDUSTRIAL FUND ANALYTICAL STUDY (AIFAS)**CHAPTER 1****INTRODUCTION**

1-1. PURPOSE. The purpose of this study is to evaluate the costs and benefits of the current AIF financial management system in comparison with potential alternative financial management systems.

1-2. BACKGROUND. The AIF was started in 1949 by the Hoover Commission under the Truman administration. The 81st Congress passed Public Law 216, which established a working capital fund to support industrial and commercial-type activities of the Department of Defense (DOD). This type of working capital fund is a "revolving fund," which is self-replenishing primarily from appropriated funds provided by customers of the AIF. By 1951 the Army had placed only a few functions under AIF. Later, the US Army Depot System Command (DESCOM) began placing the maintenance function for depots under AIF. This created problems, as costs of supply, headquarters, and base operations had to be prorated to the maintenance function. As a result, DESCOM included entire installations under AIF, thereby alleviating this problem. Currently, many functions are being managed under this single-system concept. The Navy and Air Force, however, operate several financial management systems to manage similar functions at their installations. These include separate systems for Operations and Maintenance (O&M), Research, Development, Test, and Evaluation (RDTE), and retail stocks as well as more than one system under industrial funding. The Office of the Secretary of Defense (OSD) and Congress have specifically questioned the inclusion of the supply function under AIF and the difference in practices among the services.

1-3. PROBLEM. The Army has been questioned about the need to retain certain installation functions under AIF. Specifically, OSD has suggested that the supply function be removed from the AIF and managed under appropriated funds. A cost-benefit study may indicate whether or not the financial management of AIF would be more cost effective with the supply function removed.

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

- a. Review and evaluate the current AIF financial management system.
- b. Define an alternative financial management system retaining AIF but with the supply function tracked by appropriation and evaluate its costs and benefits compared to the current system.

1-5. SCOPE

- a. The study examines financial management systems for AIF from the installation through HQDA level.
- b. The study develops the alternative which is compared to the current AIF financial management system.
- c. Rather than examining all installations, the study examines typical Army installations to estimate the costs and benefits associated with managing a single industrial fund versus an alternative management system.
- d. Examination of the industrial funds for other services, e.g., Navy and Air Force, is performed at HQ level to consider other possible management systems for AIF.
- e. The study examines other functions within the AIF and makes recommendations on additional studies and implementation.

1-6. ASSUMPTIONS

- a. Research and development activities will not be funded under AIF except for the US Army Missile Command.
- b. AIF functions, as defined in AR-37-100-XX where XX denotes current year, will remain unchanged.¹
- c. Congress will continue to support AIF activities.

1-7. LIMITATIONS. Limitations of the study are as follows:

- a. Only the Army Industrial Fund is considered. While considering constraints placed by the overall budgetary system, the study was not concerned with the context of the AIF within Army budgetary activities, but concerned with how the AIF is managed at installation level and with its impact on overall AIF management.
- b. Only overall accounting procedures for managing the fund are considered.
- c. Only the supply function is removed from the AIF and tracked by appropriation. Priority was placed on this function by the study proponent, the Office of the Deputy Chief of Staff for Logistics (ODCSLOG), since resources required to consider other functions were not warranted at this time.

1-8. ESSENTIAL ELEMENT OF ANALYSIS (EEA). The EEA, or "question to be answered by the analysis," is: what are the costs and benefits of an alternative financial management system for the supply function compared to the current AIF system?

1-9. CONTENTS OF REPORT. The chapters that follow, supported by the appendices, present the results of AIFAS. Chapter 2 discusses the study methodology. Chapter 3 describes the current process. Chapter 4 discusses the selection and evaluation of an alternative. Chapter 5, the final chapter, summarizes the study, addresses the EEA, and provides observations based on the results.

CHAPTER 2

STUDY METHODOLOGY

2-1. INTRODUCTION. This chapter presents the overall study methodology, a detailed discussion of the cost and evaluation techniques employed, and a consideration of the quality assurance concepts for the study.

2-2. STUDY METHODOLOGY. The methodology developed for this study is depicted in Figure 2-1. Generally the study was conducted in three phases. The first phase comprised the structuring of the study: literature search, definition of the problem, grouping and selection of installations, functions to be studied, and determination of the availability of data. The second phase comprised the development of cost-benefit information for the current system and an alternative. The third phase used the foregoing data to estimate costs and benefits for the specified groups and extrapolated these costs and benefits to an Army-wide basis.

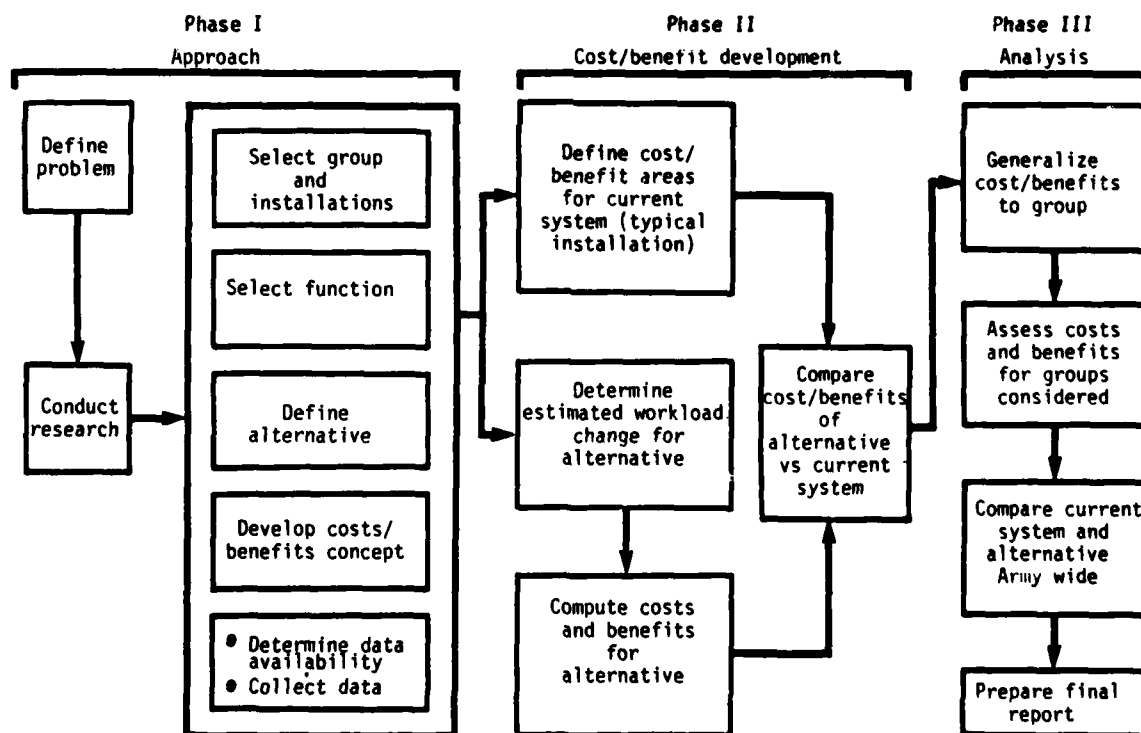


Figure 2-1. Study Methodology

2-3. DETAILED DISCUSSION

a. Phase I - Approach

(1) **General.** The approach phase includes the literature search, definition of the problem, the reasons and methodology for grouping installations, selection of typical installations, selection of the function to be analyzed, definition of the alternative, development of the cost benefit concept, and data collection and site visits.

(2) **Definition of Problem.** Through literature search and interviews with personnel involved in the AIF process, the current AIF process and the problem were more completely defined. Interviews with the study proponent at ODCSLOG and personnel at the Army Materiel Development and Readiness Command (DARCOM) and the Army Finance and Accounting Center (USAFAC), resulted in definition of the problem as stated in Chapter 1.

(3) **Grouping and Selection of Typical Installations Approach.** The study team determined during the review of the problem that obtaining and reviewing data from all 20 installations would exceed the resources of the study group and could not be completed within the timeframe of the study. The approach taken was to place the installations into functional groups and to select typical installations from each group.

(4) **Installation Organization.** The AIF organization is shown in Figure 2-2. There are two major Army commands (MACOM) under ODCSLOG; DARCOM, and the Military Traffic Management Command (MTMC), accounting for 20 installations. These are shown in Figure 2-3. Installations performing RDTE are not shown since they are being excluded from AIF (decapitalized). Direct control of the DARCOM installations is accomplished through the following sub-MACOMs while transportation and terminals are managed by MTMC.

- Depot Systems Command (DESCOM)
- Missile Command (MICOM)
- Armament Munitions and Chemical Command (AMCCOM)

(5) **Functional Groups.** The services or products produced at each of the installations were reviewed, and the installations were placed into five functional groups as follows:

- Ammo and hardware production (arsenals)
- Depot supply and maintenance (depots)
- Missile supply and support
- Transportation/terminals (MTMC)
- RDTE

Figure 2-3 provides a breakout of the groups based on percent of the FY 83 budget. The groups were further reviewed to determine which groups should be selected for further analysis since not every group made up a significant portion of the AIF budget. The RDTE function is being phased out of the AIF in FY 84-85 based on an OSD decision; therefore, the RDTE group was not selected. Also, the transportation and terminal group (associated with MTMC) was not selected because it accounts for only 6 percent of the budget. The remaining groups (depots, arsenals, and missile supply and support) account for 79 percent of the budget. Typical installations were selected from these groups for detailed analysis.

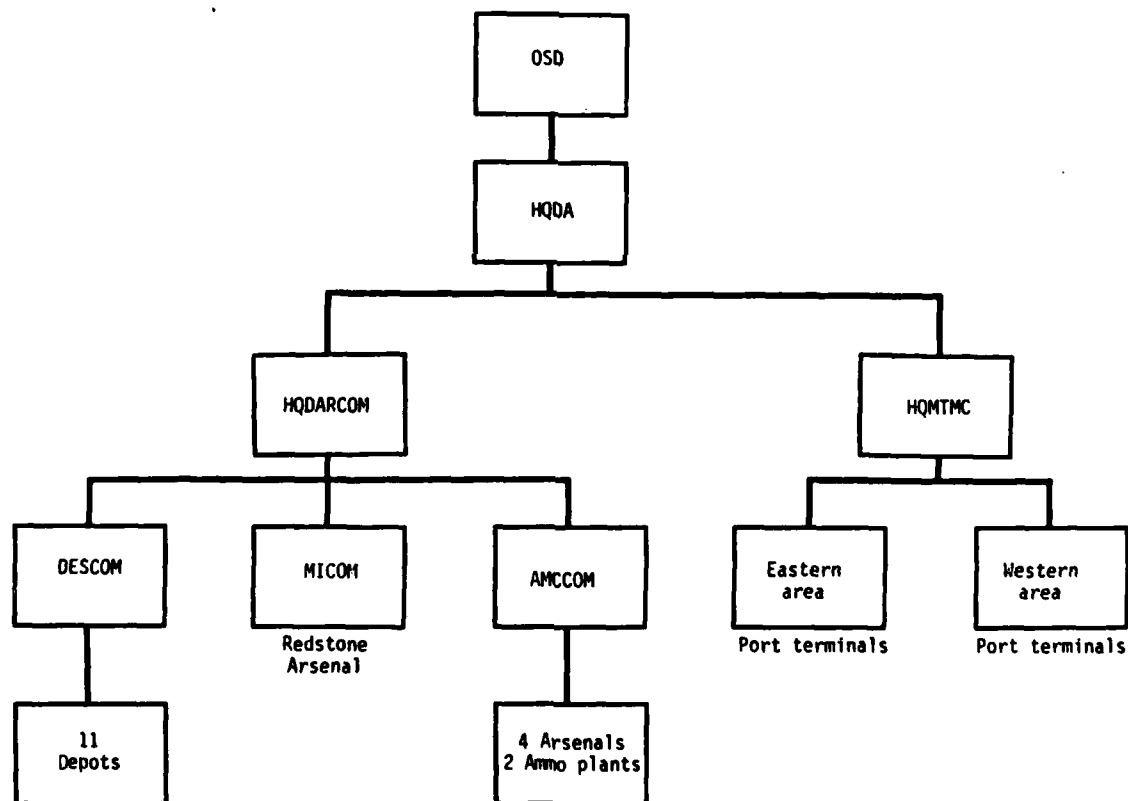


Figure 2-2. AIF Organization

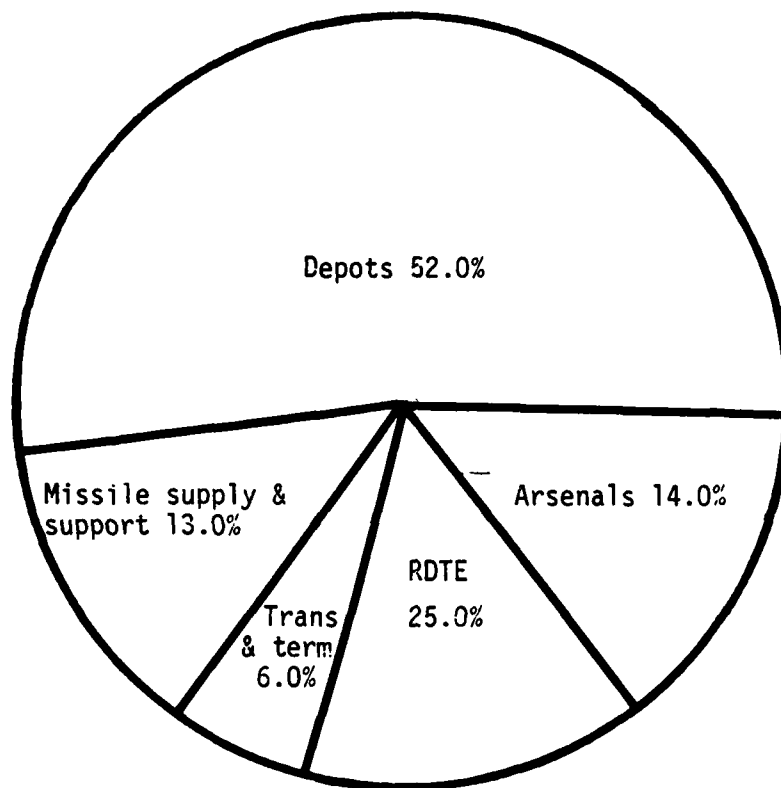


Figure 2-3. Installation Grouping

(6) **Selection of Typical Installations.** The selection of typical installations is based on the data characteristics of the installation within each group. The characteristics used were: workload, physical size, size of budget, and number of personnel employed. A detailed description of the selection process is given in Appendix E.

(7) **Selection of Function**

(a) **General.** Installations under AIF perform a number of functions. Table 2-1 contains the list of AIF installations and the functions performed. An "X" in the table indicates the particular function(s) of the installation. This study addresses the supply function shown in Table 2-1 by removing that function from AIF financial management and tracking it by appropriation. The methodology for selecting that particular function for evaluation is described in the following subparagraphs.

Table 2-1. Installation Functions

Installation	Base operations	Ammunition and hardware production	Depot supply	Depot maintenance	Transportation port terminals
AMCCOM					
Arsenals/Army ammunition plants (AAP)					
1. Crane AAP		x	x	x	
2. McAlester AAP	x	x	x		
3. Pine Bluff Arsenal	x	x	x		
4. Rock Island Arsenal	x	x	x		
5. Rock Mountain Arsenal	x		x		
6. Watervliet Arsenal	x	x			
MICOM					
Missiles					
1. Redstone Arsenal	x				
DESCOM					
Army depots (AD)					
1. Anniston AD	x		x	x	
Lexington-Blue Grass activity	x		x		
2. Corpus Christi AD	x		x	x	
3. Letterkenny AD	x		x	x	
Savannah activity	x		x		
4. New Cumberland AD	x		x		
5. Red River AD	x		x	x	
6. Sacramento Army Depot	x		x	x	
7. Seneca AD	x		x		
8. Sierra AD	x		x		
9. Sharpe AD	x		x		
10. Tobyhanna AD	x		x	x	
11. Tooele AD	x		x	x	
Anatilla activity	x		x		
Pueblo activity	x		x		
Fort Wingate activity	x		x		
MTMC					
1. Eastern area					x
2. Western area					x

(b) Functions Excluded. The following functions were reviewed and not selected:

- RDTE function is being phased out of AIF. ODCSLOG was directed by Program Budget Decision (PBD) to exclude RDTE from AIF; therefore, this function was not analyzed.
- The hardware production function is not typical for most installations. Only 5 of 20 installations have major production facilities (ammo plants and arsenals). Since this function is not typical, no further analysis was made.
- The depot maintenance function was not selected since only 7 of 20 installations perform depot maintenance.
- The transportation function (excluding base-operation transportation) is peculiar to MTMC. Since this function accounts for only 6 percent of the budget, no further analysis was made.

- The direct financed base operation function is performed at most installations; however, this function accounts for only 2 percent of the AIF budget,² as shown in Table D-2, and tracking this function by appropriation may not provide sufficient data to perform a good analysis.

(c) **Function Selected.** The remaining function, the supply function, was selected for detailed analysis. This function appears in 16 of 20 installations, and as shown in Table D-2, accounts for approximately 30 percent of the AIF budget.² Also, ODCSLOG has placed priority on this function since OSD has repeatedly questioned ODCSLOG about including this function under AIF. Other considerations for selecting the supply function are that the Navy does not maintain a supply function under AIF, and that prior to 1964, the Army did not have the supply function under AIF.

(8) **Definition of the Alternatives.** There are three financial management systems in use at the installation level by DOD based on an examination of the Army and other services shown in Appendix H. These are:

- Managing under Industrial Funds (IF)
- Managing under appropriated funds, i.e., O&M, RDTE, etc.
- Managing under a dual system of appropriated funds and IF

(a) The Army currently manages AIF installations under Army IF. This system would not be an alternative.

(b) An alternative system would be the managing of the installations under appropriated funds. In the past, installations now AIF were managed with this system, but due to inefficient operations, were directed by Congress to operate under IF. See paragraph 1-2. This is not a viable alternative.

(c) The last alternative, operating a dual management system for installations as practiced by some of the other services, was selected as the alternative system. Thus, the alternative financial management system based on the foregoing methodology is defined as: managing the supply function at typical AIF installations tracking by separate appropriation in lieu of AIF. All other functions would continue to be managed under AIF.

(9) **Cost-Benefit Concept.** The approach taken in this study was to evaluate the current financial management system against an alternative showing the cost and benefits for the current and alternative systems. Costs and benefits were determined for the two systems with respect to the typical installations. Further discussion of the cost and benefits is made later in the report.

(10) Data Requirements and Collection

(a) **General.** Data requirements have been identified which include the workload, number of personnel, and associated cost to operate the

current financial management system. Sources of data reside at DA (USAFAC, ODCSLOG); MACOMs (DARCOM, MTMC), and sub-MACOMs (DESCOM, AMCCOM, MICOM, Eastern Area, Western Area). This data is at a summary level and is useful in determining typical installations. Detailed data such as the estimated amount of time required to complete a particular form is at the installation level; also, data to compare the alternatives was determined at this level. A data collection plan was developed as follows:

(b) Data Collection Plan

- Obtain financial statements provided to OSD from ODCSLOG and USAFAC. Data is at a summary accounting level.
- Review inputs provided to USAFAC from sub-MACOMs. Obtain sample data.
- Visit sub-MACOMs and review financial accounting system. Obtain sample data as provided to the sub-MACOMs from their respective installations and order copies of data as required. Examine current process and obtain input regarding the effect deleting the supply function from AIF would have on personnel requirements, workload, and cost.
- Visit typical installations. Review the workload, project and service order process, and accounting methods. Break down administrative overhead into components. Evaluate estimated workload changes if supply function is deleted from AIF.
- Review the AIF budgetary process at installation through DA level and evaluate what the effect will be should the supply function be removed from it.

(c) Visits Completed. A number of sites were visited to evaluate study methodology and to collect data. Actual sites visited are listed in Table 2-2. In addition to site visits, contact was made with other installations through phone conversations and correspondence.

Table 2-2. Site Visits

Site	Level
ODCSLOG	DA
Comptroller, USAFAC	DA
DARCOM	MACOM
MTMC	MACOM
DESCOM	Sub-MACOM
AMCCOM	Sub-MACOM
MICOM	Sub-MACOM
Rock Island Arsenal	Installation
Pine Bluff Arsenal	Installation
Letterkenny Depot	Installation

b. Phase II - Cost-Benefit Development

(1) **General.** This section of the report contains the detailed study methodology to determine the cost-benefit areas for the current system and the alternative.

(2) **Development of Cost-Benefit Measurements.** A review of the current financial management system was conducted at all levels, i.e., DA, MACOMs, sub-MACOMs, and installations. Both quantitative and qualitative data were available. Detailed data were collected at the selected typical installations.

(a) **Development of Cost-Benefit Areas for Current System (typical installation).** Installation cost centers and records used to support the supply function were identified and workload data were collected with respect to the following items:

- Identification of the type forms used
- Typical annual number of each form used
- Number of manhours used to prepare each form--compared with total
- Computer time
- Computer personnel manhours
- Other

(b) **Determination of Cost.** The costs associated with the foregoing workload are the annual recurring costs expressed in constant dollars, if cost data for more than one year are used. These costs are for personnel salary and benefits, overhead, and automatic data processing in performing the workload.

(c) **Benefit Measures.** Benefit measures may be quantitative and qualitative. The following list represents measures considered:

- Timeliness of order completion
- Number of work or service orders completed
- Inventory ratio
- Management information

(3) Development of Costs and Benefits for Alternative System

(a) **Computation of Workload for the Alternative.** Changes in the financial management workload were expected as a result of implementing this alternative. The basis for measuring these workload changes was the

one-time change in workload and the annual recurring changes. The one-time changes in workload for the alternative are:

- Changes to current recording forms or additional forms
- Requirement for initial or cross-training of personnel
- Computer changes to hardware and software

The workload considerations on an annual recurring basis for the alternative are as follows:

- Labor to record and report data on these typical forms
- Maintenance and operation of automated systems
- Labor to conduct annual training

(b) Computation of Costs for the Alternative. Alternative differential cost estimates were calculated based on the foregoing changes to the workload, i.e., manhour requirements, grade levels involved, and change in personnel. Cost estimates were calculated for the one-time costs and the annual recurring differential costs. Cost considerations for the one-time costs included the following:

- Recruiting costs, if additional personnel are required
- Initial training costs--to properly record data on new forms, if required.
- Computer training and software modification costs

Cost considerations for the annual recurring differential costs are as follows:

- Personnel costs for salary and benefits
- Annual training costs
- Computer related costs for automatic data processing

(c) Benefits of the Alternative. Benefits of the alternative, in a quantitative sense, are held constant for the alternative.

(4) Comparison of Current Financial Management System with Alternative. This comparison was made on a quantitative basis as well as a qualitative basis. It is structured on an equal benefit-unequal cost basis.

(a) Quantitative Comparison

1. The change in workload between the current system and the alternative was computed. Both the one-time and recurring changes were addressed. This comparison was made for each of the typical installations.

2. The costs associated with the change in workload were compared using the current AIF budget data for the supply mission and calculating the incremental or decremental cost changes imposed by the alternative. For the alternative, the revised AIF budget plus the incremental cost changes, with respect to the appropriated funds, were calculated. The difference between the current AIF supply mission budget and the alternative is the net savings or increase in cost.

3. The change in number of personnel was calculated based on revisions to the current TDA. The current TDA and revised TDA were compared.

4. The effect of the alternative on the current budgetary process was examined from the installation level to the DA (ODCSLOG) level.

(b) Qualitative Comparison. A qualitative assessment of the benefits accruing to the current system or alternative was made. Advantages and disadvantages of each system are discussed in Chapter 5 of this report.

c. Phase III - Analysis. The results obtained for the typical installation were extrapolated to the functional groups using the following methodology:

(1) Statistical correlations between installations in a functional group were examined relative to the installation characteristics listed in Appendix E. Details are in paragraph E-5.

(2) Using man-years and the supply budget as predictors of workload changes for the alternative, ratios were calculated for respective one-time cost and annual recurring cost, for each grouping of installations, as follows:

$$\text{OT \$} = \frac{\text{Typical installation OT \$}}{\text{My}} \times \sum_{n=1}^{n=K} \text{All installations in group My} \quad (2-1)$$

OT \$ = one time cost/saving
 My = current system man-years
 K = number of installations in group

$$\begin{array}{c} \text{Typical} \\ \text{installation} \end{array} \quad \begin{array}{c} \text{All installations} \\ \text{in group} \end{array}$$

$$\text{RC \$} = \frac{\text{RC \$}}{\text{P7S \$}} \times \sum_{n=1}^{n=K} \text{P7S \$} \quad (2-2)$$

RC \$ = recurring cost/saving
 P7S \$ = current system AIF supply budget
 K = number of installations in group

(3) Total current workload, shown as man-years, is used as the predictor for one-time cost because it is a measure of the workload of the AIF installation in its entirety. It is assumed that the larger the overall workload is at an AIF installation, the greater the complexity of the anticipated initial set-up requirements to implement the alternative. AIF installations with heavier workloads have more intricate computer systems to change, more personnel to train, greater impacts on reorganizational activities, etc. On the other hand, total current supply budgets are used as a predictor for annual recurring costs. This is because the annual recurring cost is a function of only one facet of the AIF organization and that is the financial management workload required to report the supply mission under the appropriated funding concept. The size of the installation supply budget was selected to reflect these workload variations.

(4) The two ratios computed above are applied to the other installations in the same functional group to compute the one-time and annual recurring cost savings or expense, respectively.

(5) Sum the savings or expense for all installations in the same group thus obtaining the total group savings or expense.

(6) This process is repeated for each group and the results are summed over all groups.

2-4. QUALITY ASSURANCE. Quality assurance techniques have been used throughout the study, both by the study team itself and by other persons. The input data quality, major study assumptions, and study methodology were all reviewed. The results were examined for reasonableness. Data from installations that were not selected as typical installations were compared with data collected from the typical installations to ensure consistency. Efforts were made to collect data consistent among the typical installations. Typical installation data were reviewed by the appropriate sub-MACOMs for validity. The data submissions were examined for reasonableness and adjusted by the study team when the submitting installation was unable to provide adequate justification with their data submissions. All financial data were shown in fiscal year 1983 dollars for consistency. The study report was reviewed within CAA by a Product Review Board consisting

CAA-SR-84-15

of three CAA analysts not involved in the study, and a CAA Analytical Review Board comprising all directorate chiefs, the Chief of Staff, the Deputy Director, and the Director of CAA. A Study Advisory Group, including representatives from ODCSLOG, DARCOM USAFAC, and COA, were briefed on the study content.

CHAPTER 3

THE CURRENT ARMY INDUSTRIAL FUND (AIF) MANAGEMENT PROCESS

3-1. INTRODUCTION. This chapter provides an overview of the AIF supply mission, a description of the current AIF management process from HQDA through sub-MACOM level, the results of the selection of typical installations and a discussion of the budgeting, workload, and management process for the typical installations.

3-2. OVERVIEW OF THE SUPPLY MISSION. The supply mission was initially placed under the AIF in 1964. The AIF supply mission, or P7S mission, is comprised of seven main parts: supply depot operations, demilitarization, second destination transportation, central procurement, supply management operations, other logistic support, and industrial preparedness. Figure 3-1 breaks out these seven supply mission categories as a percentage of the FY 82 budget. A discussion of the supply mission categories is presented in the following subparagraphs.

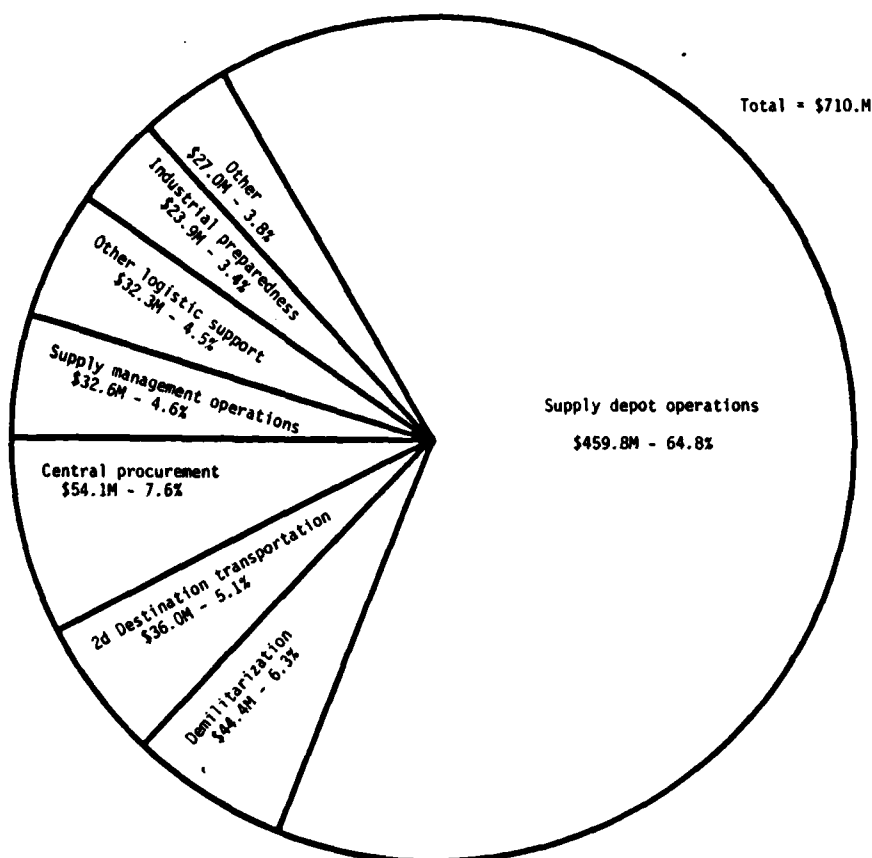


Figure 3-1. DARCOM AIF Supply Mission - FY 82

a. Supply Depot Operations. The supply depot operations part is the largest portion (64 percent) of the AIF supply mission. Supply depot operations are internal operations at Army depots and arsenals. Functions include receipt, storage, issue, and shipment of assigned stocks, stock control activities, administrative portions of traffic management within depots, and all related operations.

b. Demilitarization. The demilitarization of combat materiel and other military supplies and equipment is required in preparation for, or incident to, disposal. This activity includes destruction, mutilation, land burial, detoxification, or other actions necessary to eliminate the military offensive or defensive capability of the property, its classification, dangerous or distinctive characteristics, or its distinctive markings, when required for disposal purposes. Transportation and handling costs are included whether work is performed using government personnel and facilities or by contract.

c. Second Destination Transportation. Second destination transportation refers to the movement of Army supplies and equipment worldwide, after receipt from production at either a CONUS port, depot, or customer warehouse. AIF water operations, travel, and relocation of civilian Army employees on permanent change of station (PCS) also fall under this category.

d. Central Procurement Activities. Central procurement activities account for the operation of the Army's central procurement offices and the contract administration and quality assurance services not assigned to the Defense Contract Administration Service (DCAS).

e. Supply Management Operations. Supply management operations include the operation of inventory control points (ICP), service item control centers (SICC), secondary inventory control activities (SICA), catalog data activity, and other such activities. Also, automated data processing (ADP) services and formal on-site training applicable to each appropriate subfunction are under supply management operations.

f. Other Logistics Services. Other logistics services refer to central supply logistics activities involving attendant central supply services, production engineering for stock fund items, the Defense Standardization Program, and production engineering for procurement items. Also included are DARCOM mission support aircraft, DOD production engineering in support of the stock fund, and food and food service items.

g. Industrial Preparedness Operations. Industrial preparedness operations assure the production capability required to support emergency procurement programs. These DOD programs include actions to augment the production capability of the industrial base such as development of mobilization production requirements, development of mobilization production schedules, retention and maintenance of reserve plants and equipment, and similar activities which enhance the readiness or productive capability of the production base and limited support to current procurement.

3-3. AIF MANAGEMENT AT HEADQUARTERS, DEPARTMENT OF THE ARMY (HQDA). The Office of the Deputy Chief of Staff for Logistics (ODCSLOG) is responsible for the financial management of the AIF at HQDA level. ODCSLOG's role in the current AIF process is discussed in the following paragraphs. Other levels of management at the HQDA level are discussed in Appendix D.

a. The ODCSLOG is responsible for the day-to-day operations of the AIF and serves as the point of contact for all field operations. The major functions of ODCSLOG are as follows:

- (1) Issues budget guidance to the field.
- (2) Reviews and consolidates budget submissions to OSD.
- (3) Defends the AIF activity budgets in meetings with OSD analysts.
- (4) Reconciles the AIF to appropriated fund budgets.
- (5) Monitors execution.

b. Upon receipt of DARCOM and MTMC budgets, an ODCSLOG review is conducted through analysis of budget estimates and discussions with DARCOM, MTMC, and the Office of the Director of the Army Budget (ODAB). ODCSLOG verifies that the total AIF budget, personnel, and workload are consistent with customer appropriation budgets. Discrepancies are identified during the ODCSLOG review and are resolved. The AIF budgets are then sent to OSD for review, where ODCSLOG officials meet with OSD industrial fund analysts to answer questions on the AIF budget. Adjustments made by OSD industrial fund analysts are provided by program/budget decisions (PBD) approved by the Secretary of Defense. ODCSLOG is responsible for writing the AIF PBD reclaims which are approved by the ODAB, COA, and the Secretary of the Army.

3-4. ARMY INDUSTRIAL FUND MANAGEMENT AT THE SUBORDINATE MAJOR ARMY COMMANDS (Sub-MACOMs). The sub-MACOMs (US Army Armament Munitions and Chemical Command, US Army Depot System Command, and US Army Missile Command) manage the various installations under their command. They provide guidance to the subordinate installations and consolidate budget data for DARCOM. As an example, the current process at AMCCOM is discussed in detail in the following paragraphs.

a. **US Army Armament Munitions and Chemical Command (AMCCOM)**

(1) **Background.** AMCCOM was established in 1983 with headquarters at Rock Island Arsenal, Illinois. It is a major subordinate command of DARCOM and is a consolidation of US Army Armament Materiel Readiness Command (ARRCOM) and Armament Research and Development Command (ARRADCOM). The manpower employed by AMCCOM in FY 83 includes a total of 14,666 civilians and 576 military personnel. These totals do not include the temporary hires.

(2) **Fixed Rate Catalog.** AMCCOM requires the arsenals and ammo plants to prepare their own fixed rate/price catalog, unlike DESCOM which prepares the catalog for all of its depots. Since each arsenal produces different production items, AMCCOM has determined that the individual arsenals are better qualified to develop the catalog. AMCCOM adjusts the arsenal fixed price/rate according to the DA inflation index. Rates are prepared approximately 18 months in advance. AMCCOM maintains a composite index that consolidates the gains and losses at individual arsenals and submits this consolidated information to DARCOM. Fixed rates are used for the customer's appropriation budget and normally do not change.

(3) **AMCCOM AIF Process.** The AIF process for the arsenals is shown in Figure 3-2. AMCCOM receives the workloads from various customers through the arsenals. After the customer's budget has been approved, AMCCOM provides the comptrollers at the arsenals with procurement request order numbers (PRON). AMCCOM bills the customer twice monthly for work progress or orders completed. Funds are distributed to the appropriate program manager at AMCCOM. AMCCOM provides the comptroller OMA allotments to fund security, traffic control, quality assurance, etc. The program manager directs the arsenal comptrollers to distribute monies for each PRON assigned to them. The program manager is responsible for tracking all monies associated with his PRON and must justify any expenditures over the amount budgeted for a PRON. Program managers also provide weekly PRON status reports.

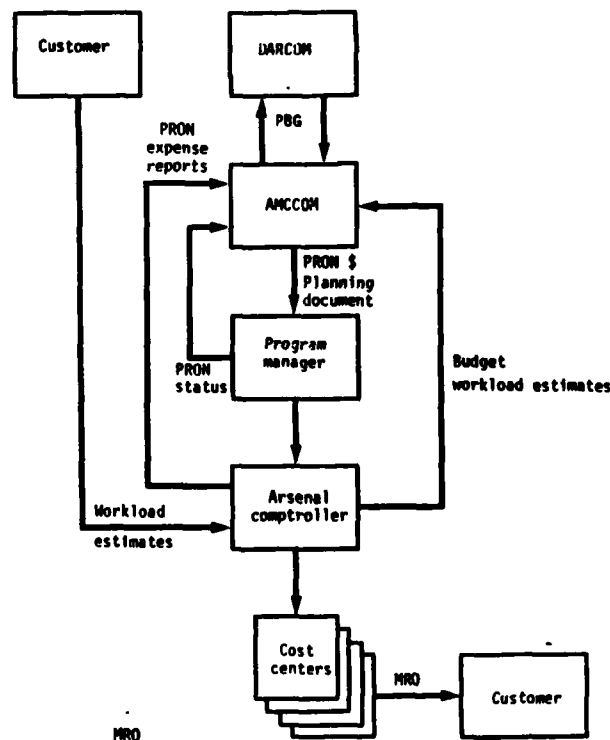


Figure 3-2. Arsenal AIF Process

3-5. SELECTION OF TYPICAL INSTALLATIONS. The selection of typical installations to represent all installations in the major AIF installation groups was based on the methodology stated in Chapter 2. A detailed description of the selection process is provided in Appendix E. The typical installations selected are shown in Table 3-1. The remainder of the chapter describes the AIF management process at each typical installation.

Table 3-1. Grouping of Typical Installations

Depots - Letterkenny and Red River Army Depots
Arsenals - Pine Bluff Arsenal
Missile Supply and Support - Missile Command

3-6. CURRENT PROCESS AT THE PINE BLUFF ARSENAL (PBA)

a. Background. PBA is one of six arsenals/ammo plants managed by AMCCOM and was selected as a typical installation based on the methodology in Chapter 2. PBA was initially funded entirely under the AIF in 1952. The percentage distribution of functional responsibilities at PBA is shown in Table 3-2.

**Table 3-2. Distribution of Functional Responsibilities
as a Percent of the FY 84 Budget**

Function	Percent
Munitions	63
Supply depot operations	15
Transportation/miscellaneous operations	2
Retention and maintenance of reserve industrial plants	5
Demilitarization	2
Depot maintenance activities	8
Other OMA	3
Other	2
Total	100

b. **PBA AIF Process.** The production of munitions constitutes the largest expenditure of funds at PBA. Work orders for munition production and demilitarization are processed for Army commands and also are frequently processed for other customers such as the Air Force and Marines. A computerized labor accounting system is used to account for the labor performed on each PRON. Each cost center daily inputs all employee time charged on the system by PRON number. The comptroller, by using the system, can determine the cumulative labor expense for a particular PRON on a daily basis and thus control costs or request additional funds if necessary. The comptroller manages the workload based on funds determined during the budget process. These funds are based on the workload submitted by the customers for which appropriated funds are obtained. Amendments to the PRON may result in additional workload requirements which are renegotiated by the AIF installation and the customer.

c. **The Supply Mission.** PBA currently receives P7S funding support in seven Army management structure (AMS) code areas, as follows:

- 721111, Supply Depot Operations
- 721113, Central Procurement Activities
- 728011, Industrial Preparedness
- 728012, Logistic Support Activities
- 722894, Real Property Maintenance Activities
- 722896, Base Operations
- 722890, Audio-visual

In FY 83, 50 P7S PRONs were received with 350 amendments. PBA performs the workload using their AIF resources with repayment to the fund from the customer's appropriated funds. See Appendix D for a more detailed explanation of this process.

(1) Two areas of supply predominate at PBA: supply depot operations, which include mostly service orders; and demilitarization which accounts for project orders. In FY 83, 15 PRONs with 70 amendments were serviced by supply depot operations. A total of 237 personnel participated in these operations, including 148 support personnel. Second destination transportation is not included under the AIF by the arsenals and is paid for by the customer's appropriation.

(2) Currently, the supply stocks are tracked manually by card files, but PBA plans to automate this process in the future. A request to DESCOM for use of its automated supply system was made in 1980 but has not been approved by DESCOM. The cost for base operations incurred in performance of the P7S supply mission is prorated to the customer based on total direct

hours worked. For example, the customer for a toxic weapon order is billed for the total hours worked by the security crew for guarding the production and storage area used for his order. AMCCOM provides PBA with a materiel release order (MRO) that directs the transportation of stocks. Records of MROs are also filed manually.

d. **PBA AIF Budget.** Budget input is provided to AMCCOM for the AIF budget and internally for the preparation of the internal operating budget (IOB) based on projected workloads.

e. **Workload.** PBA manufactures a variety of munitions, grenades being the predominant item manufactured. PBA also manufactures a substantial number of lethal weapons. The arsenals have a varying workload and utilize temporary employees according to demand. PBA, for example, uses a labor force of approximately 400 temporary employees who service contracts for customers, supplementing the regular work force. Temporaries receive specific training and experience that permit them to be easily transferred to different activities maintained by PBA. A summary of the current recurring financial management workload and the number of personnel required to perform this work is shown in Table 3-3. A detailed description of the workload and personnel requirements is provided in Appendix F.

Table 3-3. Recurring Financial Management Workload

Activity	Workload (manhours)	Number of personnel
Budget	12,480	6
Finance and Accounting	2,144	27
Management Analysis Division	18,720	9
Management Information Systems Office	1,920	2
Directorate of Materiel and Demilitarization ^a	9,940	8
Force Development	537	1
Total	45,741	53

^aIncludes administrative workload for maintenance and supply.

(1) **Budget Office.** The number and type of personnel that work on the supply portions of the budget are the comptroller, three budget analysts, one secretary, and one certification clerk.

(2) **The Finance and Accounting Office (FAO).** The FAO spends approximately 2,144 manhours annually preparing reports containing P7S data. Listed below are the types of personnel used in each section of the Finance and Accounting Office.

(a) FAO Division - one GS-12 division chief; one military accounting officer (O2 first lieutenant); one GS-9 quality review specialist; one GS-6 teller; one GS-4 cash clerk.

(b) Accounting Branch - one GS-11 branch chief; one GS-9 accountant; three GS-7 accounting technicians; two GS-5 accounting technicians; one GS-3 clerk-typist.

(c) Examination Branch - one GS-7 branch chief; one GS-5 voucher examiner; two GS-5 payroll clerks; one GS-5 control clerk.

(3) Directorate of Materiel Management and Demilitarization (DMMD)

(a) This directorate is responsible for administering the P7S mission at PBA. There were 15 PRONs with 70 amendments processed and charged to supply depot operations, and 7 PRONs with 28 amendments charged to demilitarization in FY 83.

(b) A total of 57 persons out of 264 employees in DMMD were identified exclusively to P7S work. One deputy director, two program analysts, one program and budget assistant, one stock control specialist, one secretary, and two clerk-typists are involved with the financial administration of P7S activities.

(c) Administrative labor expended for all required reports and maintenance was 9,940 hours in FY 83.

3-7. AIF MANAGEMENT AT LETTERKENNY ARMY DEPOT (LEAD)

a. **Background.** LEAD, located in Chambersburg, Pennsylvania, was selected as a typical maintenance-oriented installation based on the methodology in Chapter 2. It is the center for air defense missiles such as the Improved HAWK, self-propelled and towed artillery, and fire control equipment not associated with specific end items.

b. **The LEAD AIF Process.** A flow diagram of work order and billing processing is shown in Figure 3-3. Upon receipt of a fund authorization document from DARCOM or other customer order, DESCOM issues work orders (PRONs) by supply, support, and maintenance categories to the depot. The rate or price for the product or service is set in the fixed price/rate catalog. The working capital in the revolving AIF is used to finance the labor and material that are required for job completion. Direct labor costs, direct material costs, indirect production expenses, and general and administrative expenses are all costs required for a typical depot work order. Required work is completed at the appropriate stations. Production/service costs and production status are reported daily on the program status report (PSR). A weekly PSR is submitted to DESCOM. This results in billings to the customer, who reimburses the depot through DESCOM. In this way, the AIF is continuously replenished.

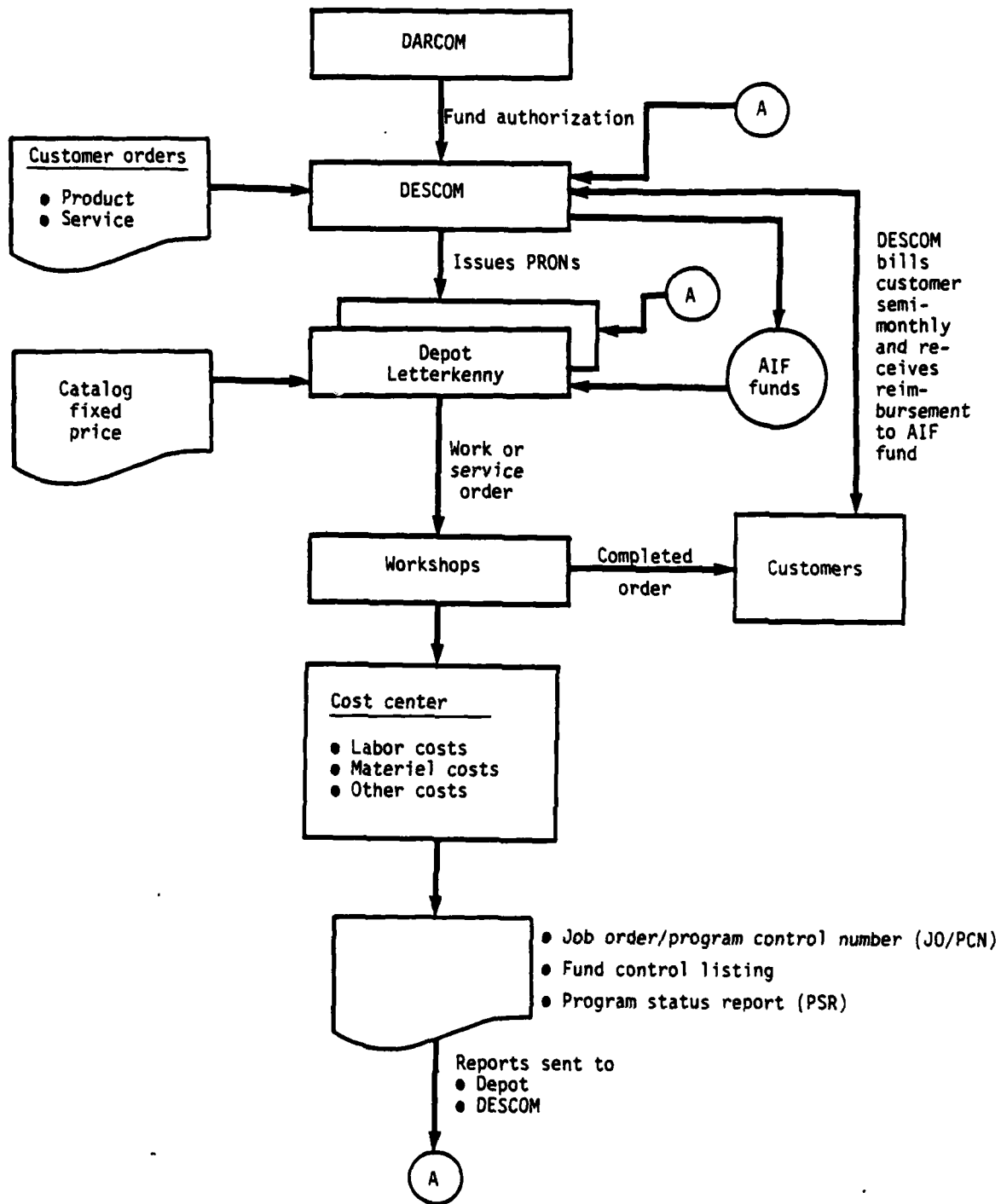


Figure 3-3. LEAD AIF Process

(1) **Job Order/Program Control Number (JO/PCN) Work Center File.** All costs related to producing a product or furnishing a service to a customer are collected into the JO/PCN work center file. These costs are reported daily and posted to the applicable job order or program control number. A job order is set up to identify each project from start to finish. All costs related to the cost of a particular project can be tracked through the job order. DESCOM bills customers and reimburses the depot based on the contents of the PSR. The JO/PCN work data file generates three listings: the monthly JO/PCN work center ledger, the weekly funds control listing Part II, and the weekly program status report.

(a) The monthly JO/PCN ledger is run by job order sequence. The job order is the basic unit of the AIF cost accounting system used to collect and identify direct cost and apply overhead to the customer order. The monthly JO/PCN ledger can be used to research the type of costs and the work center to which the costs are charged.

(b) The funds control listing Part II, provides management with a weekly report on all orders by PRON sequence and provides a work-in-process report. As a management tool, the fund control listing can be used to research the following:

1. Cost overrun on PRONs.
2. Assurance that reimbursable orders are within billing price variance.
3. Assurance that commander's orders do not run over 30 days.
4. Determination of job orders under each PRON.
5. Assurance that finalization codes are on file for closeout.
6. Verification between DESCOM and LEAD files.
7. Assurance that records reflect that the job order is closed out when the work is completed.
8. Comparison of the relationship of percent of funds expended to the percent of units completed.

(c) The program status report can be used to compare planned and actual production and costs for each PRON. Cost and production data for each PRON for which labor and production were reported is automatically reported to DESCOM weekly. The data is used by DESCOM to reimburse the depot for the cost incurred during that billing cycle. Reimbursement of the AIF capital fund occurs twice weekly.

(2) **Fixed Prices/Rates.** DESCOM prepares the fixed price/rate catalog for LEAD as well as all the other depots. The key factor is the direct labor hour standard. Cost rates are applied to maintenance and supply labor standards to determine direct labor and overhead costs. Direct materiel and other direct costs are determined by historical experience. Costs are adjusted by productivity, inflation, net operating results, and capital equipment surcharge. To assure that the derived fixed prices reflect the AIF budget, they are validated by comparing the sum of the individual fixed prices with the AIF budget mark. If the prices vary from the budget mark, they are adjusted by DESCOM. The equation for computing the fixed price is as follows:

$$\text{Fixed Price} = \$DL + \$DM + \$OT + \$OH + \$DE \pm \$PA + \$NOR + \$SC \quad (3-1)$$

where:

\$DL (direct labor) = direct labor hour standard (DLHS) x inflation factor

\$DM (direct materiel) = historical cost x inflation factor

\$OT (other direct) = historical cost x inflation factor

\$OH (overhead, depot) = DLHS x \$ overhead/DLHS

\$DE (depreciation expense) = DLHS x depreciation

\$PA (productivity adjustment) = factor applied to account for productivity increase or decrease

\$NOR (net operating results) = gain or loss on past order performance

\$SC (surcharge) = factor to account for depreciation of equipment

c. **The Letterkenny Supply Mission.** There are six divisions that support the supply mission in the Supply Directorate; these are listed in Table 3-4, which also defines each division's function.

Table 3-4. Letterkenny Directorate for Supply by Division

Division	Function
1. Ammunition	Performs storage, demilitarization, inspection, testing, and assembly and maintenance of missile components.
2. General Supply	Receives, stores, and issues goods.
3. Inventory Management	Maintains depot master records and ensures consistency between computer records and stocks in storage.
4. Depot Property	Requisitions and maintains levels of stocks and performs direct sales of expendable supplies and repair parts.
5. Transportation	Directs planning and transportation of all shipments of materiel, personnel, and their dependents.
6. Planning, Production, and Control	Accepts all work authorization, funding and controls the expenditure of funds.

The depot supply process is shown in Figure 3-4. Requisition from general and direct support units (GSU/DSU) flow to the five national inventory control points (NICP), which then issue materiel release orders (MRO) to the depots resulting in shipments to the units. The NICP also initiates the flow of materiel into the depots, either from new procurement or returns from installations. Returns are generally unserviceable items on the automatic return items list. All materiel goes through depot receiving to storage, and the receipt is reported back to the NICP. Depot supply transfers the unserviceable materiel and the repair parts needed to do the work. The maintenance work is completed at the appropriate maintenance shops and returned to storage. The receipt of repaired materiel is reported back to the NICP. New procurement, as well as maintenance, is a source of supply. The supply system at Letterkenny Depot, as shown in Figure 3-5, is fully automated. When stocks run below a programmed level, an order is automatically generated to the NICP to keep the inventory at the required level. Supply transactions are input into the system and verified on a daily basis. Storage locations and historical data are also on file.

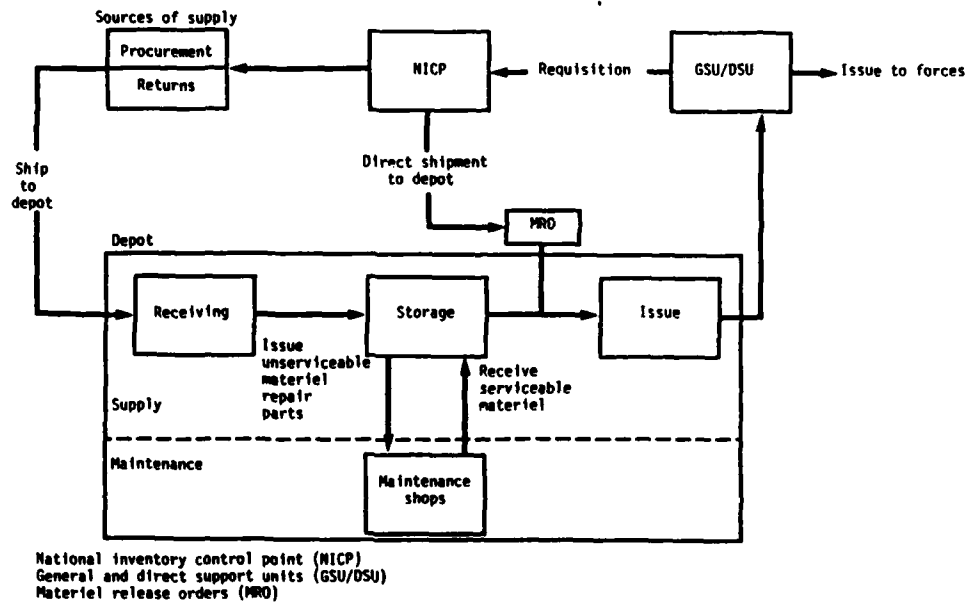


Figure 3-4. Depot Supply Process

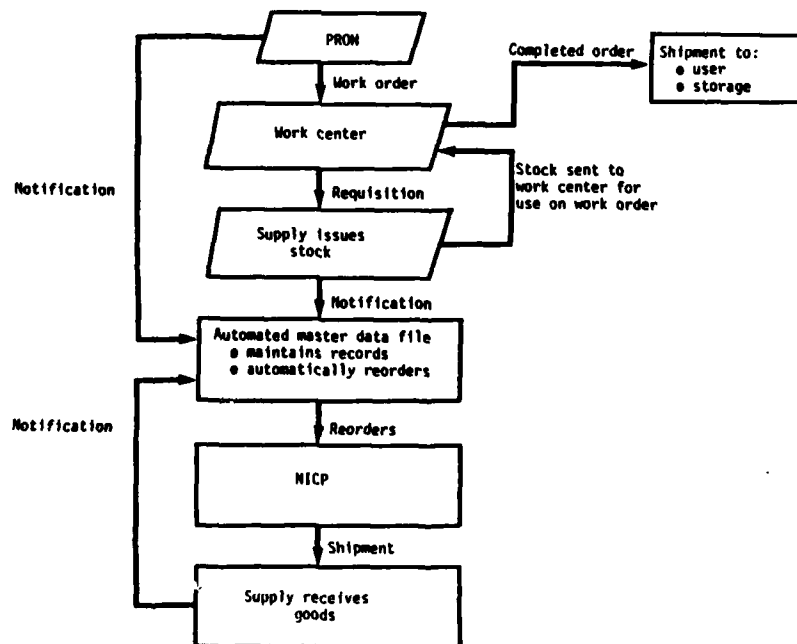


Figure 3-5. Letterkenny Army Depot Automated Supply System

d. **LEAD AIF Budget.** Budget input is provided to DESCOM for the AIF budget and internally to the budget office at the installation. A discussion of the installation's budget process follows.

(1) **Role of Cost Centers.** Cost centers within each directorate formulate the budget for their jurisdiction based on a statement of projected workload and project costs by quarter for the fiscal year. They also collect data on direct costs, indirect costs, direct labor hours for projects under their jurisdiction, and exercise cost control. The following subparagraphs detail these data.

(a) Direct costs consist of those costs associated with the performance of actual work identified and subsequently charged to the final product. Direct costs are charged to PRONs received from DESCOM.

(b) Indirect costs cannot be identified with specific units of production, processes, or jobs. Indirect costs are distributed equally to associated customer orders. Control of overhead expenditures can reduce operational costs and help meet budgetary targets. Indirect rates are classified as within-shop, above-shop, base operations, and general administrative expense.

(c) Direct labor hours are used to recoup the indirect costs and can be applied to PRONs received from DESCOM. Since direct labor hours represent a major factor in the computation of fixed rates, it is important that they be accurate.

(2) **Internal Operating Budget (IOB).** The IOB is prepared in accordance with the time schedule for the FY 84 AIF budget. A sample AIF budget time schedule and an IOB budget form are shown in Figures F-1 and F-2, Appendix F. Each division provides manhour projections to their respective production planning and control (PP&C) branches which, in turn, are provided to the Budget Office. The Budget Office calculates the labor rates and submits them back to the division PP&C branches. The PP&C branches compute projected costs on the cost center IOB form. The Budget Office verifies these costs and computes the within-shop rates for the IOB. The Budget Office sorts the IOB by Army management structure (AMS) code and consolidates the AMS codes by mission. Indirect base operations expense and general administrative expense are then added by the Budget Office. The IOB budget is compared to the budget mark prepared by DESCOM to check for shortages or overages by the PP&C division. After the PP&C division is satisfied with the data, the IOB is sent back to the Budget Office for the approval of the Depot Resources Management Board. Upon approval, the IOB is returned to the Budget Office and disseminated to all directorates to be dispersed to their respective divisions for approval.

e. **Workload.** The financial management workload for AIF involves several directorates. The major workload occurs in the Budget, Finance and Accounting, and Supply Directorates. The workload of these offices is discussed as follows.

(1) The number and type of personnel in the Budget Office involved in preparing the budget forms are outlined in paragraph F-2 of Appendix F. The number and type of personnel estimated for working on the supply portions of the budget submission are as follows:

- One budget officer - 10 percent of the time
- One budget analyst - 100 percent of the time
- Five budget analysts - 4 percent of time associated with sorting AMS codes and adding totals on IOB
- One secretary - 10 percent of the time

The estimated total annual workload is 2,465 manhours for budget analysts and 200 manhours for the secretary.

(2) The Finance and Accounting Office processed approximately 125 PRONs for FY 84 with an average of 8 changes per PRON. A total of 7,980 annual manhours is estimated for the preparation of the supply portions of the AIF forms generated by the Finance and Accounting Office. A detailed listing of the monthly workload for the Finance and Accounting Office is shown in Appendix F. Listed below are the type of personnel used by each branch in the Finance and Accounting Office. The numbers reflected are estimated because specific positions cannot be directly identified to the supply function.

(a) Accounting Branch - two GS-9 staff accountants; ten GS-5 accounting technicians; one clerk/typist.

(b) Pay/Examination Branch - six voucher examiners; two payroll clerks.

(c) Disbursing Branch - two cash clerks.

(3) The Supply Directorate processed 176 PRONs with an average of eight changes per PRON per year. There were 22,888 manhours expended for monitoring expenditures for supply. This was accomplished by five program analysts, four program technicians, one steno/typist, and one supervisor program analyst. Supply operations accounted for approximately 4,008 hours per year of computer time costing \$158.00 per hour or \$633,264 per year.

3-8. AIF MANAGEMENT AT THE US ARMY MISSILE COMMAND (MICOM)

a. **Background.** MICOM, located at the Redstone Arsenal in Huntsville, Alabama, provides services for customers and tenants which include project and commodity management over the development and acquisition of missile and rocket weapon systems; research, development, engineering and logistical support of missile systems; operation of the DA Metrology and Calibration Center and calibration standards laboratories. Base operations, as one of the services, accounts for 20 percent of the MICOM budget.

b. **The MICOM AIF Process.** The AIF operations at MICOM are different in some respects from AMCCOM and DESCOM because there are a variety of customers and a variety of tasks to be performed. For example, MICOM and the installation (Redstone Arsenal) process an estimated 2,000 work orders per year. The funding to pay for the processing and completion of the work orders comes from approximately 150 different sources. These sources include funds from foreign military sales, National Guard, Air Force, National Aeronautics and Space Administration (NASA), and others. Operation and maintenance, Army (OMA) funds account for about 60 percent of the total MICOM customer funding, with RDTE and foreign military sales (FMS) accounting for most of the remaining customer financing. Figure 3-6 shows the proportional share of individual programs financed by customers under OMA appropriations. The largest program is P7M for maintenance and support of fielded systems, such as TOW, HAWK, and CHAPARRAL. The next largest program is the P72 supply operations (P72.000 AMS series listed in AR 37-100-83) which includes supply, central procurement, project management, transportation, logistic support activities, and residual funding for base operations of non-DARCOM tenants. These funds are primarily for personnel salaries. Intelligence funds represent 8.5 percent of the OMA appropriations. Because of the security classification and sensitive nature of this program, it is registered and justified directly by the Defense Intelligence Agency. The general purpose forces comprise 5.4 percent of the OMA appropriated funds with a \$14.8M program which supports the PERSHING missile project. The smallest program contains the Army Education Program for the military and the Civilian Executive Training Program. Most of the RDTE work is contracted out to private industry. Non-DOD customers account for about \$3 million worth of business compared to \$30 to \$35 million for foreign military sales alone.

(1) **Fixed Price/Rate.** Every order has its own rate per direct labor hour. Major organizational elements are responsible for establishing portions of these rates. Direct rates include the direct labor, materials and supplies, contractual expenses, and miscellaneous other direct expenses incurred for work performed. Overhead rates are established at the cost center level. Overhead rates include directorate and organizational overhead, support overhead, general and administrative overhead, and previous year's net operating results. The estimated direct labor hours cannot be exceeded without prior approval of the customer. Rates are broken out for each PRON on the initial procurement work directive, MICOM Form 1095. Figure F-3, Appendix F, provides a sample of this form. Required Program Development Increment Packages (PDIP) are listed on the Form 1095. Changes in fixed price rates are authorized under certain conditions affecting quantity or changes in work requirement.

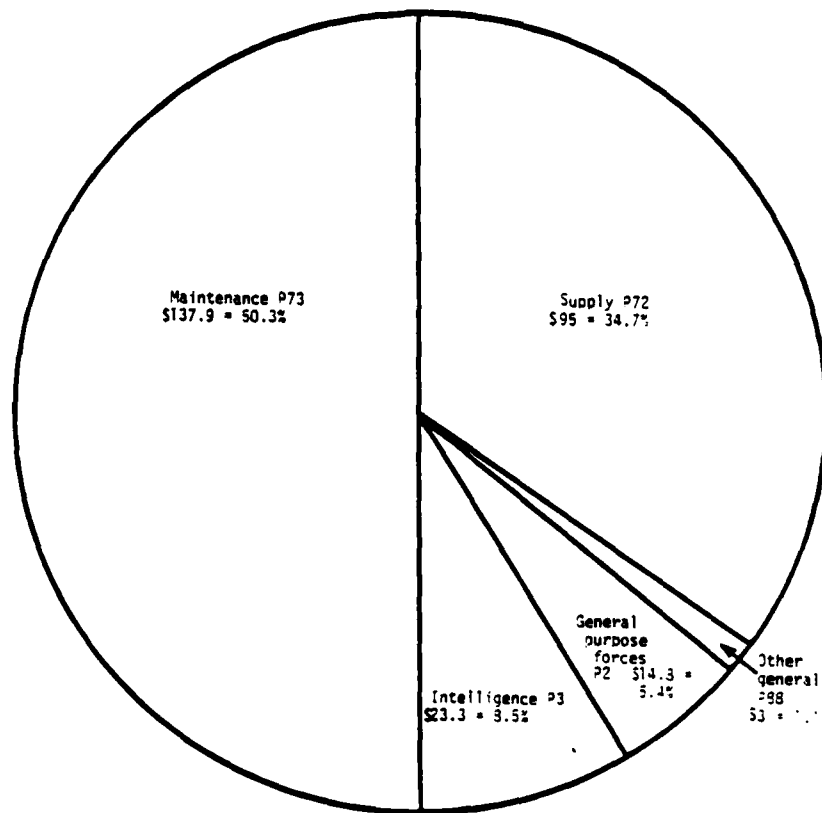


Figure 3-6. MICOM Operation and Maintenance, Army
(\$FY 83 in millions)

(2) **Automated Information System.** A management information system breaks out costs by four-digit AMS codes and cost center. The system tracks the elements of expense for each PDIP charged to a PRON. Direct hourly rates are shown for each AMS code. Also shown separately are the direct cost rate, operating overhead rate, general and administrative (G&A) hourly rate, base operations overhead rate, prior year gain/loss, and total hourly rate. Labor costs are input semimonthly by AMS code and job number for cost control purposes. A forecast of revenue is also calculated by AMS code.

(3) **Base Operations.** Base operations account for 20 percent of MICOM's AIF budget due to the large number of tenants and satellites at MICOM. Non-MICOM activities comprise about 45 percent of the total MICOM base operations costs. These costs are distributed to the customers based on actual usage. Approximately 65 percent of the base operations costs which are generated for non-MICOM activities are billed to customers whose only service from MICOM is the amount of base operations used. An example of this would be the Marshall Space Flight Center, which is located on the

MICOM grounds along with many other activities. Two-thirds of all personnel at MICOM are classified under base operations support. The AIF stabilized rates allow the appropriate base operations costs to be charged directly to the customer. This is particularly important in FMS where all costs must be reimbursed. Approximately 50 percent of FMS is considered base operations.

c. **Supply Process.** The supply process at MICOM involves a number of activities performed under the central supply activity. Figure 3-7 provides a percentage distribution of the parts of supply that made up the \$123.1 million expended on P7S activities by MICOM in FY 83. Funding for the activities is obtained from the customers' appropriated funds. The supply activities at MICOM do not include the physical receipt, storage, and issue functions of materiel, supplies and equipment because they are handled by the Army depot system. MICOM uses its AIF to buy supplies in anticipation of the requirements of its customers, and the customer's fund source is cited to pay for the second destination transportation expense. MICOM maintains a stock fund in addition to the AIF and adds a surcharge to the cost of supply items billed to customers in order to reimburse this stock fund.

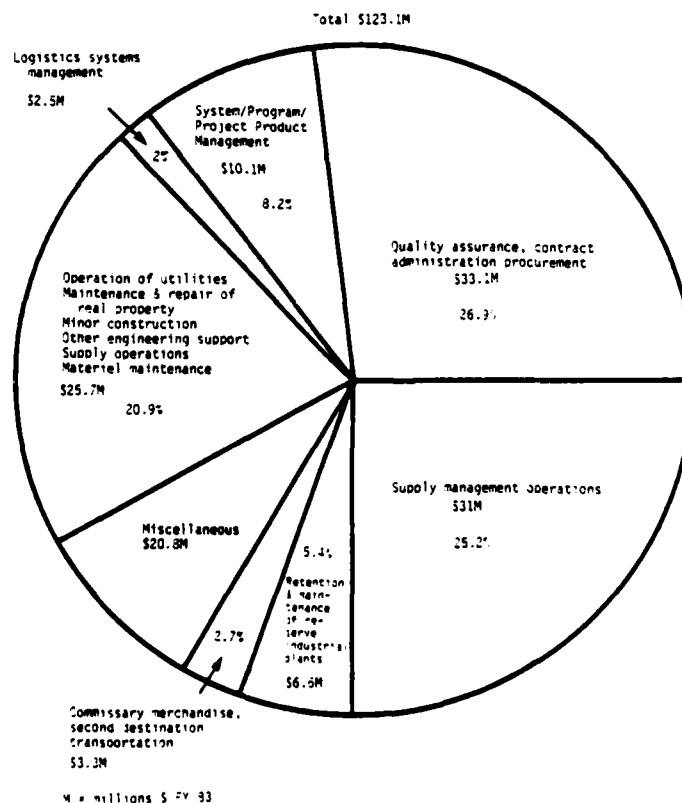


Figure 3-7. MICOM Central Supply Activity (P7S)

d. MICOM AIF Budget. The total budget for MICOM is approximately \$6 billion per year. MICOM prepares the AIF budget for input to DARCOM with separate budgets prepared for the tenants and satellites. As part of the budget process, an IOB is also prepared. Figure 3-8 shows representative time phasing for the budget cycle. Separate budgets are prepared for the tenants and satellites. Each directorate/cost center prepares an Element of Expense Operational Performance Budget for the comptroller as part of the internal operating budget. A sample Expense Operational Performance Budget form is shown in Figure F-4, Appendix F. The comptroller will request revisions to the internal operating budget if an analysis of budgetary data with actual cost data indicates revision or additional budgetary data are needed to comply with higher headquarters reporting requirements. A narrative analysis is prepared by each directorate/cost center as an adjunct to the internal operating budget. The narrative analysis explains increases and decreases in budgetary data. As shown in Figure 3-8, MICOM receives its budget call/guidance in April. Estimated work orders are submitted to DARCOM in June, and after a review, DARCOM receives the approved workload and budget in September. DARCOM reviews this data and submits the data to HQDA for another review. The workload and budget data are submitted to OSD for a detailed review. OSD reviews the AIF budget data with respect to OMA budgets and identifies sources of funding. The OSD budget mark and the President's budget come out for FY 84/85 in January 1984. Three months later, MICOM prepares the FY 85 AIF stabilized billing rates. In late May MICOM completes its command operating budget (COB) and submits it to DARCOM. DARCOM reviews the COB and rolls it up by program elements. DA then includes the AIF order revenue data for the FY 85/86 budget. A complete list of the AIF budget forms prepared by MICOM is provided in Table F-1, Appendix F. Supplemental analysis that accompanies the MICOM AIF budget is shown in Table F-2, Appendix F.

e. Workload

(1) The workload at MICOM has grown steadily over the years. Due to the highly technical nature of the work at MICOM, temporary hiring is insignificant. Most employees at MICOM are skilled in the missile research and production process and are categorized in a professional series. MICOM does not anticipate, and could not handle, sudden changes in workload.

(2) The number of manhours required by the present system for accounting and budgeting personnel for the P7S mission and the base operations residual is 5,310 manhours per year for the finance and accounting operations and 13,160 manhours per year for the budgeting operations. The number of PRONs required for the present system is 212. There is an average of seven changes per year for each PRON.

(3) The number of direct personnel identified to the P7S program is 2,104. The AIF system distributes the cost of overhead personnel to the P7S programs.

(4) Approximately 38,820 computer hours per year are devoted to supply activities. The average annual computer hours charged to the present system for the Missile Logistics Center, Materiel Management Directorate (Wholesale Stock Fund) is 27,396. The average computer run time charged to the present system for the Procurement and Production Directorate (NICP) is 11,424 hours per year. The computer hours are charged as base operations costs to support the Finance and Accounting Office. These are distributed as overhead to the customer under the AIF system.

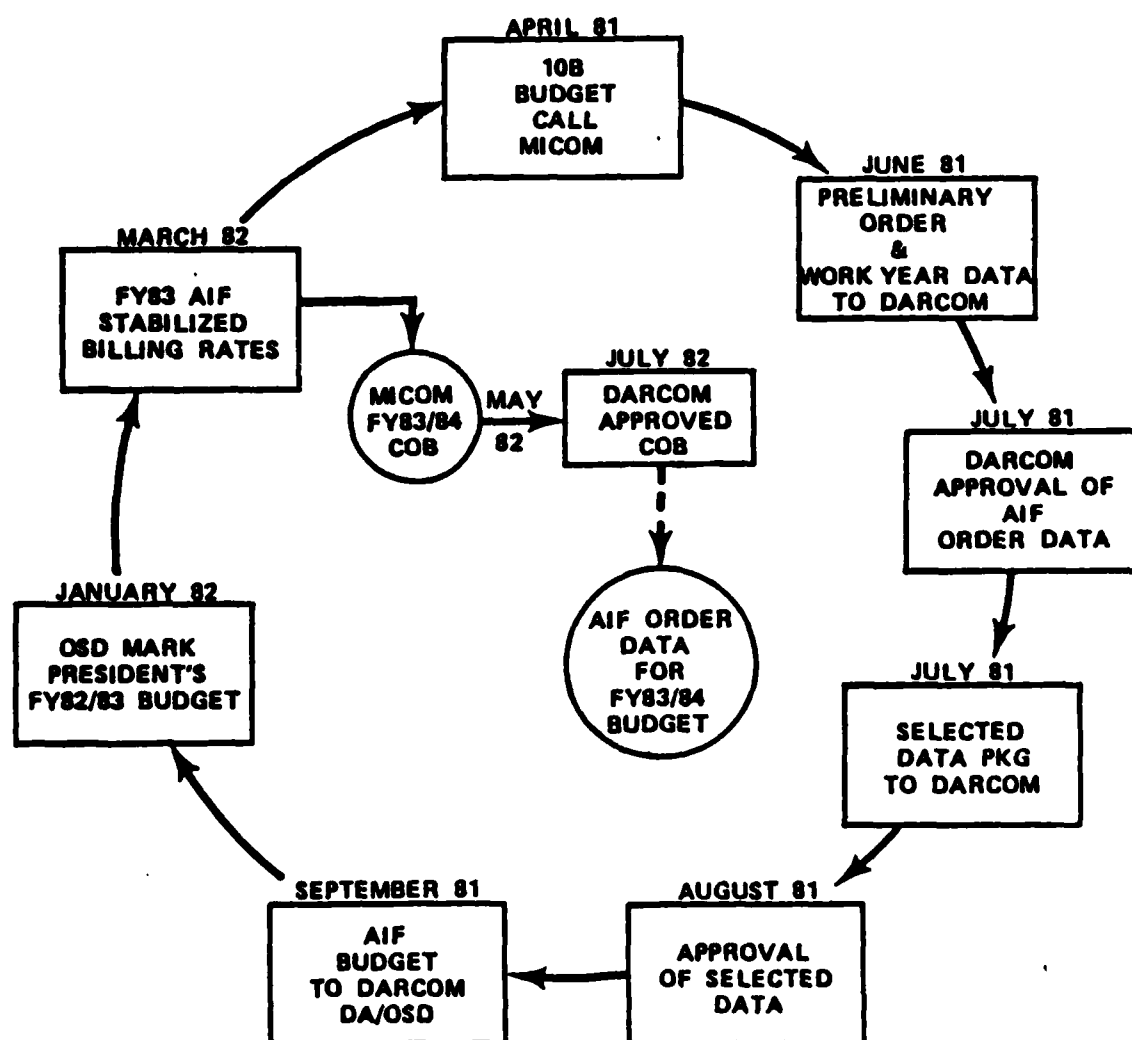


Figure 3-8. MICOM FY 82/83 AIF Budget Cycle

CHAPTER 4

THE ALTERNATIVE AIF MANAGEMENT SYSTEM AND COMPARISON EVALUATION

4-1. INTRODUCTION. The purpose of this chapter is to provide an analysis of the alternative management system, a comparison of the alternative with the current AIF process for the selected typical installations, and the extrapolation of normalized cost data estimates for the implementation of the alternative from the typical installations to all AIF installations Army-wide.

4-2. ALTERNATIVE. The alternative to the current AIF financial management system is the management of the supply function at AIF installations tracked by separate appropriation in lieu of AIF. The supply function was selected for removal from the AIF, as discussed in Chapter 2.

4-3. EVALUATION METHODOLOGY. Chapter 2 also discussed the methodology to evaluate the alternative as compared to the current process. An unequal cost/equal benefit approach was used in this study. The justification for this approach was based on prior studies and on discussions with financial managers at the command and installation level. It was determined reasonable to assume that the costs between the current and alternative financial management system would vary but that the effectiveness, translated into products and services to the customer, would not be affected by the implementation of the alternative.

a. Benefits. The benefits of the alternative to the customer, based on discussions with cognizant personnel at the sub-MACOMs and installations, are assured to be equal since an unequal cost/equal benefit approach was used as the evaluation tool in this study. The benefit categories referenced in Chapter 2 are as follows:

(1) Timeliness of Order Completions. The customers would continue to receive the product or service with no apparent change due to implementing the alternative.

(2) Number of Work or Service Orders Completed. Similarly, the completion of orders would remain unchanged, assuming the customers continue to provide funds.

(3) Inventory Ratio. The turnaround of inventory and availability of stock items is closely controlled under AIF. Under the alternative, it is expected that current procedures will continue to be used with no effect on the customers.

(4) Management Information. The current AIF reporting system will probably remain intact if the alternative is implemented. Thus, management information on status of order completion, scheduling, etc., would remain unchanged.

b. Costs. Costs were separated into one-time costs and recurring costs.

(1) One-time Costs. One-time costs include the following:

(a) Equipment costs, such as phones, desks, chairs, supplies, computer terminals, etc.

(b) ADP personnel costs, such as salary and benefits of ADP personnel required to modify or develop computer systems required for the alternative.

(c) Training, such as training required for new and existing personnel in the financial management of appropriation funding.

(d) Data processing design, such as software and hardware development, programing, and computer time for testing.

(2) Annual Recurring Differential Costs. Recurring costs include the following:

(a) Personnel - additional personnel required to provide financial reports for supply funding.

(b) Computer time - additional computer processing time for separate financial management system.

(c) Material - additional consumable supplies.

c. Extrapolation of One-time Costs. Total one-time costs are divided by total workload to produce a cost-per-man-year for the typical installations. The cost-per-man-year for each typical installation within the group is applied to all other installations in the same group to produce total one-time costs. Cost-per-man-year was used for the extrapolation of the estimated total one-time costs because it is a measure of workload applicable to all installations. Since the correlation matrices in Table E-8, Appendix E, show that there is a .96 correlation between the arsenal workload (man-years) and the budget, the assumption can be made that the elasticity of the degree of one-time costs required for the alternative is related to the installation workload. In other words, the larger the existing total operation at an installation, the greater the scope of involvement required at that installation in the initial implementation of the alternative. A summation of the costs for the three groups of installations provides an Army-wide cost estimate of one-time costs for AIF installations.

d. **Extrapolation of Annual Recurring Costs.** The supply budget was selected as the workload driver for the annual recurring financial management costs of the supply function. The expansion of differential recurring costs to other installations employs the following methodology. Differential recurring costs determined for the sample installations are calculated as a percentage of that installation's supply budget. This percentage is then applied to the supply budget for the other installations in the group. This extrapolation was based on the assumption that the size of the annual supply budget presented the best reflection of the degree of financial management required to operate the alternative.

4-4. THE ALTERNATIVE FINANCIAL MANAGEMENT COSTS AND WORKLOAD

a. **General.** The alternative financial management costs were calculated for all arsenal and depot installations, MICOM (treated as an installation), AMCCOM, and DESCOM. Personnel salaries were based on the first step of the grade level indicated. Salaries were inflated by 11.26 percent to account for benefits that would be paid by the employing installation. The 11.26 percentage comprises average health insurance costs (\$981.36), retirement costs (\$1,692), and life insurance costs (\$50.26) for the typical federal worker, calculated by the Office of Personnel Management as earning \$24,178 annually in calendar year 1983.

b. **HQDA.** The alternative would not have an impact at the HQDA level, since HQDA currently manages both the AIF budget process and the DA appropriations budget process.

c. **AMCCOM.** The workload necessary for the required P7S appropriated fund budget functions at AMCCOM would utilize a minimum of one GS-11 budget analyst.

d. **DESCOM.** DESCOM, during the site visit and subsequent communication, did not indicate that any change in workload would be required for the alternative. DESCOM is currently reporting on both the AIF and appropriated funds.

e. **Pine Bluff Arsenal Management Alternative.** The following paragraphs summarize the additional personnel and workload required to implement the alternative at PBA. A description of the additional workload and a list of budget forms required for appropriated funding is provided in Appendix G.

(1) PBA Workload and Personnel Requirements

(a) Within the Comptroller's Office, two additional budget analysts would be required to handle the budget workload. Finance and Accounting would require the additional staff of one payroll clerk, one accountant, one clerk-typist, and two accounting technicians to handle the increased workload. The Management and Analysis Division would require three additional analysts.

(b) The Management Information Systems Office would be seriously impacted by the duplicative accounting and budget systems required by allotment funding of the P7S mission. One additional computer operator and one programmer/analyst would be required to support the alternative allotment funding for P7S. Conversion to the alternative system would require a one-time cost of approximately 3 man-years of effort.

(c) The Force Development Office would require one additional analyst to process actions and monitor the P7S related tables of distribution and allowance.

(d) Within the Directorate of Materiel Management and Demilitarization, one clerk-typist and one program analyst would be required to handle the increased administrative processing for the alternative funding procedure. Conversion to the alternative funding would have a severe impact on direct workload in this directorate; however, it is of the nature that most increases in P7S would cause corresponding decreases on the AIF resources.

(e) Additional workload for new interservice support agreements and administration of the P7S area property book was indicated in the Supply and Services Directorate. The Engineering and Technology, Facilities Engineering and Product Assurance Directorates would have to perform additional control and administrative processing necessary for P7S allotment funding. While additional workload would be required in these areas, no additional personnel were considered necessary.

(f) The estimated workload for the current and alternative processes is shown in Table 4-1. The alternative would result in a 57 percent increase in workload, not including an increase in computer processing time of from 1,368 hours to 4,296 hours. An additional 15 new employees would be required. Detailed information on the current and alternative workloads are provided in Appendices F and G, respectively.

(2) **Summary.** The implementation of the alternative as determined for PBA will not improve the quality of services performed for supply operations nor will it decrease the cost to the P7S appropriation. Adoption of the alternative funding procedures would require establishing additional accounting and budgeting systems to oversee the highly technical allotment commitments, obligations, and reporting, thus substantially increasing the cost of performing the PBA mission. The flexibility that the employment of temporaries provides in terms of costs and work scheduling would be lost to some extent under the appropriated fund concept, since employees financed by a P7S appropriation cannot be transferred between jobs financed from the AIF and jobs financed by appropriated funds. Also, any reduction in force would require 90 days' notice--too short for the dynamic workload that is evident at PBA.

Table 4-1. Annual Recurring Financial Management Workload

Function	Current process manhours	Number of personnel	Alternative process manhours	Number of personnel
Budget	12,480	6	16,240	8
Finance & Accounting ^a	2,144	27	11,020	31
Management Analysis Division Office	18,720	9	24,960	12
Management Information Systems Office	1,920	2	5,760	4
Directorate of Materiel and Demilitarization ^b	9,940	8	13,500	10
Force Development	537	1	3,254	2
Total	45,741	53	74,734	67

^aFinancial reports containing P7S data only.

^bIncludes administrative workload for maintenance and supply.

f. Letterkenny Army Depot (LEAD) Management Alternative. The following paragraphs summarize the additional personnel and workload required to implement the alternative at LEAD. A detailed description of the additional workload is provided in Appendix G.

(1) Budget Office

(a) The major one-time change to convert to the alternative would be the training of personnel in the appropriated fund budgeting process. A 0.5 man-year effort would be needed to accomplish this additional training.

(b) The budget office would require an additional man-year to handle changes in the budgeting process. The following additional actions in the budgeting process would be required by the budget office to accomplish the alternative.

- Prepare submissions to DESCOM for preparation of the Program Analysis and Resource Review 5-Year Defense Plan (PARR).

- Prepare a LEAD Command Operating Budget submission for the budget year and one outyear which includes dollar projections and workload requirements.
- Receive funding guidance and limitations by quarter for the budget year from DESCOM.
- Submit a monthly obligation plan on funding guidance.
- Submit a monthly status report with narrative.

Mid-year budget execution review would occur in the April timeframe and would include review of execution during the first 6 months of the current year and projections and reprogramming in the second 6 months. Year-end execution would require intensive management of obligations during the last quarter of the year. Most commands require weekly reports for the last 2 months of the execution year. Reprogramming requirements would be identified during this time.

(c) LEAD estimated that two GS-9 budget analysts would have to be hired to perform the reporting requirements of the budgeting process.

(d) No changes in computer facilities and/or operations are expected.

(e) The time required to implement the alternative is estimated at 6 to 8 months.

(f) Anticipated problems are the maintaining of reporting requirements for both AIF and appropriated funds and the distribution of the base operations overhead to the supply function.

(2) Finance and Accounting Office (FAO). The estimated workload needed initially to set up the financial system to implement the alternative and to assure continuation of the current system is as follows:

(a) Establishment of accounting classification codes to control funds and generate reports (4 manhours).

(b) Establishment of AMS codes at a detailed level for reporting purposes (16 manhours).

(c) Establishment of new Army personnel codes (APC) for employees transferred from AIF funded to OMA funded positions (8 manhours).

(d) Preparation of payroll input required to transfer employees from one payroll block to another (16 manhours).

(e) Shifting of workload from the AIF section at LEAD to the appropriated fund section would occur if the alternative were implemented. The present system would generate new reports which would be required under OMA procedures. All other workload would remain the same. The new reports which would be required and would be machine-generated are:

- Status of Approved Operating Budget, Parts I & II, CSCFA-218
- Obligation by Object Class, CSCFA-212,
- Status of Reimbursement, CSCAA-112

(f) The ten GS-5 accounting technicians and two GS-9 staff accountants would be moved from the AIF Section to the Appropriated Accounting Section. Since the savings to the AIF were cancelled out by the costs to the P75 appropriation, no costs or savings were considered.

(g) The estimated time required to implement the alternative would be 1 year. LEAD would have to complete all outstanding purchase orders for supplies, transfer the outstanding inventory to OMA funds, and prepare for general conversion to the alternative.

(3) Supply Directorate

(a) There would be a small one-time cost for the alternative to locally develop and administer training.

(b) The workload would remain constant. Data forwarded to the Budget Office would simply be for appropriated funds instead of AIF funds.

(c) Time to implement the alternative would be 6 to 8 months without any anticipated changes in computer operations.

(4) **Summary.** Implementation of the alternative at LEAD would have very little impact on its financial management workload. LEAD currently is tasked to prepare reports and budgets for AIF and appropriated funds and thus have personnel tasked to perform both functions.

g. **Tobyhanna Army Depot (TOAD) Mnagement Alternative.** Data was solicited from TOAD to provide a check against the data provided by LEAD. This approach was taken since LEAD prepares budgets for both AIF and appropriated funds which may influence the workload estimates for the alternative.

(1) **Data Comparison.** Table 4-2 provides a comparison between LEAD and TOAD.

Table 4-2. LEAD and TOAD Data Comparison

Function	LEAD	TOAD
Incremental man-years to operate the alternative	2 man-years	3 man-years
Additional personnel	2 GS-9 Budget Analysts	1 GS-9 Budget Analyst 2 GS-11 Supply System Analysts
Computer facilities/ programs	No change	No change
Lead time	6-8 Months or more	8-12 Months
One-time setup workload	Some in-house training	None

(2) **Summary.** The TOAD data essentially supports the data received from LEAD in terms of cost elements affected and increased workload in specific areas.

h. Red River Army Depot (RRAD) Management Alternative. Data was requested from RRAD since this is one of three depots whose primary mission is supply rather than maintenance, as is the case for the other depots. The other two supply depots are New Cumberland and Sharpe. The decision to use RRAD as the typical supply depot was made because it is the largest of the three depots and also because of the AIF background knowledge possessed by the RRAD comptroller. He functioned as comptroller of RRAD before supply was originally included under AIF and was in a better position to provide the best estimates for the alternative among the supply depots.

(1) **Data.** RRAD's estimate for the alternative was based on its actual staffing prior to including the supply mission in the AIF. No change in computer facilities or programs was indicated. The following personnel increases at RRAD would be required based on the workload at RRAD prior to the inclusion of the supply mission in the AIF. These are compared with LEAD requirements in Table 4-3.

Table 4-3. LEAD and RRAD Data Comparison

RRAD	LEAD
1 GS-7 Accounting Technician	2 GS-9 Budget Analysts
2 GS-6 Accounting Technicians	
4 GS-5 Accounting Technicians	
3 GS-4 Accounting Technicians	
1 GS-9 Budget Analyst	
2 GS-9 Supervisory Operating Accountants	
1 GS-11 ADP System Analyst	
2 GS-11 Supply System Analysts	

(2) **Summary.** As shown in Table 4-3, RRAD would require more personnel for the alternative than LEAD. Based on this comparison, the costs were extrapolated for the three supply depots based on RRAD results in lieu of using LEAD data. RRAD indicated it would require 8 to 12 months to implement the alternative with 4 man-years of effort initially to set up the new system.

i. **MICOM Management Alternative.** There are 38 organizations at MICOM which receive multiple type funds and are customers of the AIF. The removal of the supply function at MICOM would result in the AIF being used for a part of an organization and a separate financial system being used for the supply functions. For example, the Missile Logistics Center (MLC) would operate under the AIF for the Maintenance Directorate and under a separate financial system for the Materiel Management Directorate supply (P7S) functions. The Director of the MLC would be required to absorb an increased burden by having to use different financial management systems for his in-house operations. Figure 4-1 illustrates the MICOM AIF organization structure with the supply function excluded from AIF.

(1) **Budgeting.** The multiple funded AIF customers can budget for and execute their in-house programs through a single vehicle, i.e., the IOB for the AIF. Consequently, for the alternative, the managers would have to budget for or manage their in-house costs through two systems, which would either decrease their ability to accomplish their mission or would add to the costs.

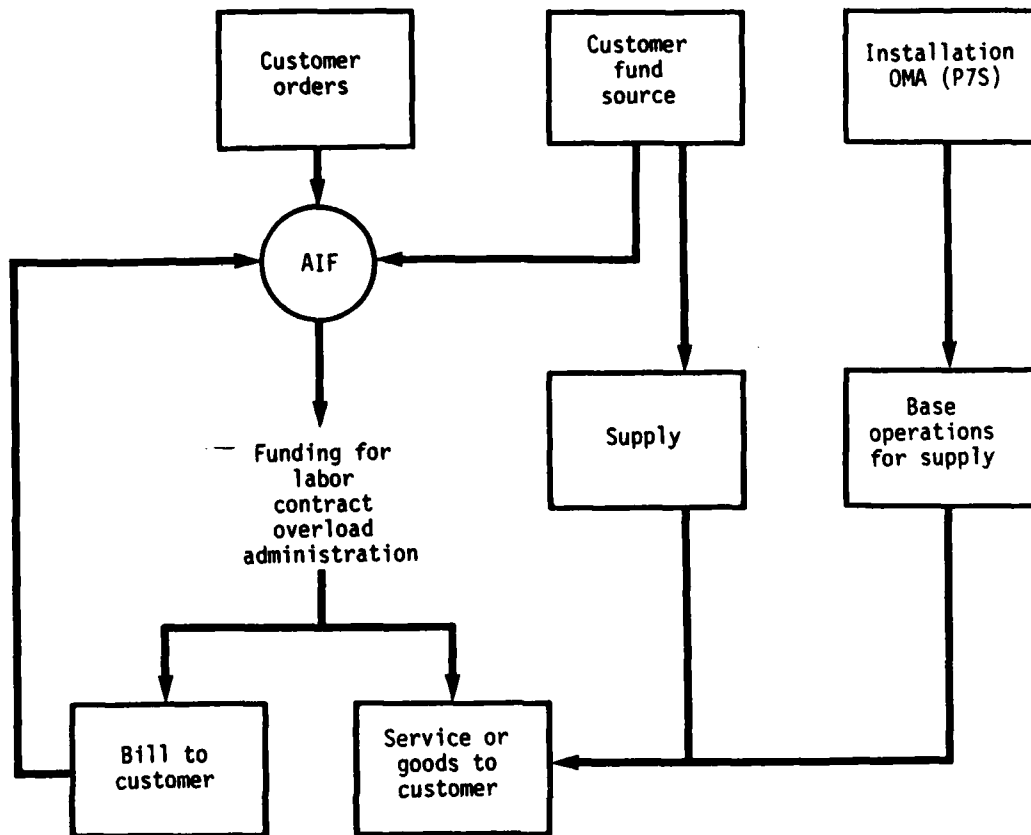


Figure 4-1. MICOM AIF Organization with Supply Function Excluded

(2) **Finance and Accounting Office.** The accounting system for the MICOM in-house effort would have difficulty in distributing overhead costs appropriately to the benefiting organizations for the alternative. The MICOM managers would have to utilize reports from the appropriated funds system along with AIF reports to obtain the total cost of the in-house operations. The implementation of another budgeting/accounting system to accommodate the P7S in-house funded areas would be disruptive to the command with respect to the mission and support activities involved.

(3) **Workload.** The number of PRONs required for a separate financial management system for the supply mission would increase by an estimated 10 times over the current 212 yearly, resulting in an estimated total of over 2,000 PRONs. The number of changes for each PRON may average at least 15 per year. Approximately 65,000 transactions per month would be required to enter these PRONs.

(4) **DA Inquiries.** The current AIF system is flexible enough to provide data requested by higher headquarters.

(5) **Personnel and Workload.** An estimated 23 additional personnel would be required to perform the workload for the alternative system at MICOM. These requirements are explained in the following subparagraphs.

(a) The Budget Office would require the personnel listed in Table 4-4 for a separate branch.

Table 4-4. Alternative Requirements for MICOM Budget Office

Personnel	Duties
1 GS-13 Supervisory Budget Analyst	Branch Chief
2 GS-12 Budget Analysts	COB development; PARR ^a preparation
2 GS-12 Budget Analysts	Execution function; management of disbursements
1 GS-7 Budget Technician	Assist in execution process
1 GS-4 Clerk-typist	Clerical duties

^aPARR - Program Analysis and Resource Review.

(b) The Finance and Accounting Office would require the personnel listed in Table 4-5 for a separate branch.

(c) The Management Information Systems Section would require one GS-12 programmer/analyst to maintain the automated programs generated for the P7S financial reporting. It is estimated that there would be an additional 720 computer hours used per year for the separate P7S financial system.

(6) **Summary.** The alternative would be very disruptive to MICOM since 38 organizations at MICOM receive P7S funding and are customers of the AIF. Separate PRONs would have to be issued to accommodate the non-AIF funded supply function resulting in an order of magnitude increase in the number of PRONs. MICOM estimated that additional personnel would be required.

**Table 4-5. Alternative Requirements for MICOM Finance
and Accounting Office**

Personnel	Duties
1 GS-13 Supervisory Budget Analyst	Branch Chief
1 GS-12 Auditor	Certify funds
1 GS-12 Auditor	Conduct 1311 reviews (outstanding contracts)
1 GS-9 Accounting Specialist	Prepare ledgers and control journals
2 GS-9 Accounting Specialists	Commitments; deobligations; status of reimbursements
3 GS-7 Accounting Specialists	Daily costs and transactions; PRONs
5 GS-5 Accounting Technicians	Assistance in new reports
1 GS-4 Clerk-typist	Clerical duties

4-5. FINANCIAL MANAGEMENT COST FOR THE ALTERNATIVE. Costs are computed in detail for the additional personnel, materiel, and computer time for AMCCOM, and PBA, which provided a detailed breakout of the workload and personnel requirements. Costs for DESCOM and the typical depots, LEAD and RRAD, are also shown.

a. AMCCOM and DESCOM Costs for Alternative. The alternative financial management cost for AMCCOM would be \$28,562 for the one GS-11 budget analyst. No additional costs were indicated for DESCOM.

b. Pine Bluff Arsenal Costs for Alternative

(1) Table 4-6 shows the one-time and recurring costs for the alternative. A total of \$194,010 is required for the one-time start-up costs. Included in this total are \$26,790 for equipment costs such as desks and phone installation, \$50,000 for training, and \$105,000 for the salary and benefits of ADP personnel who will perform the ADP-system changes. These costs were calculated from data contained in Appendix G. The \$367,477 recurring cost is almost entirely for the salaries and benefits of the additional personnel required.

Table 4-6. One-time and Recurring Costs for Alternative - Pine Bluff Arsenal

Organization	Personnel increase	One-time cost	Recurring costs		
			Personnel cost	Material	Computer usage
Budget	2	\$ 4,700	\$ 57,124	\$ 160	
Finance and Accounting	5	9,300	86,469	400	
Management and Analysis	3	6,100	85,686	300	
Management Information Systems	2	108,720	67,139	200	\$10,080
Directorate of Materiel and Demilitarization	2	53,720	36,012	200	
Force Development	1	11,470	23,607	100	
Subtotal	15	\$194,010	\$356,037	\$1,360	\$10,080
Total costs:		\$194,010			\$367,477

(2) While the recurring costs represent a small part of the \$83,690,000 - FY 83 PBA Budget, the costs in relation to the affected organizations is quite significant. Table 4-7 shows the FY 83 PBA personnel costs in comparison to these costs with the incremented recurring costs for the alternative added on for the PBA organizations affected by the alternative.

Table 4-7. FY 83 PBA Personnel Costs

PBA organization	Current \$	Alternative \$	Percent increase
Budget	\$ 116,326	\$ 173,450	+49.1
Finance and Accounting	442,326	528,795	+19.5
Management and Analysis	247,879	333,565	+34.6
Management Information Systems	526,821	593,960	+12.7
Directorate of Materiel and Demilitarization	6,338,105	6,374,117	+0.1
Force Development	110,416	134,034	+21.4
Total	\$7,781,913	\$8,137,910	+4.5

(3) Total recurring personnel costs would rise 4.5 percent for the affected organizations; however, the offices responsible for financial management (Budget and Finance and Accounting) would have a combined increase of 25.7 percent.

c. Letterkenny Army Depot Costs for Alternative

(1) One-time costs would comprise some locally developed training administered at LEAD. Estimated cost would be \$40,000. This cost was calculated based on an average yearly man-year cost of \$26,900 for salary and benefits. The 0.5 man-year required for training would cost \$13,450, and an additional \$26,550 would be required for training materials and travel costs.

(2) Recurring costs would be limited to the cost of two new GS-9 budget analysts required in the budget office. Estimated recurring costs for the two additional budget analysts are \$47,214.

d. Red River Army Depot Costs for Alternative

(1) One-time costs for RRAD for recruitment, training, and system changes would be 4 man-years. At an average cost of \$26,900 for salary and benefits per man-year, the total one-time cost for the alternative at RRAD would be \$107,600.

(2) Recurring costs for RRAD would amount to \$314,631 for the salary and benefits for the 16 additional personnel shown in Table 4-3.

e. MICOM Costs for Alternative

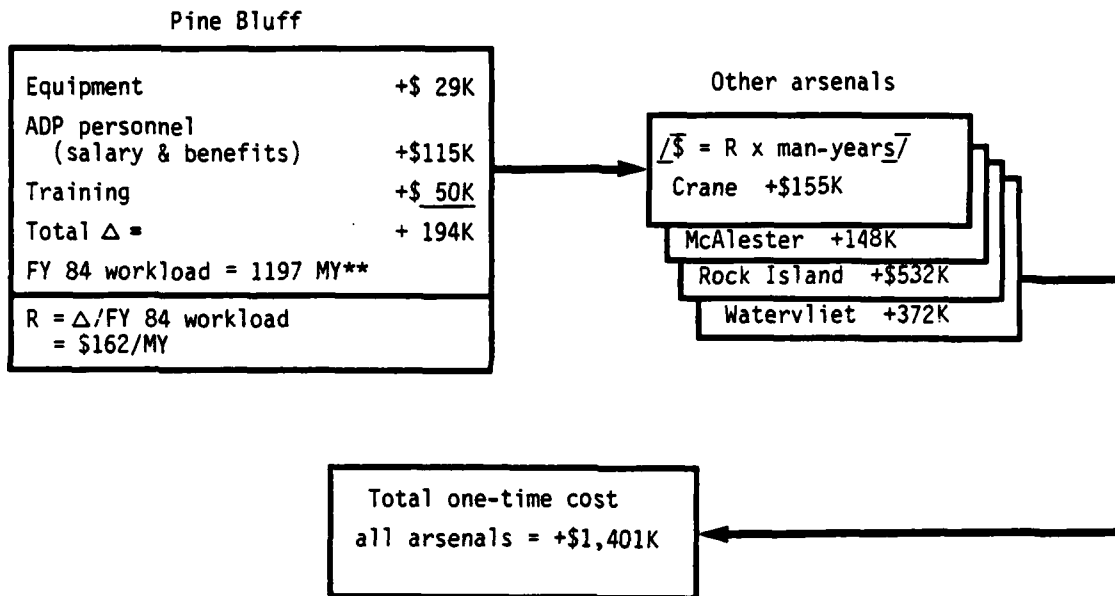
(1) The one-time charge required to initially develop, set up, and implement a financial management system in addition to the AIF for supply is estimated to be \$870,894. The estimated cost amount includes the salaries and benefits of system accountants (\$283,332), budget analysts (\$200,352), personnel recruitment (\$100,000), training (\$230,000), and the cost of programmer and computer time for testing the ADP programs and debugging the system (\$56,710).

(2) The recurring costs consist of the salaries of the personnel listed in paragraph 4-4i. Table 4-8 shows the increase in personnel and recurring cost required by the alternative.

Table 4-8. MICOM Personnel Requirements for the Alternative

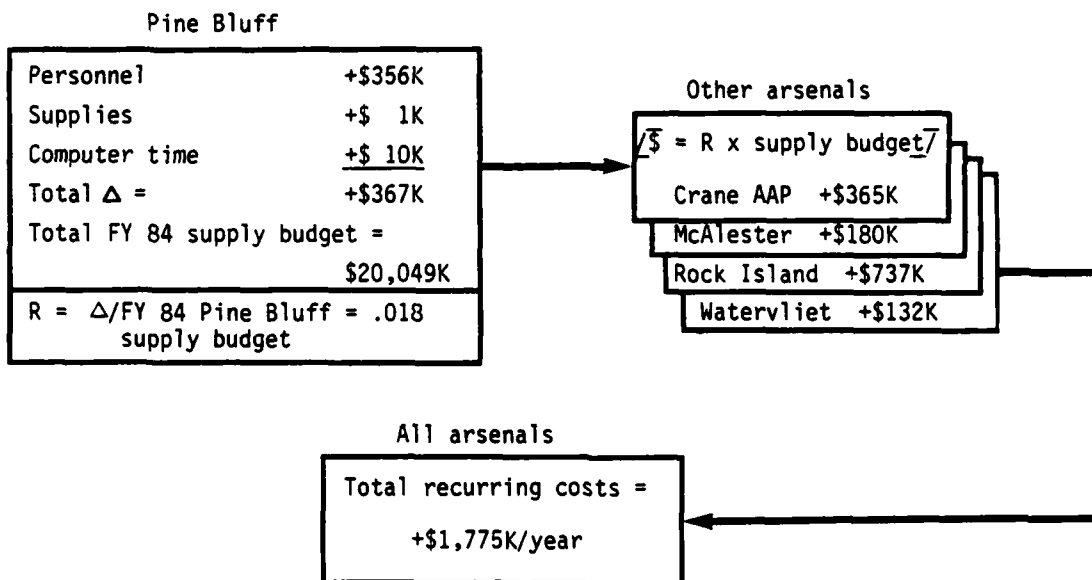
Organization	Personnel increases	Personnel costs
Budget	7	\$ 210,861
Finance and Accounting	15	329,710
Management Information Systems Directorate	1	34,233
Computer costs		
720 hours X \$75 per hour		54,000
Total		\$ 628,804

4-6. EXTRAPOLATION OF COST DATA. Figures 4-2, 4-3, and 4-4, respectively, show how one-time and differential recurring costs were expanded from typical installations to the other AIF installations for the arsenals, the maintenance depots, and the supply depots. Table 4-9 shows the estimated total one-time and recurring costs for the implementation of the alternative that would be incurred by AIF installations based on the methodology contained in Chapter 2. The findings exhibited increased one-time and recurring costs without any cost savings. Compared to the FY 83 AIF budget of \$3.1 billion, the increased recurring cost is 0.1 percent of the AIF budget. Removal of any other function from the AIF would not have provided better results. Expected results would be similar increases in the one-time and recurring costs. However, removing all functions from AIF for management under appropriated funds might result in cost savings since the financial management of the AIF would be eliminated.



*Differential costs

**Total AIF workload in man-years.



*Differential cost

Figure 4-2. One-time Annual Recurring Costs for Arsenals (\$FY 83)

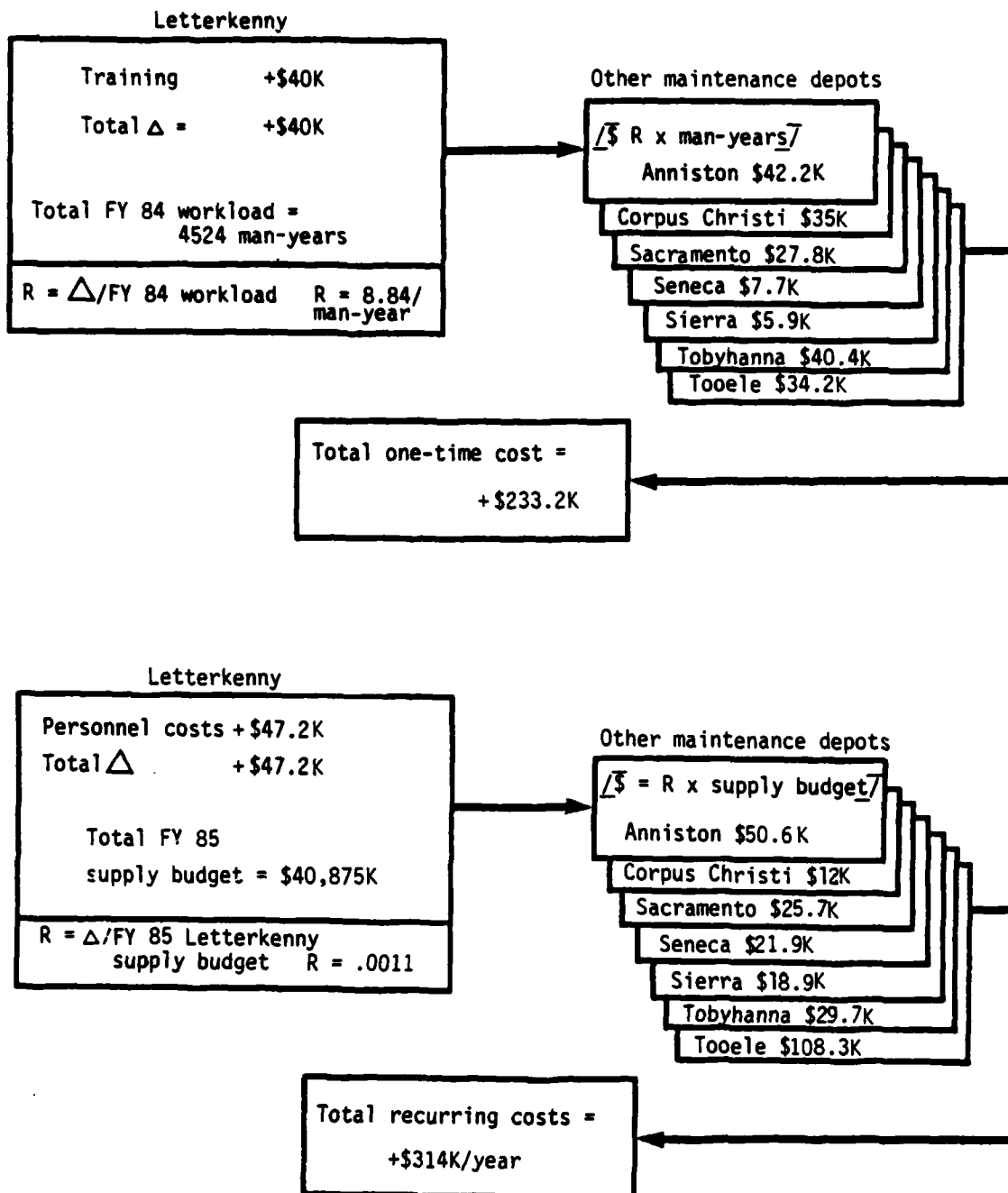


Figure 4-3. One-time Annual Recurring Costs for Maintenance Depots (\$FY 83)

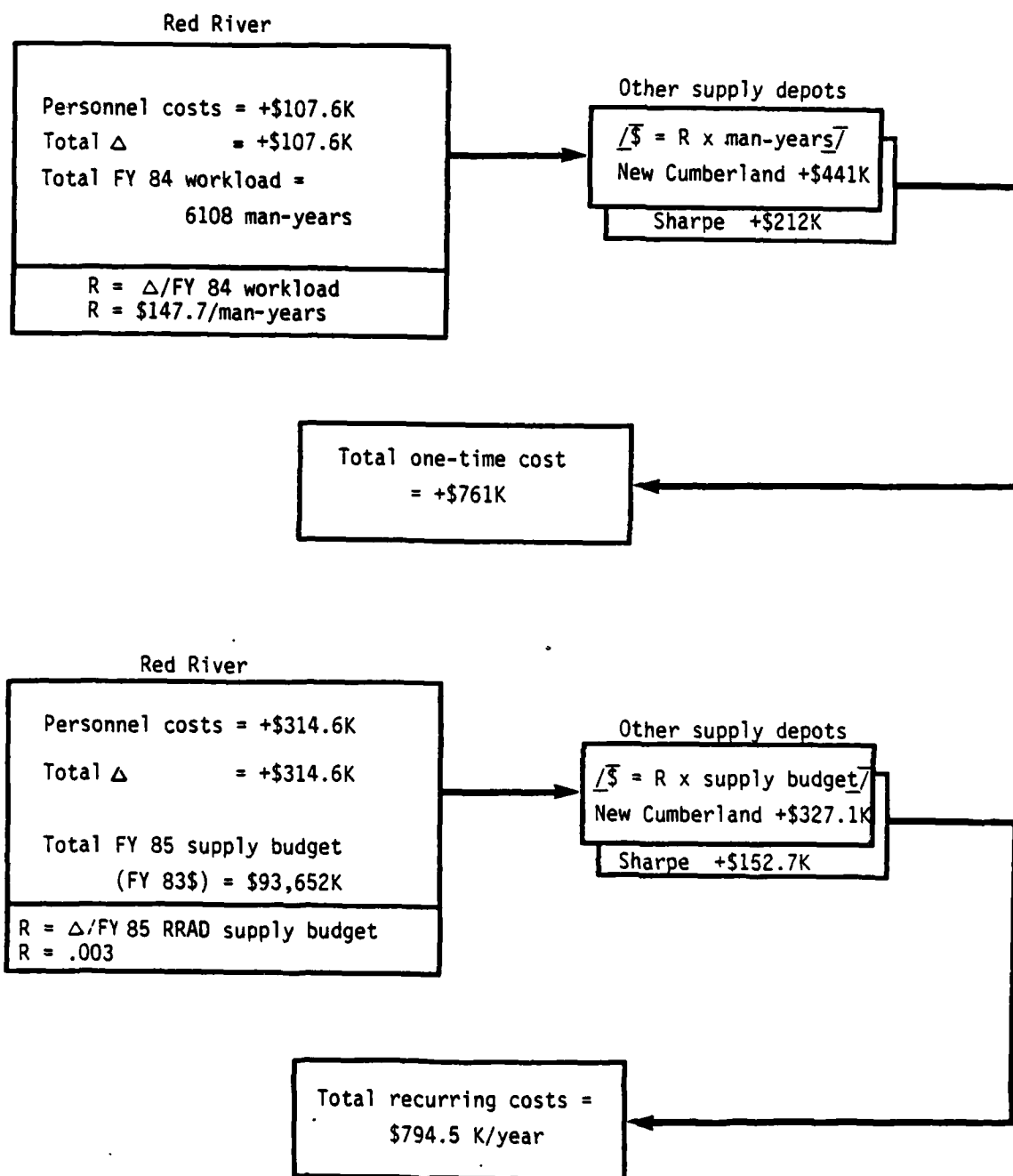


Figure 4-4. One-time Annual Recurring Costs for Supply Depots (\$FY 83)

Table 4-9. Total Army Costs for Implementing the Alternative

Installation/Sub-MACOM	Costs in \$FY 83	
	One-time	Annual recurring
DESCOM	\$ 0	\$ 0
Maintenance depots	233,216	314,375
Supply depots	760,730	794,505
AMCCOM	0	28,562
Arsenals	1,400,910	1,774,872
MICOM	870,894	628,804
Total	\$3,265,750	\$3,541,178

4-7. COMPARISON OF ALTERNATIVE WITH CURRENT SYSTEM

a. **Single Fund Concept.** An installation currently operating under AIF does not maintain a separate stock fund. The alternative would require the establishment of an Army stock fund in addition to the AIF. This would result in dual financial management for separate sources of financing, increasing the complexity for the manager in determining which funds he is to use each time he prepares a travel order, material issue document, etc. The current process of one single fund minimizes data collection, financial reporting, and fragmentation of control. Until the AIF was established to include the supply function, the regulations for the stock fund required a breakdown of data among materiel categories and an increase in financial inventory accounting. The maintenance of subsidiary ledgers and reporting systems for different materiel categories under the stock fund system would result in substantial one-time and recurring costs.

b. **Base Operations Distribution.** The alternative would require additional computations to distribute a portion of the base operations costs to the P7S appropriation. Currently, the customer reimburses the AIF for his share of the base operation cost. The alternative would require a prorated allocation of each segment of base operations to the P7S appropriation based on a variety of measures of base operation usage with an attendant increase in workload.

c. **Flexibility.** The internal operating budgets of an AIF installation are not subject to annual Congressional approval or the extensive budgetary process. Removing the supply function from the AIF would impede the planning and budgeting of AIF fund managers that is necessary for the needs of the installation customers and managers. Congressional appropriations for supply may be inconsistent with the installation workload, resulting in inefficiency. Since appropriated funding eliminates the ability to readily hire and fire employees and restricts exchanging labor among directorates, workload fluctuations in the receipt, storage, and issue areas of the supply operations would be handled with less flexibility and efficiency under a P7S funding appropriation.

d. **Readiness.** One of the most critical missions of DARCOM is to supply materiel to CONUS and overseas installations. A shortage of required supplies and repair parts due to cuts in appropriations may occur more rapidly for an installation operating the supply function under appropriated funds than for one operating under AIF. This contributes directly to a reduction in operational readiness.

e. **Resource Management.** Having one mission under appropriations would restrict the commander's flexibility in shifting resources between P7S and other missions when needed, thus reducing the overall effectiveness of the AIF.

CHAPTER 5

SUMMARY AND OBSERVATIONS

5-1. INTRODUCTION. The purpose of this chapter is to summarize the study results, address the essential element of analysis, state key observations, and relate other relevant observations determined during the course of the study.

5-2. SUMMARY. The Army Industrial Fund (AIF) and the industrial funds (IF) of the other services were reviewed. The industrial funds of the other services were examined with respect to their financial management. No new or innovative concepts were identified which would be of value to the Army. The financial management of AIF was examined in detail with emphasis placed on the supply function. Site visits were made at all levels of the Army. The current process was examined and it was observed that management varies between the sub-MACOMs, to a small degree. However, they all conform to DA regulations, and at the MACOM and DA level, there is no noticeable effect resulting from differences in management. None of the installations or sub-MACOMs expressed dissatisfaction with management under the AIF concept. An alternative to the current AIF management was developed. This alternative, removing the supply function from AIF and tracking by separate appropriation, was used to determine if the current process was satisfactory or if some benefits would be derived from implementing the alternative. The sub-MACOMs and installations were tasked to develop detailed cost estimates on implementing the alternative and to provide a qualitative assessment. An equal benefit, unequal cost comparison was made between the current AIF management system (base case) and the alternative. The remainder of this chapter addresses the EEA, and presents the study findings and other observations based on study research and results.

5-3. ESSENTIAL ELEMENT OF ANALYSIS (EEA)

a. EEA. The EEA, as stated in the AIFAS study directive, is: What are the costs and benefits of an alternative financial management system for the supply function compared to the current AIF system?

b. Benefits. The benefits of the alternative are considered equal as compared to the current system since an unequal cost--equal benefit analysis was conducted. With respect to the customer, no change other than cost is noted. Those benefit measures listed in Chapter 2 and which are considered as held constant are as follows:

(1) **Timeliness of order completion** - the customer would notice no change in completion of orders.

(2) **Number of work or service orders completed** - no change would be noted by the customer, assuming he would continue to provide funding in a timely manner.

(3) **Inventory ratio** - the inventory ratio (stock on hand versus stock used) is expected to remain constant. This ratio improved under AIF but the alternative is not expected to affect this ratio significantly.

(4) **Management information** - the customer is expected to notice no change in the information provided him on his order status.

c. **Cost.** The cost of financial management for implementing the alternative was reviewed at three levels: DA and MACOM, sub-MACOMs, and installations for each of three selected groups: arsenals, depots, and missile supply and support. There was no change in cost at the DA and MACOM level. Similarly, there was little change in cost at the sub-MACOM level since the sub-MACOMs are currently managing and reporting under appropriated funds and AIF. The annual recurring cost for AMCCOM is \$28,562. DESCOM did not report any change in cost although some of the existing personnel may be transferred to new positions. A change was noted for MICOM, which is treated as an installation, and is discussed next. All of the installations would be affected by the alternative. The summary results for these installations, placed in functional groups, are as shown in Table 5-1. The increase in cost is \$3,541,118 or a 0.5 percent increase in the cost of the supply mission. Compared to the total AIF budget, including the appropriated fund increment, the change in cost may not be significant.

Table 5-1. Alternative Costs

Sub-MACOM/Group	One-time cost	Differential annual recurring cost	% increase in FY 83 annual recurring supply expenditures
DESCOM/depots	\$ 993,946	\$1,108,880	0.2
AMCCOM/arsenals	1,400,910	1,803,434	1.8
MICOM/missiles	870,894	628,804	0.5
Total	\$3,265,750	\$3,541,118	0.5

5-4. **QUALITATIVE ASSESSMENT.** Advantages and disadvantages of both the current system and alternative are listed in the following subparagraphs.

a. **AIF**

(1) **Advantages.** Close management control of production schedules and costs. Other AIF advantages are summarized as follows:

- Single source of financing - reduces complexity for managers.

- Management cost consciousness - management can determine through cost reports those services that are marginal and eliminate them.
- Judgmental leeway - managers can complete underfunded orders by making funding adjustments.
- Medium to finance base operations costs - costs attributable to base operations are distributed over customer orders.
- Improved visibility of in-house costs - the installation commander always has a complete picture of in-house operational costs.
- Flexibility in cash transactions - operating cash may be shifted from one installation to another without reprogramming restrictions by the MACOMs.
- Workload and costs functionally oriented - rather than appropriation oriented.
- Improved efficiency - flexible use of temporary workers improves responsiveness with fluctuation in workload.

(2) Disadvantages. The AIF disadvantages are summarized as follows:

- Response to inquiries - difficult to respond to DA appropriation fund inquiries.
- Nonuniformity - increases the lack of uniformity among services.
- Losses or gains - increases probability of completing orders at a near-term loss or profit (prices are adjusted in future years).
- System stability - greater changes occur to management under AIF.

b. Alternative/Appropriated Funds

(1) Advantages

(a) Better Installation Response. Installations can respond more rapidly to DA appropriated fund inquiries under the alternative. Currently, additional effort in terms of manhours is required to respond to these inquiries; however, the additional workload is usually absorbed by the current workforce. Thus, no additional costs are involved. Similarly for the alternative, there would be no reduction in the workforce.

(b) Fully Funded Orders. Currently, project and service orders are generally completed under AIF based on fixed prices and rates. Losses or gains may occur under AIF which may not be adjusted until 2 years in the

future. Under appropriated funds these orders must be fully funded and accounted for; thus, installations would not be completing orders at a loss or gain.

(c) Better System Stability. Currently, installations and sub-MACOMs operating under AIF have been subjected to a number of DA-originated changes. Recent examples of these changes are the capitalization of equipment under the Asset Capitalization Program (ACP) and the use of a double declining balance to compute depreciation. The result of these changes is the requirement to modify computer programs and to train personnel. This additional workload requirement has been absorbed by the existing workforce. A very recent change has been the deletion of the double declining balance and the application of a surcharge to customer orders to cover depreciation. Under appropriated funds, these types of changes would not currently be necessary.

(d) No Carryover of Funds. Currently, installations may carry over funds from one fiscal year to the next for planned orders which were not started due to certain conditions. GAO has reviewed the carryover of funds, and in a few instances, has recommended that funds be returned to the customer and the work be rescheduled at a later date. Under appropriated funds, all accounts must be reconciled by the end of the fiscal year. There is no actual cost savings, but Congress is able to maintain better control over appropriated funds used by customers for AIF.

(e) Uniformity Among Services. Prior to the establishment of industrial funds, the services operated under appropriated funds such as RDTE and O&M. Thus, funds used for research, development, and testing were uniformly identified among the services. With the establishment of industrial funds, the services could choose which functions they wanted to place under IF as long as a charter was approved by OSD. Examples of nonuniformity are as follows:

- Navy has RDTE under IF; the Army does not.
- Air Force has laundry services under IF, the Army and Navy do not.
- The Army has the supply function under IF; the Navy does not.
- The Navy has printing services under IF, the Army and Air Force do not.
- The Navy has data processing and base services under IF; the Army does not.

(2) Disadvantages

- (a)** Reduces commander's cost control.
- (b)** Less responsive to change in workload.

(c) Reduces flexibility in cash transactions.

(d) Disruptive to AIF installations.

5-5. KEY FINDINGS. The key findings are summarized herewith; by the following statements:

a. The alternative would increase the annual financial management costs of the AIF installation by \$3.5 million as well as require initial implementation costs of \$3.3 million.

b. The alternative would disrupt the current financial management process since two financial management systems would be in operation at the installation level adding to management complexity.

c. The alternative may decrease the cost control capability of the installation commander.

d. The implementation of the alternative would not have a significant impact above the installation level.

e. The alternative would improve ability to respond to DA-appropriated fund inquiries.

f. Supply equipment should be included under the Asset Capitalization Program to improve installation efficiency.

5-6. OBSERVATIONS. Observations were made during the course of the study on other items of interest not directly associated with the EEA. They are presented to suggest changes to the AIF for future consideration.

a. A review of the other services did not provide innovative management systems that could be used by the Army.

b. Standardization of the industrial funds between the services is not warranted since they have selected different activities to place under IF which best promote effective and efficient operation.

c. The AIF financial management system provides excellent visibility to the manager on costs and schedules.

d. Currently, the installations have a variety of software, programs and automatic data processing equipment. These should be standardized in conjunction with the USAFAC Standard Financial System (STANFINS) redesign in future years.

e. A four-digit code is used to define the elements of expense (EOE) in the Army Management System (AMS) under appropriated funds. Under AIF, only a two-digit code is used. The four-digit EOE code used with appropriated funds should be implemented in conjunction with the AIF two-digit code.

DESCOM AND MICOM utilize both of these codes. The principal advantage of the four-digit code is the ability to respond quickly to DA-appropriated fund inquiries.

f. The supply regulation, AR 710-2, should be reviewed.³ Currently, the installations are required to track low dollar items under this regulation. This creates a dual accountability system which is costly and unnecessary. The exemption of AIF installations from AR 710-2 should be reinstated.

g. Computer service activities, such as the Logistics Systems Support Activity (LSSA), could be placed under AIF to preclude insufficient funding to perform customer services. Computer services appear to have worked well under the Navy IF.

h. Congress could be better informed of accomplishments under AIF. At this time, both DESCOM and MICOM have the capability to produce additional financial reports for DA/Congress level. If AMCCOM adds the four-digit EOE code in conjunction with their two-digit code, they will also have this capability. An assessment should be made at DA level to determine which reports should be provided to Congress.

i. Uniformity among services operating under IF should not be mandated since this will not ensure that available management information is appropriately used or that cost consciousness is heightened. Functions have been added or deleted from IF in varying degrees among the services. The flexibility to make those changes would be reduced if uniformity were imposed.

APPENDIX A
STUDY CONTRIBUTORS

1. STUDY TEAM

a. Study Director

Kenneth R. Simmons, Requirements and Resources Directorate

b. Team Members

Mr. Joel S. Gordon
Mr. Charles Weber

c. Other Contributors

Mr. Carl B. Bates, Analysis Support Directorate

2. PRODUCT REVIEW BOARD

Mr. James J. Connelly (Chairman), Force Systems Directorate
CPT David S. Stevens, Analysis Support Directorate
Mr. Charles A. Bruce

APPENDIX B
STUDY DIRECTIVE



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

DALO-RMB

16 MAR 1984

SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

Director
U. S. Army Concepts Analysis Agency
8120 Woodmont Avenue
Bethesda, Maryland 20814

1. Purpose of Study Directive. This directive provides for the conduct of a study to evaluate the single financial management system of the Army Industrial Fund (AIF) versus alternatives.
2. Study Title. Army Industrial Fund Analytical Study (AIFAS).
3. Background. The Army Industrial Fund was established in 1951 to provide a working capital fund to support industrial and commercial-type activities. Initially, AIF was composed of the maintenance function at two installations. Currently, the AIF has grown to encompass a variety of functions performed at a number of installations (see AIF Organization, enclosure 1). In July 1964, the Army Stock Fund was established to capitalize inventories of consumable material (supply function). A GAO study conducted in July 1971 recommended that the stock fund for the Army be managed as part of the AIF. The Air Force and Navy, however, maintain separate financial management systems for different types of functions--these include separate funds for O&M, RDT&E, retail stocks, and several industrial type funds. OSD and Congress have questioned the different systems of management of industrial funds among the Services.
4. Study Proponent. Office, Deputy Chief of Staff for Logistics (ODCSLOG).
5. Study Agency. U. S. Army Concepts Analysis Agency (USACAA).
6. Terms of Reference.
 - a. Statement of the Problem. Congress and OSD have questioned the financial management system of the Army Industrial Fund.

DALO-RMB

SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

b. Purpose. The purpose of this study is to evaluate the costs and benefits of the current AIF financial management system in comparison with potential alternative financial management systems.

c. Definitions. The Army Industrial Fund (AIF) is defined by DOD Directive 7410.4 as an authorized fund to provide working capital for industrial and commercial-type activities that provide common services within or among the DOD components.

d. Objectives.

(1) Review and evaluate the current AIF financial management system.

(2) Define an alternative financial management system retaining AIF but with supply function tracked by appropriation. Evaluate its cost and benefit compared to the current system.

e. Scope.

(1) The study will examine financial management systems for AIF from the installation through HQDA level.

(2) The study will develop and compare the most promising alternative with the current AIF financial management system.

(3) Rather than examine all installations, Army installations will be placed in functional groups and a typical Army installation for each group will be examined to estimate the costs and benefits associated with a single industrial fund versus alternatives.

(4) Examination of the industrial fund for the Navy and Air Force will be performed at HQ level to determine possible alternative financial management systems for AIF.

(5) The study will examine functions within the AIF that may be candidates for non-AIF functions.

(6) Conversely, where there is evidence that AIF concept should be expanded to other functions, recommendations on additional study or implementation should be made.

f. Limitations.

(1) Only the Army Industrial Fund will be considered. While we will consider constraints placed by the overall budgetary system, we are not concerned with the context of the AIF within

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SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

within the Army budgetary activities. We are concerned with how the AIF is managed at installation level and its impact on overall AIF management.

(2) Only overall accounting procedures for managing the fund will be considered.

(3) Only the supply function will be tracked by appropriation. Priority is placed on this function.

g. Assumptions.

(1) AIF functions as defined in AR-37-100-XX where XX denotes current year, will remain unchanged.

(2) Congress will continue to support AIF activities.

h. Question to Be Answered by the Analysis.

What are the costs and benefits of an alternative financial management system for the supply function compared to the current AIF system?

7. References.

- a. Army Management System, AR 37-100-84.
- b. DA, Financial Administration, AR 37-110.
- c. DOD Budget Guidance Manual, 7110-1-M, July 1982.
- d. DOD Directive, Industrial Fund Operation, 7410.4-R, April 1982.
- e. Army Studies and Analysis, AR 5-5, October 1981.

8. Responsibilities.

- a. The study proponent, ODCSLOG will:
 - (1) Provide a study coordinator.
 - (2) Establish a study advisory group (SAG) and schedule in-process review (IPR) as required.
 - (3) Assist in providing study agency with available financial and manpower data, and points of contact (POC) as requested.

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SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

(4) Prepare an evaluation of study results IAW AR 5-5.

b. The study agency, CAA, will:

(1) Designate a study director and establish a full-time study team.

(2) Establish direct communications with HQDA, HQDN, HQDAF, and other installations as required for the conduct of the study.

(3) Provide an IPR if requested and provide a final study report to the study proponent.

(4) Provide programing and ADP support as required for the conduct of the study.

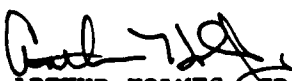
9. Milestone Schedule.

<u>Event</u>	<u>Date</u>
Brief Study Plan	15 Feb 84
In-Process Review (if requested)	15 Mar 84
Brief Study Results	13 Jun 84
Final Report Published	29 Jun 84

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

FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:

1 Encl


ARTHUR HOLMES, JR.
Major General, GS
Assistant Deputy Chief of Staff
for Logistics

ARMY INDUSTRIAL FUND
ORGANIZATION

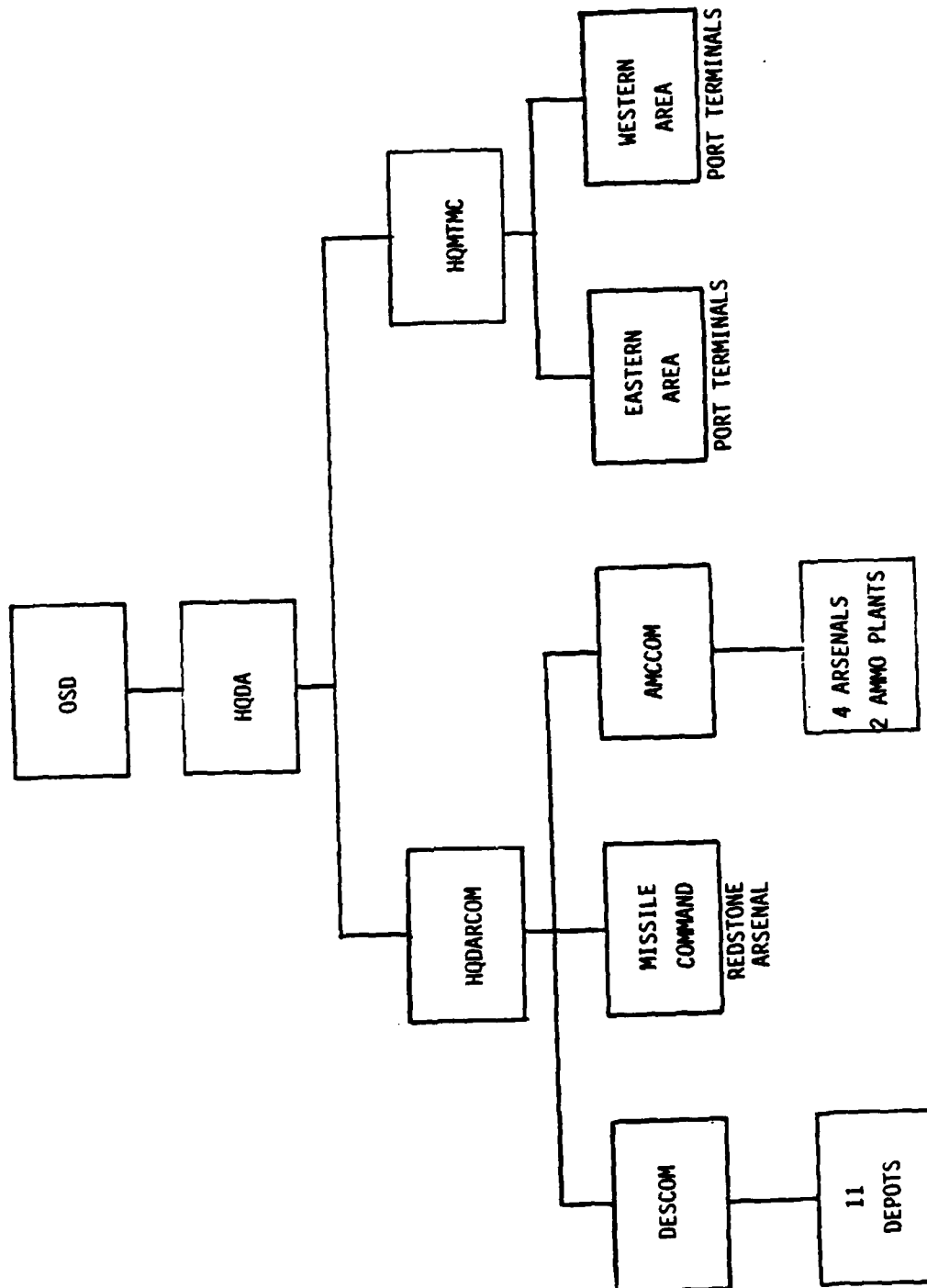


Figure 1

APPENDIX C

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2. OSD, Department of Defense Industrial Funds Estimates for Fiscal Year 1984, February 1983.
3. AR 710-2, Supply Policy Below the Wholesale Level, October 1981

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AR 37-110, Budgeting, Accounting, Reporting and Responsibilities for Industrial Funded Installations and Activities; C1, 15 November 1981; C2, 1 October 1982

AF 170-110, Air Force Industrial Fund, October 1983

NAVSO P-1000, Navy and Marine Corps Industrial Funds (Volume 5, Navy Comptroller Manual), July 1981

Review to Determine Whether Defense is Using Working Capital Funds to Improperly Extend the Life of Appropriations Which Would Otherwise Expire (DRAFT), GAO, January 1984

Savings Available by Transferring Army Inventory Accounting from Stock Funds to Industrial at Installation Level, GAO Report, July 30, 1971

Department of Defense Appropriations for 1983. Hearings before a Subcommittee on Appropriations, House of Representatives, GPO, Washington, DC, 1982

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The Supply Mission in the AIF, Briefing, US Army Materiel Development and Readiness Command, 1981

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AIF Asset Capitalization Program, Briefing, US Army Missile Command,
1983

AIF Asset Capitalization Program, Briefing, Office of the Deputy Chief
of Staff for Logistics, 1983

APPENDIX D

DETAILED DESCRIPTION OF THE CURRENT AIF PROCESS

D-1. INTRODUCTION. This appendix presents a description of the origin of the Army Industrial Fund (AIF), its interaction with governmental agencies, and a discussion of the key factors that comprise the AIF. Also included is a discussion on the general operation of the AIF, the budget process, and the Asset Capitalization Program Policy.

D-2. HISTORY. As a result of the ineffective management of the large expenditures appropriated during World War II, President Truman established a commission, headed by former President Hoover, to review the Federal Government's system of funding in order to achieve more efficient financial management. In 1949, as a result of the Hoover Commission's recommendations, the 81st Congress passed Public Law 216, which authorized working capital funds and made provisions for the financing of industrial-type activities. The purpose of this action was the establishment of a businesslike cost accounting system which could effectively control and account for the cost of programs and work performed. The Army Industrial Fund began operations on 1 July 1951 with Picatinny and Rocky Mountain Arsenals. Management under the AIF concept since that time has been extended to the remaining arsenals, all depots, RDTE installations, Military Traffic Management Command (MTMC) Headquarters and Eastern and Western Commands, and the US Army Missile Command. Currently, functions under AIF include supply, transportation, hardware production, depot maintenance, and RDTE (which will be phased out of AIF by 1985).

D-3. OVERVIEW

a. Regulations. Working capital funds are authorized and provide for the financing of industrial/commercial activities under Title 10, United States Code. This regulation authorized the establishment of revolving funds to provide working capital for industrial and/or commercial type installations which provide common services for customers within or among the departments and agencies of DOD, and for customers outside DOD. Army Regulation 37-110, Budgeting, Accounting, Reporting, and Responsibilities for Industrial Funded Installations and Activities, is the Army implementation of DOD regulations governing industrial fund operations and financial reporting.

b. Charters. Basic requisites for an installation's eligibility for AIF operations are that a buyer-seller relationship must exist and that the installation must produce goods or services for more than one customer. Once an installation has demonstrated suitability for industrial/commercial type operations, a charter is prepared and submitted by DA to DOD for approval. The charter contains the name and location of the installation, the operating agency responsible for managing the installation, a description of installation functions, the type of product or services offered,

and a statement of exceptions. The approved charter is the authority for the installation to operate under the Army Industrial Fund. The Comptroller of the Army (COA) is responsible for the management of the financial corpus of the AIF to ensure that transactions do not obligate the US Government beyond the limits of available budget authority. The COA is also responsible for financial controls to prevent excessive operating gains or losses and for other assigned legal and administrative requirements for fiscal management and control.

c. Other Government Agency Roles. The roles other governmental agencies play in AIF management are as follows:

(1) **Office of Management and Budget (OMB).** This is the President's immediate staff office for budget development, which provides broad guidance, sets budget submission timing, processing, and material format as well as final budget review.

(2) **OSD.** OSD converts OMB guidance into detailed requirements (e.g., inflation rates, supporting budget schedule), performs budget reviews and adjustments (PBD cycle), and performs quarterly AIF budget execution reviews.

(3) **COA.** COA is responsible for AIF solvency, developing AIF policy and regulatory guidance, and representing the AIF on all legal matters, as well as reviewing, consolidating, and restructuring the AIF budget for the President's budget.

(4) **Deputy Chief of Staff for Logistics.** The DCSLOG is the program director for AIF operations, issuing budget mark based on OSD and Congressional actions, developing policy on implementation of budget action, reviewing and consolidating budget submissions to OSD, defending AIF activity budgets to OSD, reconciling AIF new orders to appropriated fund budgets, and monitoring execution.

(5) **Deputy Chief of Staff for Personnel (DCSPER).** DCSPER provides manpower guidance.

(6) **Major Army Commands.** MACOMs provide overall management, operation, and control of AIF programs.

(7) **Installation Commanders.** Commanders control performance costs in line with customer orders.

(8) **Customers.** Customers provide programing and budgeting for work planned and reimburse the AIF for products and services rendered.

(9) **Installation Planning and Production Officers.** These officers establish work priorities and direct labor.

(10) **Installation Cost Center Manager.** The cost center manager assists in preparation of cost center budgets and maintains control of costs.

D-4. DESCRIPTION OF THE AIF PROCESS. The main distinction between an AIF installation and a commercial enterprise is that the AIF installation's objective is to break even, as opposed to making a profit. Each Army installation is reimbursed for the cost of goods and services produced based on orders received and accepted, with the objective of maintaining the integrity of the working capital established in the fund and operating as close as possible to a break-even level.

a. AIF Operation. The general operation and a description of the AIF buyer-seller process is shown pictorially in the circular diagram in Figure D-1. The diagram is discussed in the following subparagraphs.

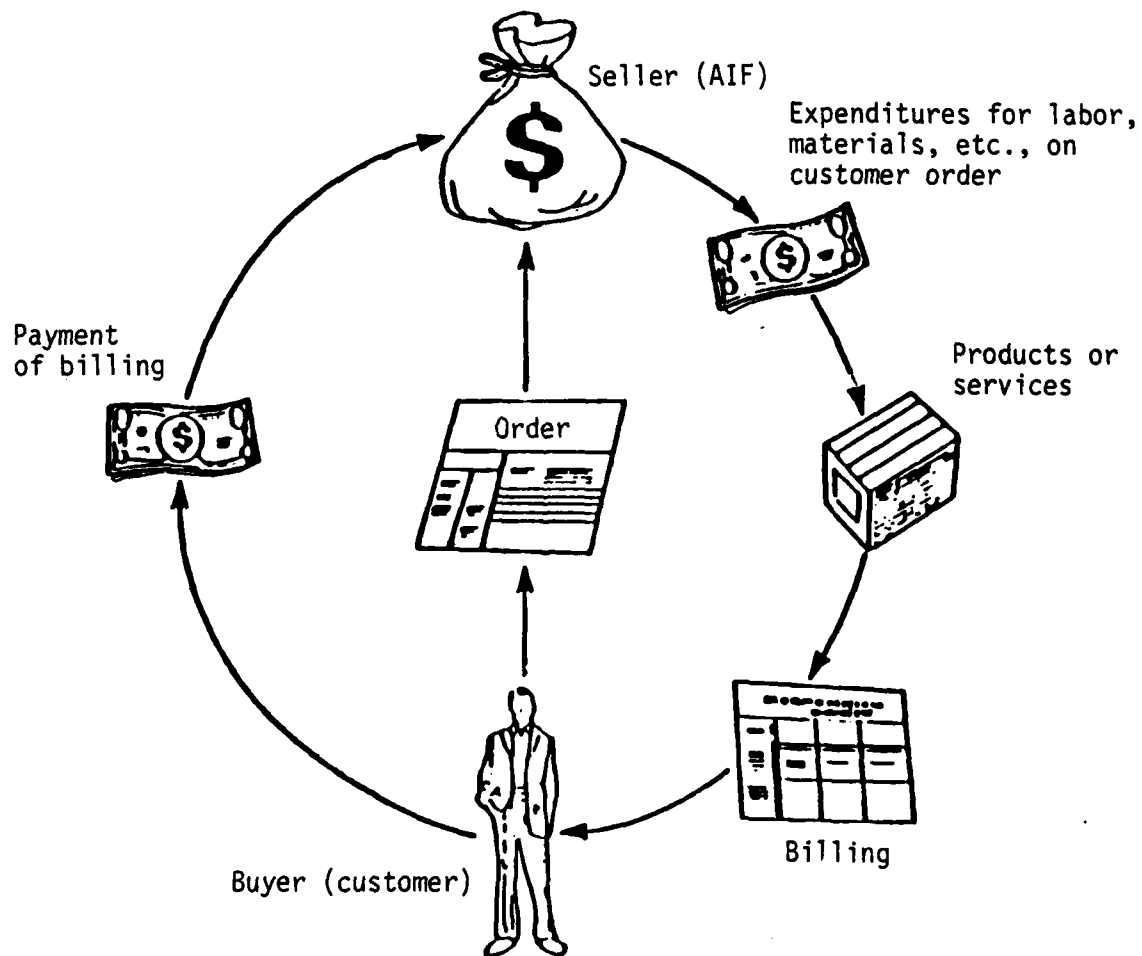


Figure D-1. The AIF Process

(1) The process starts with the buyer (the customer) who usually obtains appropriated funds from Congress through the normal process of budget preparation, approval, and execution. Approval of the budget implies approval of the workload. Accordingly, the sub-MACOMs initiate the customer work orders to the installation referred to as the seller. The AIF installation's working capital, or revolving fund, is used to initially finance the expenditures for labor, materials, etc., on the customer's order. The customer is informed on work progress as the work order is in process. The customer is usually billed on a semimonthly basis. Payment from the customer's appropriated funds replenishes the installation's (seller's) revolving funds.

(2) The process described above is analogous to a commercial enterprise where the factory receives the order, produces the product or service, and then receives payment.

b. Definition of Terms

(1) **The Customer.** Customers of an Army Industrial Fund installation may be any DOD elements except those directly involved with management and operation of the industrial fund installation, such as the Tank Automotive Command (TACOM) for the maintenance of tracked vehicles, non-DOD Federal Government agencies under conditions as authorized, such as the Department of Transportation (DOT) for the maintenance of commercial vehicles, and private parties such as the Raytheon Corporation for missile system maintenance. The overwhelming majority of AIF customers are DOD organizations. The customer obtains the resources to purchase goods and services from the AIF seller from his organization's appropriated funds which are approved by Congress. Approval of the customer's budget implies approval of the customer's projected AIF workload. The customer places his order, which is either a project or service type order, directly to the AIF installation seller or through the customer's MACOM.

(2) AIF Installation Management

(a) The AIF budget for the installation, prepared after considering customer requests for work, work priorities, and direct labor estimates is established by the planning and production officers at the installation. Required manpower and materials are estimated based on scheduled and anticipated workload for the budget as well as installation capacity.

(b) After establishing a suitable schedule, the planning and production officers collaborate in estimating the direct production man-days to be expended during the budget period by work category and by cost center.

(c) Cost centers are homogeneous groupings of machines, product lines, service functions, scientific disciplines, etc. A cost center is established for the purpose of managing people, money, material, machines, and operational methods. It is an entity unto itself for budgetary, accounting and management purposes and is identified with single management

responsibility. The work performed is uniform enough to permit an equitable and practical method of charging costs incurred to end products, processes, or services.

(3) Work Orders. Work orders fall into three distinct categories--project orders, service orders, and commanders' orders, as follows:

(a) A project order specifically defines the type of work to be done and requires a certain amount of work to be done in-house. The time-frame for work accomplishment may exceed a fiscal year. The charge to the customer appears on the order and is based on a fixed price/fixed rate. Where a fixed price/fixed rate is not established, work is accomplished on a cost reimbursable basis. Project orders must normally start within 90 days of receipt. An example of a project order would be the maintenance of a tracked vehicle.

(b) A service order provides for routine, continuing services (e.g., janitorial services) or administrative support for the ordering organization. Service orders must be closed and the obligation adjusted at the end of the fiscal year.

(c) A commanding officer's order may be used in cases of bona fide emergencies. The order must be issued and signed by the installation commander and expires 30 days from issuance.

(4) Fixed Prices/Rates and Billings

(a) Each AIF installation establishes fixed prices for project orders; these prices are typically expressed at the end product level (e.g., overhaul of a specific end item). Fixed rates for service orders may be based on manhours or man-days required at the installation, cost center, or other management level to perform the service. An installation may have several rates if warranted, but multiple rates must roll up to a single composite rate for an identified activity. Minimization of overall gains and losses are a key factor in the development of rates and prices. Operation results are received monthly to check for unexpected gains or losses.

(b) Fixed prices/rates are prepared 2 years in advance and factor in-plant overhead and general and administrative costs as well as labor and material. Prices/rates are based on historical data with consideration given to projected inflation. The target year price/rate is further adjusted by the net operating results (profit or loss) experienced the previous year by the AIF installation. A surcharge for equipment capitalization is made based on the asset capitalization program guidelines discussed later in this appendix. Fixed prices/rates are held stable for each fiscal year. If approved by OSD, fixed price/rate can be adjusted when significant gains or losses threaten the overall cash position necessary to maintain a nonprofit enterprise.

(c) The bill is calculated from the prices established in the AIF installation's fixed price/rate catalogue. Billings are normally of a progress type, processed semimonthly. The bill covers the following costs of performing work: direct labor costs, direct material costs, indirect production expense, apportioned base operations expense, and general and administrative expenses.

(d) Before utilization of fixed prices/rates, cost increases were passed on to the customer as they occurred. This caused a reduction in work completion or rescheduling of work to stay within customer fund availability. Such program instability generated costly imbalances between workload and manpower.

D-5. AIF BUDGET PROCESS. The AIF budget is included in the President's budget submitted to Congress. The AIF annual budget is not a request for funds but provides a medium by which Congress may evaluate the effectiveness of the management of the industrial fund. The AIF budget also provides a means of justifying manpower requirements on the basis of funded work orders.

a. **Budget Call/Guidance.** Initiation of the budget process begins with the budget call issued by OSD; Figure D-2 shows the organizational relationships through which both the COB and AIF budget guidance flows. OSD provides guidance to ODCSLOG with respect to inflation rates, pay schedules, time schedules, and other events. ODCSLOG, in turn, provides guidance to the MACOMs, DARCOM and MTMC. These commands provide guidance to the sub-MACOMs and the installations are notified.

b. **AIF Budget Process.** An overview of the budget process applicable to the MACOM level is shown in Figure D-3. The AIF budget process which is input to the President's budget is superimposed as a dotted line. Figure D-4 further illustrates the AIF budget process. The following subparagraphs describe the process from cost centers at the installations to the President's budget. Included are the actions taken by the various governmental organizations.

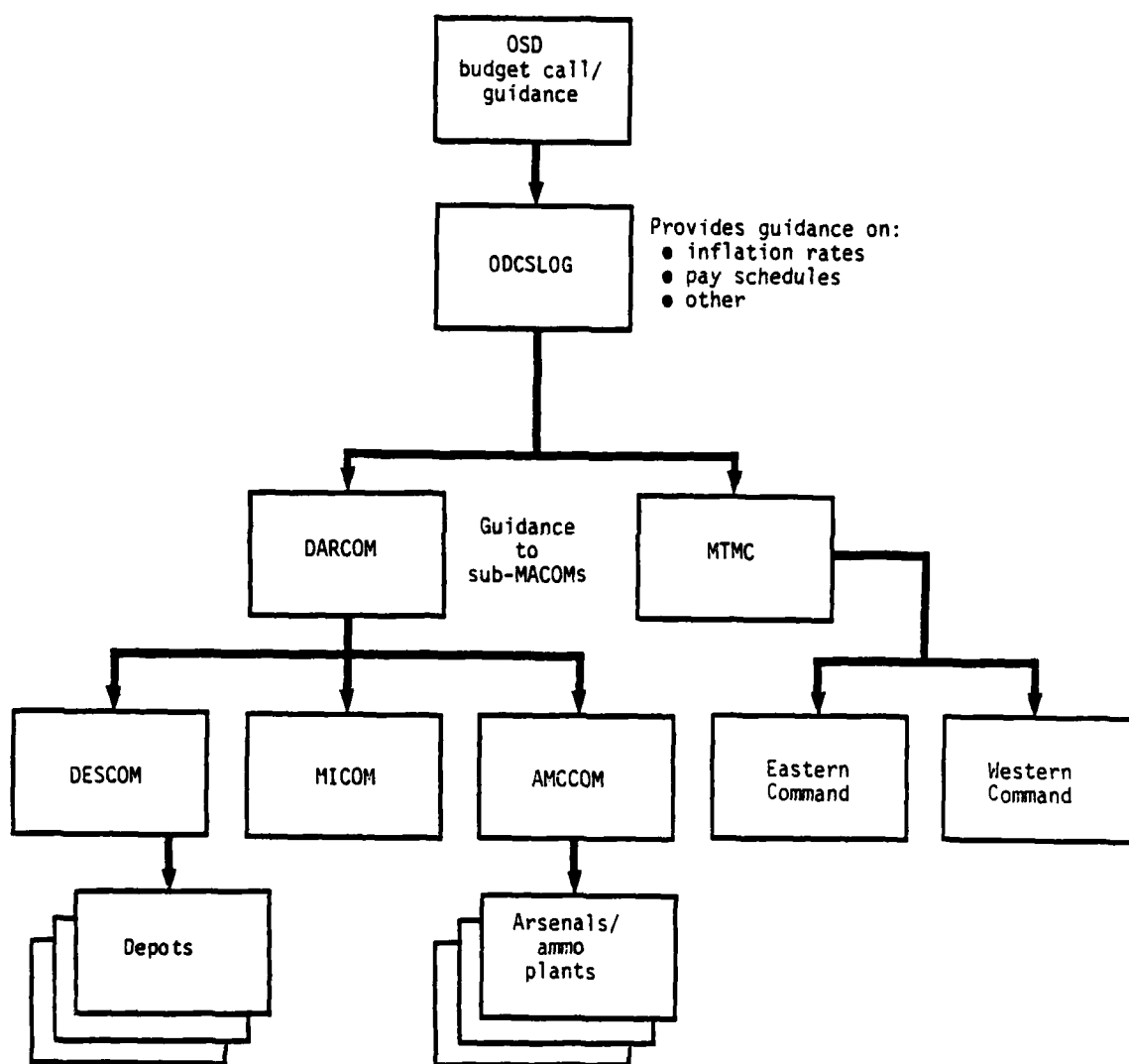


Figure D-2. COB and Budget Guidance Flow

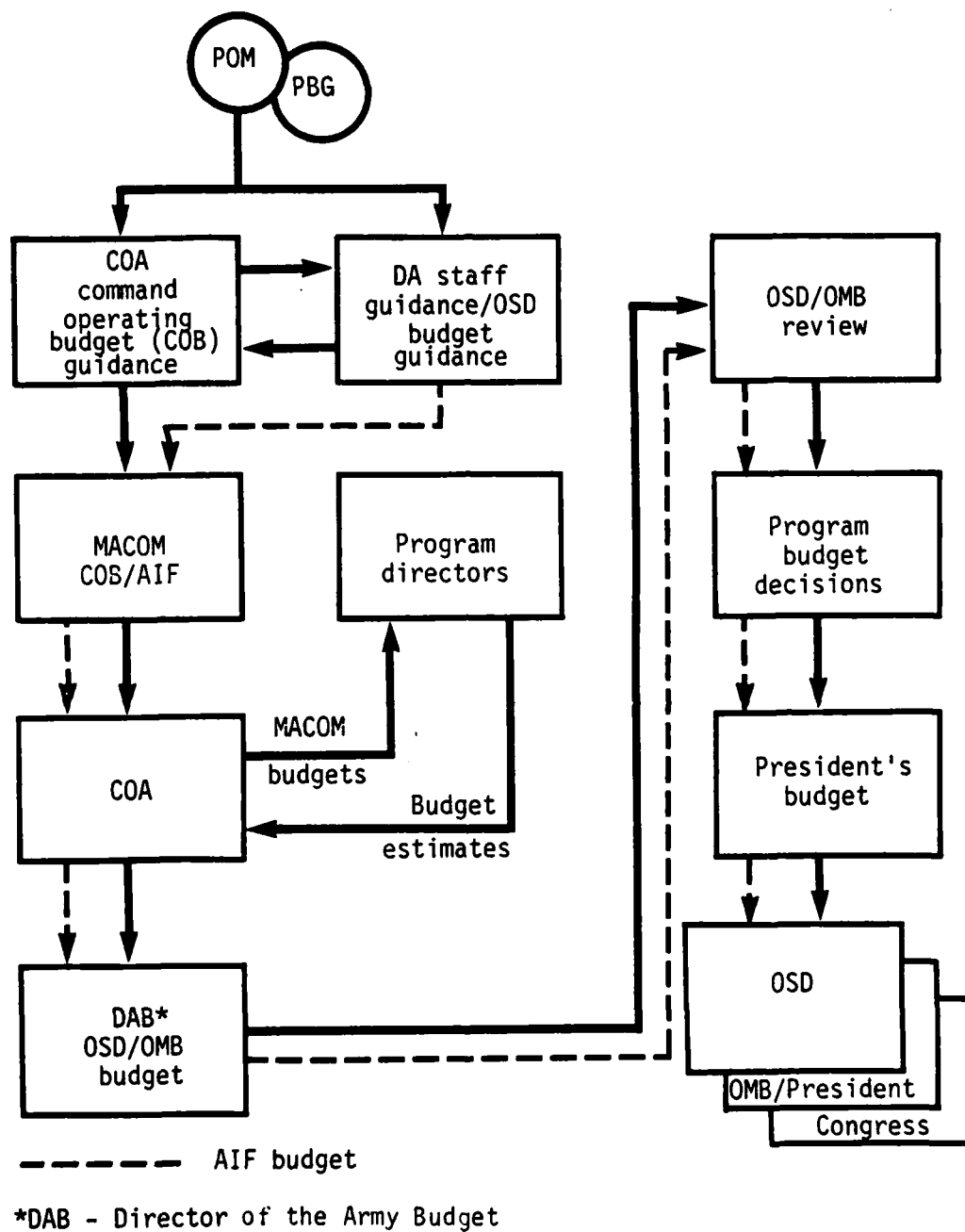


Figure D-3. Overview of Budget Process

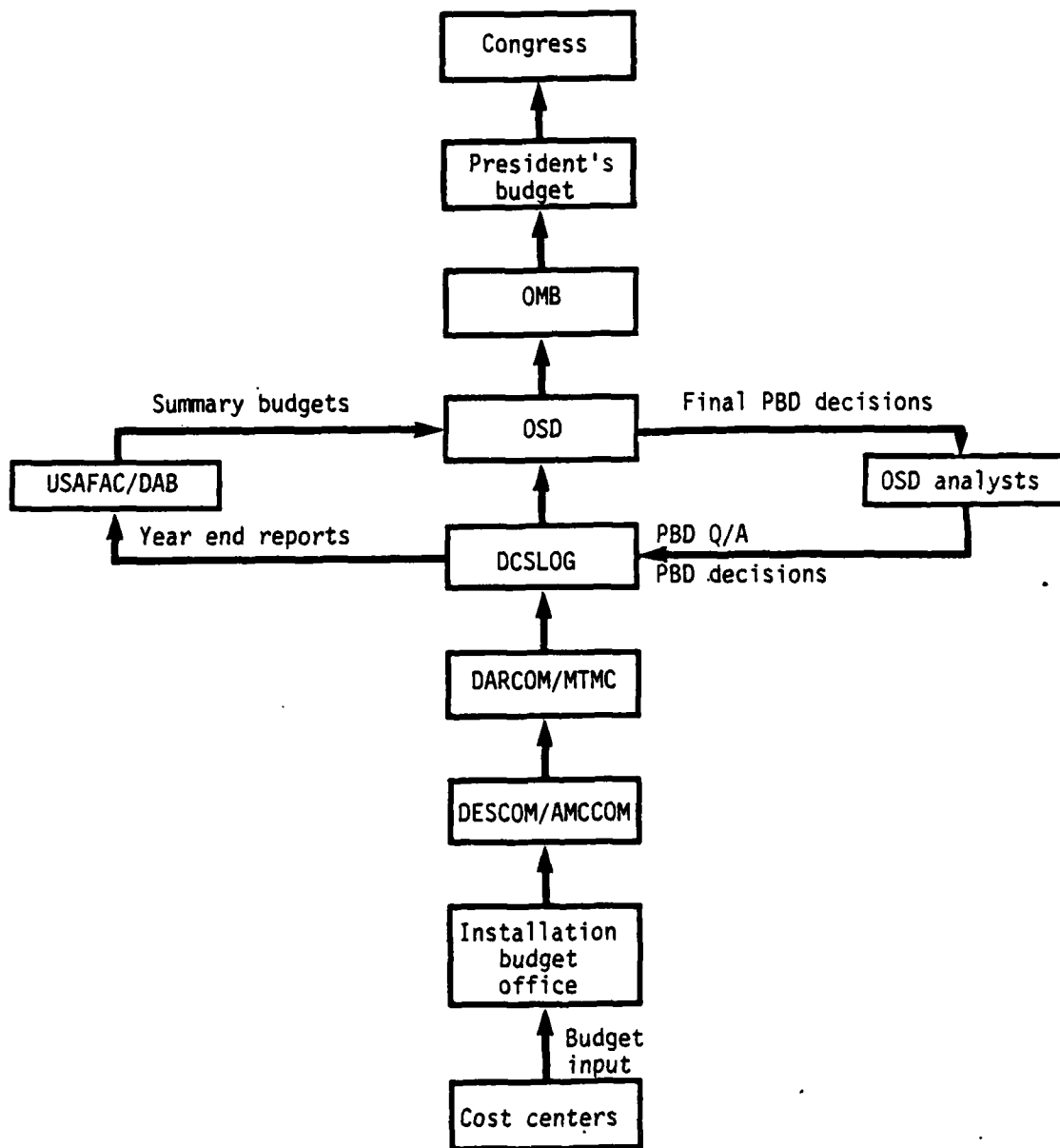


Figure D-4. AIF Budget Process

(1) **Installation, DARCOM, and MTMC.** Each installation operated under the AIF must prepare an annual budget and report. Section 2208, Chapter 131 of Title 10, US Code, requires a report of financial conditions and operations of working capital funds to be made annually to the President and to the Congress. Preparation and submission of all AIF budgets and reports are the responsibility of the comptroller at each installation. The budget is submitted for the purpose of reporting financial conditions and results of operations for the prior year, and projections for the current and budget years. Basic budgetary and reporting requirements are prescribed in AR 37-110. The annual operating budgets of AIF installations are prepared based on the workload and manpower guidance provided by the installation's cost centers. Depot installation budgets are consolidated by DESCOM while AMCCOM consolidates the budgets of all of the arsenals. Budget reviews are performed by meetings and phone discussions between DARCOM and DESCOM, AMCCOM, MICOM, and the individual installations, while MTMC reviews its Eastern and Western Command budgets. Comparisons are made between costs for the most recent operating periods and costs budgeted for future fiscal years. Average employment levels, average overtime rates, accrued expenses, etc., are evaluated in relation to projected workload, compliance with budget guidance, and past year experience. Upon completion of the review process, DARCOM and MTMC submit budgets to DCSLOG. Year-end reports and schedules are completed and certified and then sent to USAFAC and DAB.

(2) **DCSLOG.** Upon receipt of DARCOM and MTMC budgets, DCSLOG initiates a review through analysis of budget estimates and discussions with DARCOM, MTMC and the DAB. DCSLOG verifies that the total AIF resource requirements match customer appropriation budgets. DCSLOG evaluates the potential impact of workload, personnel, and appropriation by high levels.

(3) **DAB.** Upon receipt of AIF summary budgets from DARCOM and MTMC, the DAB:

(a) Reviews financial statements to ensure proper completion, logical projections, and compatibility.

(b) Shapes the previously uncoordinated statements into a tentative overall AIF budget.

(c) In conjunction with USAFAC, restructures the consolidated AIF budget into the form required for submission to the President/Congress.

(d) Sends the restructured consolidated budget to OSD industrial fund analysts for use during their PBD review. Upon receipt of actual prior year data from USAFAC, DARCOM, and MTMC, the DAB revises the prior year data in the budget following the same procedures detailed above. The current year and budget year adjustments required due to the change in prior year estimate to actual data are made by OSD in the PBD review. After all PBDs, PBD reclamas, and reclama reconsiderations have been made and approved, the DAB finalizes the total AIF budget and sends it to the OSD comptroller.

(4) **USAFAC.** USAFAC adjusts and consolidates the year-end reports. The summarized budget data is used to complete schedules sent to the US Treasury and OSD.

(5) **OSD.** After the DCSLOG review, the AIF budgets are sent to OSD for review. DCSLOG meets with OSD industrial fund analysts to answer questions on the AIF budgets. Questions from the House or Senate Appropriations Committee are coordinated through the DAB. Adjustments made by OSD analysts are outlined in PBDs approved by the Secretary of Defense. Army rebuttals to these adjustments are provided in PBD reclamas. DCSLOG is responsible for writing AIF PBD reclamas. All reclamas are staffed and approved by the DAB, COA, and Secretary of the Army. Markups of the PBD effects are provided to DARCOM and MTMC for use in updating budgets and for setting fixed rates.

(6) **Combined OMB/OSD Review.** OSD/OMB review the AIF budget jointly in order to save time. The review is conducted by means of hearings and informal discussions. Topics discussed include relationship of the projected workload costs to the provisions contained in the customer appropriation budget, adequacy of personnel ceiling to accomplish projected workload, productivity ratio trends, etc. In the course of the budget review, any inconsistencies determined by the OSD analyst that cannot be rectified or supported by the cognizant AIF management command at the hearing results in a PBD. The prepared PBD is forwarded to the Secretary of Defense for a decision. When the Secretary has made a decision on the PBD, the paper is forwarded to the Secretary of the Army, who may either accept the decision or appeal within a stipulated time. If the PBD is appealed, the Secretary of Defense communicates to the Secretary of the Army either an affirmation of his earlier decision or a statement of his reconsideration. The results are reflected in the budget estimate. Once the Secretary of Defense has heard the appeal of the services and made his final decision, the budget is submitted to OMB for coordinated presentation to the President.

(7) **President's Budget.** The Director of the Army budget and USAFAC consolidate and restructure the budgets for the COA prior to the submission for the President's budget. The President's budget is then sent to Congress for approval.

D-6. ASSET CAPITALIZATION PROGRAM POLICY

a. The Army Industrial Fund Asset Capitalization Program (ACP) was part of the initiative by Deputy Secretary of Defense Carlucci to increase efficiency and enhance productivity in the Department of Defense. Congress approved the ACP, excluding supply operations as well as several other major exclusions which are listed in subsequent paragraphs (reference paragraph b, FY 83 Appropriation Act). The ACP authorizes capital equipment to be purchased by industrial funds rather than appropriated funds. Under the asset capitalization program policy, the AIF will finance:

(1) Equipment with a unit cost of \$1,000 or more with a service life of over 2 years.

(2) Management information systems with a total cost of \$100,000 or more.

(3) Minor construction projects with a total cost from \$1,000 to \$200,000.

b. Exclusions from the Asset Capitalization Program are as follows:

(1) Supply operations

(2) Nontactical/general purpose passenger vehicles.

(3) Aircraft and watercraft.

(4) Initial procurement of equipment furnished as part of a weapon system/support system; initial provisioning of facilities which are part of the cost of a single major end item.

(5) Equipment, maintenance, repair, alteration, modification, and rehabilitation unique to a particular one-time project or customer order financed initially by AIF and charged directly to that project or customer order.

(6) Equipment normally procured and installed using military construction, Army (MCA) appropriated funds.

(7) Equipment normally provided to the AIF as government furnished equipment (GFE).

(8) Industrial plant equipment (IPE) provided from the DOD general reserves/idle inventory.

(9) Repair of equipment/real property damaged by catastrophies/acts of God when cost exceeds \$100,000.

(10) Equipment/real property projects primarily to meet mobilization requirements.

(11) Equipment/real property projects for tenant activities/military support functions.

(12) Equipment/real property projects for operations, processes, or functions where costs are recovered on a cost reimbursable basis.

(13) Projects for minor construction which exceed \$200,000; any minor construction project which includes acquisition of land.

c. Costs are recovered through depreciation costs built into the AIF stabilized hourly billing rates charged to customer orders. FY 83 depreciations were based on straight-line depreciation expense. Double declining balance depreciation expense is allowed beginning in FY 84 to accelerate capital equipment purchases. On the average, fixed rates increased in FY 83 by \$1.58 per hour for the depots, by \$2.09 per hour for the arsenals, and by \$1.48 per hour for MICOM as a result of the implementation of the ACP. Under OPA funding prior to ACP, orders for expensive equipment, such as compressors, were required 5 years in advance. The result was costly rentals for large equipment during periods of unexpected equipment failure. The ACP has allowed greater procurement flexibility in periods of shifting priorities. A recent change initiated by OSD is to forego the double declining balance and to simply apply a surcharge to customers' orders for depreciation.

d. Requirements for the ACP are submitted by the organizational elements in the AIF installation during the budget cycle. Depreciation expenses are projected by the requesting party based on existing equipment and projected acquisitions. Review, approval, and signature are provided by the appropriate sub-MACOM with the submission of the installation's AIF budget. Equipment acquisitions are constrained by obligation and cash outlay ceilings imposed by DARCOM.

e. The approved acquisition dollar guidance is distributed by the installation comptroller to the requesting organizations. The requesting organizations obtain required authorizations and approvals and process requisitions through the offices of the comptroller, equipment managers, supply, finance and accounting, and ultimately to procurement. The comptroller maintains contact with procurement throughout the procurement phase to determine the status of the acquisitions and ensure obligation of certified funds. Reviews are made by the comptroller and funds are reprogrammed when necessary. The comptroller is required to provide monthly status reports to DARCOM.

f. Priorities for distribution of dollar guidance include:

- (1) Mission essentiality.
- (2) Ability to obligate early in the year.
- (3) Measurable productivity potential, dollar savings, increased output, reduced manpower requirements.
- (4) Replacement of existing equipment.
- (5) Consideration of ability to lease in lieu of purchase.

g. The ACP provides the opportunity to modernize and upgrade government equipment to standards more in line with industry and commerce. Advantages of the ACP include:

- (1) Flexibility in acquisition of equipment at the installation level.
- (2) Higher priority to mission support type equipment that might not be realized by appropriation budgets.
- (3) Appropriation of costs of capital equipment to the various customers.
- (4) Improvement in efficiency and productivity.

h. Problems with the ACP. The exclusion of equipment purchases used in the supply function from the ACP has created some confusion for the installations in identifying capital equipment to P7S. Original instructions from DARCOM on the subject have been voided because they proved to be unrealistic. For example, one instruction indicated that equipment shared by supply and maintenance functions could be included under the ACP only if the equipment was used by maintenance 90 percent of the time. Of course, this is not practicable in situations that occur where there is a central pool of forklifts used by supply, maintenance, ammo, etc. The rule of thumb is a piece of equipment essential to the maintenance mission is capitalized under the ACP even if it is operated by P7S personnel or used in supply operations. For example, when a crane is used to unload vehicles by P7S personnel for maintenance, the crane is capitalized under the ACP because it is vital to the maintenance function. Only equipment strictly used for supply, such as a conveyor system in central supply, is excluded from ACP. Equipment utilized for supply activities that can be tied into base operation or maintenance are included under ACP. Because supply equipment is purchased under appropriations approved in a 5-year budget, it has been very difficult to obtain capital equipment for supply activities. For this reason, and for the fact that supply plays such an integral role in base operations and maintenance, it would seem appropriate to include supply under the ACP.

APPENDIX E

SELECTION OF TYPICAL INSTALLATIONS

E-1. INTRODUCTION. This appendix presents the data and the methodology used in the selection of the typical installations. Also included are the correlation matrices which were computed to determine the relationship between variables.

E-2. SELECTION METHODOLOGY

a. Selection Factors. Data was obtained for the installations from the three sub-MACOMs--DESCOM, AMCCOM, and MICOM--which manage the installations. Data from DESCOM and AMCCOM are shown in tables contained in this appendix. The factors used in the selection process are as follows:

- (1) **Workload** - defined in man-years and is a measure of work performed.
- (2) **Physical size** - provides some insight to workload. For example, those installations with a large workload generally have large acreage. Sacramento and Corpus Christi are exceptions.
- (3) **Budget** - provides cost data and is closely related to workload.
- (4) **Number of personnel** - provides a measure of installation AIF activities and is related to workload.
- (5) **Type of workload** - provides a method of comparing work performed at the installations.

b. Selection Criteria. The selection of the typical installations was based on a four-step process as follows:

- (1) The arithmetic mean for the selection factors was determined for all installations within the group. Those installations closest to the mean were considered as candidates.
- (2) The relative ranking of the installations in each group was computed. The rankings were summed, the mean was determined, and those installations closest to the mean were considered as candidates. Note this process complements the process in step (1).
- (3) Then the data characteristics of installations closest to mean were reviewed. Those candidates that show the least variance from the mean were selected. The workload performed at these selected installations was reviewed and those installations which were highly specialized, such as Corpus Christi, were not selected.

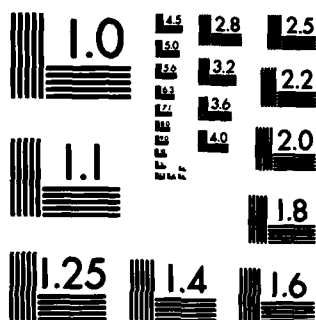
ARMY INDUSTRIAL FUND ANALYTICAL STUDY (AIFAS)(U) ARMY
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(4) The selected installations were then reviewed with the sub-MACOMs for concurrence.

c. **MICOM.** MICOM was automatically selected as the typical installation for missile supply and support since there is only one installation.

E-3. SELECTION OF THE TYPICAL DEPOT

a. The data characteristics for the depots are contained in Table E-1. If the installation supports satellites, data is shown in parentheses. The installations closest to the mean are indicated with an "a" and are considered as candidates for selection; these are: Corpus Christi, Letterkenny, Tooele, and Tobyhanna.

b. Table E-2 contains a breakout of the depot revenues by mission. It can be noted that New Cumberland, Red River, and Sharpe have a low maintenance mission and a high supply mission.

c. Table E-3 contains the rank ordering of the depot characteristics. As in Table E-1, the depot selection candidates are the same.

d. A review of the data characteristics in Tables E-1, E-2, and E-3 and the type of workload performed in Table E-4 shows that Corpus Christi is highly specialized in aircraft and is nontypical. Similarly, Tooele is the largest installation in terms of size and third largest in number of personnel (Table E-1). It is also very heavy in the supply mission (Table E-2), and the workload is in the automotive and construction area (Table E-4). For these reasons Tooele was not selected for further consideration.

e. Both Tobyhanna and Letterkenny are considered good candidates. Letterkenny was selected as typical since Tobyhanna specializes in the electronic area. Site visits were made to Letterkenny, and detailed data was requested from Tobyhanna as a quality check on Letterkenny.

f. DESCOM confirmed the selection of Letterkenny as a typical maintenance depot since Letterkenny maintains and repairs various tracked vehicles; however, DESCOM recommended that data be collected from Red River since this depot is heavily involved in the supply mission. The three depots identified in paragraph E-3b were subsequently evaluated separately, and data was collected from Red River which was considered typical for the three installations.

Table E-1. Depot Characteristics, FY 84
(FY 83 dollars in thousands)

Army depots	Workload (man-years)	Physical size (acres)	Budget (net total expenses)	Number of personnel
Anniston complex	5,963	33,450	\$ 273,288	5,929
Parent	(4,777)	(18,080)	(230,343)	
Lexington-Blue Grass	(1,186)	(15,370)	(42,945)	
Corpus Christi	3,961	138	246,638	3,856
Letterkenny complex ^a	4,781	32,574	193,180	4,579
Parent	(4,524)	(19,511)	(183,702)	
Savannah	(257)	(13,063)	(9,478)	
New Cumberland	2,987	1,832	104,538	3,202
Red River	6,108	19,081	249,329	6,028
Sacramento	3,143	485	130,525	3,035
Seneca	870	10,661	33,314	884
Sharpe	1,435	724	50,789	1,419
Sierra	663	36,313	27,563	651
Tobyhanna ^a	4,575	1,293	170,054	4,079
Tooele complex ^a	5,042	108,599	197,813	5,103
Parent	(3,868)	(44,096)	(152,167)	
Ft Wingate	(96)	(22,120)	(4,293)	
Pueblo	(797)	(22,654)	(30,662)	
Umatilla	(281)	(19,729)	(10,691)	
Total	39,528	245,150	\$1,677,031	38,765

Measure of central tendency, 11 installations (workload, physical size, and budget are for parent installations only):

Arithmetic mean	3,593	22,286	152,457	3,524 ^b
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^aInstallations closest to mean.

^bMeasures of central tendency for numbers of personnel use data for complex.

Table E-2. Depot Revenues by Mission, Budget Year
FY 85 (FY 83 dollars in thousands)

Army depot	Maintenance mission	Supply mission	Other missions	Base operations	Real property maintenance	Total expenditures	Supply as percent of total
Anniston ^a	\$ 191,242	\$ 46,052	\$ 289	\$ 2,375	\$ 1,586	\$ 241,544	.191
Corpus Christi	242,587	10,936	155	989	774	255,441	.043
Letterkenny ^a	115,048	40,875	516	4,875	2,261	163,575	.250
New Cumberland	3,356	109,047	895	3,995	2,364	119,657	.912
Red River	174,614	93,652	479	2,491	2,578	273,814	.342
Sacramento	112,367	23,428	290	2,603	917	139,605	.168
Seneca	6,290	19,907	1,499	5,296	4,259	37,251	.534
Sharpe	0	50,911	410	1,677	950	53,948	.944
Sierra	7,385	17,153	839	3,213	2,142	30,732	.558
Tobyhanna	149,538	26,961	519	2,038	2,025	181,081	.189
Tooele complex ^a	99,978	98,436	514	1,819	2,285	203,032	.485
Total ^a	\$1,102,405	\$537,358	\$6,405	\$31,371	\$22,141	\$1,699,680	
Measure of central tendency							
Arithmetic mean	100,219	48,867	582	2,852	2,013	154,516	.316
^a Anniston and Letterkenny are parent installations. Tooele data is for complex.							
Source: US Army Depot System Command (DESCOM).							

Table E-3. Rank Order of Depot Characteristics

Army depot	Work load	Physical size	Budget	Number of personnel	Sum of rankings ^a
Anniston	2	5	3	2	12
Corpus Christi	5	11	2	6	24 ^b
Letterkenny	4	3	4	4	15 ^c
New Cumberland	8	7	8	7	30
Red River	1	4	1	1	7
Sacramento	7	10	7	8	32
Seneca	10	6	10	10	36
Sharpe	9	9	9	9	36
Sierra	11	2	11	11	35
Tobyhanna	3	8	5	5	21 ^b
Tooele	6	1	6	3	16 ^b

^aArithmetic mean = 24.

^bInstallations closest or equal to mean.

^cLetterkenny is included since it displays good consistency across the rankings.

Table E-4. Installation Workload Type

Installation	Type of workload
Depots	
Anniston	M/R/O/Ca combat and tactical vehicles, artillery and small arms
Corpus Christi	R/O/C aircraft and components
Letterkenny	M/R/C self-propelled combat vehicles, tracked vehicles, missiles
New Cumberland	Supply point to Europe
Red River	Supply point for tracked vehicles and missiles
Sacramento	Aircraft avionics, combat vehicle, and general equipment electronic repair
Seneca	Storage of classified weapons
Sharpe	Supply point to Pacific
Sierra	Ammo depot, missiles, classified weapons, overhaul boats
Tobyhanna	M/R/O communication electronics
Tooele	Depot for automotive construction equipment, tire rebuild, and missiles
Arsenals/ Ammo Plants	
Crane	Produce/renovate/demilitarize, conventional ammo, pyrotechnic
McAlester	produce/renovate/demilitarize, conventional ammo
Pine Bluff	Produce and demilitarize chemical munitions
Rock Island	Produce weapon systems, vehicle armaments, tool sets
Rocky Mountain	Perform demilitarization and restore installation
Watervliet	Produce cannons, howitzers small arms, and tool sets
aM/R/O/C = maintain, repair, overhaul, convert.	

E-4. SELECTION OF THE TYPICAL ARSENAL

a. The data characteristics for the arsenals/ammo plants are contained in Table E-5. Six arsenals are listed. Frankfort Arsenal is omitted since it has been phased out. The installation closest to the mean is Pine Bluff.

b. Table E-6 contains a breakout of the arsenal revenues by mission. Pine Bluff appears average with respect to its supply activity.

c. Table E-7 contains the rank ordering of the arsenals. As before, Pine Bluff is the logical candidate.

d. A review of the workload performed in Table E-4 shows Pine Bluff has a variety of workload and would be a good candidate; thus, it was selected as typical.

e. AMCCOM confirmed the selection of Pine Bluff as the typical installation and a site visit was made and data collected.

Table E-5. Arsenal FY 84 Characteristics
(FY 83 dollars in thousands)

Arsenal/ammo plant	Workload (man-years)	Physical size (acres)	Budget (net total expense)	Number of personnel
Crane AAP	954	51,845	\$ 48,293	1,080
McAlester AAP	912	44,962	35,163	884
Pine Bluff Arsenal	1,197 ^a	14,387 ^a	83,690 ^a	1,321 ^a
Rock Island Arsenal	3,287	907	165,591	3,166
Rocky Mountain Arsenal ^b	276	17,064	17,307	291
Watervliet Arsenal	2,297	140	151,968	2,321
Total	8,923	129,305	\$502,012	9,063
Measure of central tendency (excluding Rocky Mountain):				
Arithmetic mean	1,487	21,551	83,669	1,510

^aInstallation closest to the mean.

^bBeing placed in caretaker status.

Table E-6. Arsenal Revenues by Supply Mission, Budget Year FY 85
(FY 83 dollars in thousands)

Location	Number of service orders or work orders processed	Central supply activity	Total expendi- tures	Supply as percent of total
Crane AAP	126	\$ 20,284	\$ 48,166	.420
McAlester AAP	82	10,017	31,515	.285
Pine Bluff Arsenal	268	20,049	59,355	.240
Rock Island Arsenal	1,211	40,947	152,923	.247
Rocky Mountain Arsenal ^a		165	16,319	14,839
Watervliet Arsenal	650	7,307	129,749	.048
Total	2,402	\$114,923	\$436,547	
Measure of central tendency (excluding Rocky Mountain):				
Arithmetic mean	400	19,154	\$ 72,758	.363

^aBeing placed in caretaker status.

Table E-7. Rank Order of Arsenal Characteristics

Location	Rank order				Sum of rankings ^a
	Work load	Physical size	Budget	Number of personnel	
Crane	4	1	4	4	13
McAlester	5	2	5	5	17
Pine Bluff	3	3	3	3	12 ^b
Rock Island	1	4	1	1	7
Watervliet Arsenal	2	5	2	2	11
Rocky Mountain Arsenal ^c					

^aArithmetic mean = 12.

^bInstallation closest to the mean.

^cRocky Mountain placed in caretaker status; not considered in analysis.

E-5. STATISTICAL ANALYSIS OF INSTALLATION CORRELATIONS. A statistical analysis was made relating workload, budget, and number of personnel. The purpose of the analysis was to evaluate workload as a predictor for budget. Table E-8 shows correlation matrices (r) for arsenal/ammo plant data (6 data points) and depot data (11 data points). For depots with a parent installation and satellite(s), the complex data was used. For arsenals and ammo plants, correlations were run among workload, budget, personnel, and PRONs. PRONs were not provided for depots; therefore, correlations were run only between workloads, budget, and personnel. The hypothesis was tested, with a 95 percent level of confidence (two-tailed), that these correlations are significantly different from zero. The critical value for 6 data points (arsenals/ammo plants) is .729; the critical value for 11 data points (depots) is .521. Referring to Table E-8, all correlations were significant at the .95 level. Therefore, a high degree of correlation exists and a change in workload is highly correlated to a change in budget.

Table E-8. Correlation Matrices

	Workload	Budget	Personnel	PRON
Arsenals and ammo plants				
Workload	1.00000	.96239	.99736	.97645
Budget		1.00000	.97258	.92789
Personnel			1.00000	.96662
PRON				1.00000
Depots				
Workload	1.00000	.94733	.99525	
Budget		1.00000	.94202	
Personnel			1.00000	

APPENDIX F

SUPPLEMENTAL CURRENT AIF MANAGEMENT DATA

F-1. INTRODUCTION. This appendix contains supplemental data with respect to the current workload, type of forms used, and description of work currently performed. A detailed breakout of current duties is provided for Pine Bluff Arsenal (PBA) with supplemental data provided for other installations.

F-2. CURRENT PBA AIF WORKLOAD. The current AIF workload for the eight divisions handling P7S financial management workload is as follows.

a. Budget. The current strength of the Budget Office is six permanent civilian employees consisting of one GM-13 comptroller, two GS-12 budget analysts, one GS-11 budget analyst, a secretary, and one GS-7 certification clerk.

b. Finance and Accounting Office (FAO)

(1) The current strength of the FAO is 17 permanent civilian employees, 1 military employee, and 8 temporary employees.

(2) Current FAO reports containing P7S data with preparation time estimates are:

(a) Monthly CSCAA-216 Status of Allotment/Sub-Allotment by Appropriation (DA Form 2794)	8 hours
(b) Monthly CSCFA-212 Obligations by Object Class (DA Form 2798-1)	8 hours
(c) Monthly Manpower Financial Data:	
<u>1.</u> Manpower listing--system produced	NA
<u>2.</u> Overtime and holiday worked (hrs and \$)	2 hours
<u>3.</u> Reconciliation data (hours and \$)	8 hours
<u>4.</u> Total salaries and wages	1 hour
<u>5.</u> Adjustments to listing (quarterly)	4 hours
(d) Annual IRCS 0912-OPM Report of Work Years and Personnel Cost for Civilian Employees	32 hours

(e) Biweekly Payroll Data--manual and mechanized: 80 hours

1. Preparation and evaluation documents.
2. Control documents.
3. Payroll vouchers.
4. Substantiating documents.

c. Management and Analysis Division (MAD)

(1) The current strength of MAD is:

- (a) One GS-12 division chief with one GS-04 clerk/steno.
- (b) Four GS-11 management analysts.

(2) Workload is performed by the Methods and Standards Branch and the Analysis Branch.

(a) **Methods and Standards.** Approximately 1,144 manhours are expended by the Methods and Standards Branch in methods analysis, standards development, standards maintenance in seven directorates, and in the general administrative area. Other duties include value engineering support of equipment, which involves evaluation studies, Production Capacity Report (SARIR 104), off-post monitoring duties, Work Order Procedure Manual (PBAR 1-9), management improvements, and special priority studies for the Command Section.

(b) **Analysis.** There were 9,059 manhours expended for analytical requirements which include: management studies, readiness review, efficiency, effectiveness and productivity, program analysis, charting, management analysis, installation profile booklet, financial management improvement, quality checks, and internal control system.

d. Management Information Systems Office (MISO)

(1) Cost of computer time chargeable to supply:

(a) Computer time is not currently distributed to these activities but is recouped as part of the general and administrative overhead.

(b) Currently there are seven video display terminals in use by P7S mission elements with an average usage of 4 hours daily. Estimated monthly cost of supporting a terminal at \$5.00 per hour which includes CPU time is:

$$4 \text{ hours} \times 21 \text{ days} \times 7 \text{ terminals} \times \$5.00 = \$2,940.$$

(c) Batch processing for the P7S mission elements is approximately 30 hours per month with an hourly cost of \$120.00:

$$30 \text{ hours} \times \$120.00/\text{hr} = \$3,600.$$

(d) Programmer/analyst support cost of the P7S mission element is calculated to be the following:

$$1,920 \text{ hours} \times \$14.75/\text{hr} = \$28,310.$$

(e) Total current costs per year are:

$$\text{Terminal usage} - \$2,940 \times 12 \text{ mos} = \$35,280.$$

$$\text{Batch processing} - \$3,600 \times 12 \text{ mos} = \$43,200.$$

$$\text{Programing} - \$14.75 \times 1,920 \text{ hrs} = \$28,310.$$

$$\text{Total} = \$106,790$$

e. Directorate of Materiel Management and Demilitarization (DMMD)

(1) There were 15 PRONs with 70 amendments processed and charged to supply depot operations, and 7 PRONs with 28 amendments charged to demilitarization in FY 83.

(2) A total of 57 persons of 264 employees in DMMD were identified exclusively to P7S work. One deputy director, two program analysts, one program and budget assistant, one stock control specialist, one secretary, and two clerk typists are involved with the financial administration of P7S activities.

(3) Administrative labor expended for reports and maintenance was 9,940 hours in FY 83.

f. Directorate of Facilities Engineering (DFE)

(1) In FY 83 26 PRONs were processed by DFE with an average of 1.5 changes per PRON.

(2) The number of personnel in DFE identifiable to P7S funds was 250 of a total of 251 people. Employees responsible for financial management included one budget analyst and four administrative officers identifiable to DFE P7S funds, and one budget analyst identifiable to P7S funds received from other directorates.

(3) Manhours necessary to produce the required forms are shown in Table F-1.

Table F-1. Directorate of Facilities Engineering (DFE) Workload

Report/form	Yearly manhours required for preparation
Technical data report	350
Unconstrained requirements report	84
Annual work plan	204
Resources management report (159)	24
Internal operating budget	336
Command operating budget	40
DFE extended work schedule	408
Job order funding log	624
PRON budget estimate	100
Disposition form	700
Military construction project data	150
Project cost estimates detail	225
Engineering project control update	1,300
Purchase request and commitment	132
Real property improvements worksheet	100
Total	4,777

g. Product Assurance Directorate (PAD). There were 27,120 manhours expended on 20 PRONs in FY 83.

h. Force Development Division. The current workload consists of:

(1) COB preparation/submission; TDA/MOB documentation/submission; and overtime and manpower reporting by mission.

(2) Annual hours - 537.

i. Workload Summary. The number of manhours used in each division for financial management is provided in Table F-2.

Table F-2. Summary of PBA Financial Management Workload

Division	Manhours/year FY 83
Management and Analysis	
Methods and standards	1,144
Analysis	9,059
Management Information Systems Office	
File entry clerks	
Video terminals	588
Batch	360
Programmer	1,920
Materiel management and demilitarization	9,940
Facilities engineering	4,777
Product assurance	27,120
Force development	537
Total	55,445

F-3. CURRENT LETTERKENNY ARMY DEPOT (LEAD) WORKLOAD. Sample forms and the estimated current workload for the directorates responsible for financial management at the Letterkenny Army Depot are provided in this paragraph.

a. Budget. The time schedule for the AIF budget process is shown in Figure F-1, and a sample internal operating budget is shown in Figure F-2. These are typical for most installations.

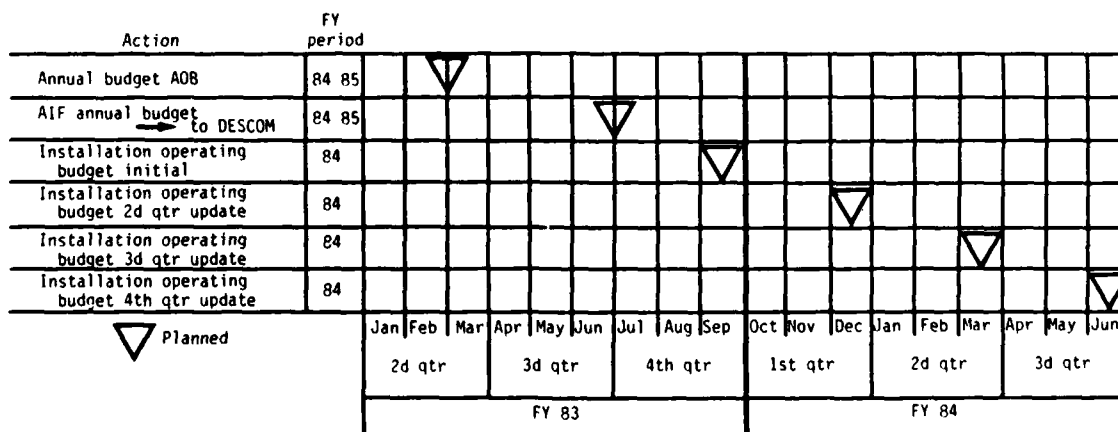


Figure F-1. Time Schedule for LEAD AIF Budget Actions

ARMY INDUSTRIAL FUND LETTERKENNY ARMY DEPOT INTERNAL OPERATING BUDGET (LEADR 11-10)						
LABOR RATE PER NET REG HR:		BENEFIT RATE:		OVERTIME RATE:		
DIRECTORATE:		M&S:				
COST CENTER NAME:		COST CENTER NO.:		PERIOD:		
COST CATEGORY	ACTUAL PY	TOTAL EST CY	1ST QTR ACT/PROG	2D QTR ACT/PROG	3D QTR ACT/PROG	4TH QTR ACT/PROG
1. DIRECT COST						
1100 Labor - Regular						
1100 Labor - Overtime						
1200 Para Benefits						
2100 Travel/Transport of Pers						
2200 Transport of Things						
2300 Rents, Comm/Util						
2400 Print/Repro						
2500 Oth Contr Svcs						
3500 Supplies/Materials						
3700 Svc Chg Function						
3100 Equipment						
a. Investment Items						
b. Expense Items						
3200 Lands and Structures						
TOTAL DIRECT COSTS						
2. INDIRECT EXPENSE						
1100 Labor - Regular						
1100 Labor - Overtime						
1200 Para Benefits						
2100 Travel/Transport of Pers						
2200 Transport of Things						
2300 Rents, Comm/Util						
2400 Print/Repro						
2500 Oth Contr Svcs						
3500 Supplies/Materials						
3700 Svc Chg Function						
a. Equip Rental						
b. Depreciation						
3100 Equipment						
a. Investment Items						
b. Expense Items						
3200 Lands & Structures						
TOTAL INDIRECT EXPENSE						
3. TOTAL COSTS						
4. DIRECT LABOR HOURS						
a. Gross Regular						
b. Net Regular						
c. Overtime						
5. INDIRECT LABOR HOURS						
a. Gross Regular						
b. Net Regular						
c. Overtime						
6. PERSONNEL DATA						
a. Staffing Equivalents						
b. (1) Regular						
(2) Overtime						
7. OVERHEAD APPLICATION						
a. Total Overhead Applied						
(1) Within Shop						
(2) Above Shop						
(3) IBOE						
(4) GAE						
8. TOTAL COSTS APPLIED (1 & 7)						
9. HOURS						
a. Within Shop						
b. Above Shop						
c. IBOE						
d. GAE						
e. Memo: Otr Mil Hrs						
f. Firefighter Premium						
10. DISTRIBUTABLE COSTS						
IBOE (M & S)						
GAE						
Memo: Tenants						
REMARKS:						

OSLE Form 3045 (Rev 1 Jun 83)

8

Figure F-2. Sample LEAD IOB

b. **Finance and Accounting.** The prorated monthly workload allocated to preparing the supply portions of the AIF forms generated by the Finance and Accounting Office at LEAD are listed in Table F-3.

Table F-3. Summary of LEAD Financial Management Workload

Title of form	No of pages	Estimated time	
		Monthly (hours)	Yearly (hours)
Summary of Source of Revenue	2	4	48
Summary AIF Cost/Leave	1	1	12
Variances and Operating Results			
AIF Labor Variance/Leave	1	1	12
Taken vs Leave Recovery			
AIF Indirect Variance	2	1	12
Analysis of Cost Incurred	3	8	96
Statement of Special Data	3	8	96
on Labor and Expenditures			
Costs by EOE and Personnel	3	8	96
Strength Data			
AIF Budget, Base Operations	1	4	48
Distribution			
Voucher for Transfer Between	30 bills	30	360
Appropriations (DA 4445-R)	(est.)		
Order for Supplies for Services/	3,800	500	6,000
Request for Quotations (DD 1155)	(est.)		
Public Vouchers for Purchases and	100	100	1,200
Services Other than Personnel	(est.)		
(SF 1034)			
Total		665	7,980

F-4. MISSILE COMMAND (MICOM) SAMPLE FORMS AND LABOR RATES. A typical sample PRON showing labor rates and program development increment packages (PDIP) is displayed in Figure F-3. Figure F-4 provides a sample internal operating budget for MICOM. All other data is contained in Chapters 3 and 4.

RESOURCE PRON: 8X147110008012

BLOCK 71.4

Msl Log Ctr DRSMI-SMRO		A1-4-8A051-01-8A	
DRSMI-FBO		3276	Attendant Central Solv, SACS
728012 11000	2142C20	63-7818	P728012-2571
QUANTITY		UNIT PRICE	TOTAL PRICE
1		1	1
21. FROM			
22. SPECIAL NOTES			
23. ORDER FOR SUPPLIES OR SERVICES			
24. EXPIRATION DATE: 30 Sep 84			
25. PBC: 8P01-XX-XX-XX-8XXX			
SCOPE OF WORK: Provide labor, supplies, equipment, travel, and minor contractual services to accomplish function prescribed in AR 37-100-34 relative to GMA Code in Block 13.			
Estimated Direct Labor Hours			
Direct Labor Costs @	16.40	PBC No.	
Materials & Supplies Costs @	.10	SS	
Contractual Costs @	.10	Source Code	2-20
Other Direct Costs @	1.00	Billed Acct	2-
Division Overhead @		Cost of Sales	2-
Support Overhead @	3.65	Card Code	21
G&A Overhead @	.16	ANF Code	
Prior Year Gain/Loss @			
Total for Rate Determination @	21.41		
Capital Equipment @			
Other Exemptions @			
Total (Basic Order)			
Total Expenditure Orders			
GRAND TOTAL			
APPROVED FOR EXECUTION			
PAULINE P. CASON			
Ch. Ops Sr			
Budget Div. Compt			
The above items and conditions are satisfactory and are accepted as a service			
a. Typed Name & Title of Accepting Officer		b. Signature	

Figure F-3. Sample MICOM PRON

APPENDIX A (Continued)

U. S. ARMY SINGLE SYSTEM RESOURCES COMMAND ELEMENT OF EXPENSE OPERATIONAL PERFORMANCE SUBSET						XXXX PROJECT OFFICE	
FY 77						BUDGET NUMBER	
OPERATIONAL PERFORMANCE SUBSET						XXXX	
ELEMENT OF EXPENSE	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER	FY 77 TOTAL	FY 78 TOTAL	PERSONNEL ASSIGNED
1. REG. LABOR & REG. RATE	113,498	123,845	149,707	156,250	543,300	539,790	
REG. LAB. 100	48,642	52,990	60,303	66,965	228,900	231,300	
TOTAL	162,140	176,835	210,010	223,215	763,000	771,090	
2. OVERTIME & REG. RATE	364	344	356	358	1,422	1,420	
REG. LAB. 101	148	148	152	152	600	600	
TOTAL	492	492	508	510	2,022	2,020	
3. OVERTIME PREMIUM	172	172	178	178	700	700	
REG. LAB. 102	74	74	76	76	300	300	
TOTAL	246	246	254	254	1,000	1,000	
4. VACATION PAY							
REG. LAB. 103							
TOTAL							
5. OTHER PERSONAL LABOR							
REG. LAB. 104							
TOTAL							
6. OVERTIME ALLOWANCE	172	172	178	178	700	700	
REG. LAB. 105	74	74	76	76	300	300	
TOTAL	246	246	254	254	1,000	1,000	
7. PERSONAL EXPENSES	10,215	11,128	12,664	14,062	48,069	48,171	
REG. LAB. 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	4,378	4,768	5,427	6,027	20,600	20,817	
TOTAL	14,593	15,897	18,091	20,099	68,679	68,138	
8. OTHER CASH ALLOWANCES							
REG. LAB. 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000							
TOTAL							
9. TRAVEL & TRAVEL OF PERSON	7,380	7,380	7,620	7,620	30,000	30,000	
REG. LAB. 106	2,460	2,460	2,540	2,540	10,000	10,000	
TOTAL	9,840	9,840	10,160	10,160	40,000	40,000	
10. TRAVEL OF TRAVEL							
REG. LAB. 106							
TOTAL							
11. FEES	1,722	1,722	1,778	1,778	7,000	7,000	
REG. LAB. 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 2							

APPENDIX 6

WORKLOAD AND COSTS OF THE ALTERNATIVE FOR PBA

G-1. INTRODUCTION. This appendix provides, as an example, a detailed breakdown of the workload and cost estimates for implementation of the alternative at PBA. A similar breakdown for the other installations is not included in this report, but summary data is included in Chapter 4. The alternative personnel costs were calculated based on the first step of the grade level indicated. Salaries were inflated by 11.26 percent to account for benefits that would be paid by PBA. The 11.26 percentage includes average health costs (\$981.36), retirement costs (\$71,692.00), and life insurance costs (\$50.26) as calculated by the Office of Personnel Management for the typical Federal worker earning \$24,178 annually in calendar year 1983. Workload and cost data are provided for the following sections that would be affected by the alternative:

- Budget
- Finance and accounting
- Management and analysis
- Management information systems
- Materiel management and demilitarization
- Facilities engineering
- Force development
- Supply and services
- Product assurance

G-2. BUDGET OFFICE

a. Reports that will be generated to implement the alternative and the frequency of all are listed below:

Appropriated funds	Frequency
(1) Fund Control and Status (Rev/Rec)	Daily
(2) Cost by Annual Operating Budget (Rev/Rec)	Weekly/Monthly
(3) Detail Cost Report (Rev/Rec)	Weekly
(4) Fund Analysis (Rev/Rec)	Daily
(5) Status of Reimbursements (112)	Weekly
(6) Status of Reimbursements (112)	Monthly
(7) Open Allotments (126)	Monthly
(8) Obligations by Object Class (212)	Monthly
(9) Status of Allotments (216)	Monthly
(10) Status of Arsenal Operating Budget (218)	Monthly
(11) DARCOM Resource Management Report (159)	Quarterly
(12) Command Operating Budget	Annual
(13) Internal Operating Budget	Annual

Workload required for the alternative includes certification, billing fund control, commitment and obligation analysis and control, reporting, budget formulation and execution. At least 760 of the 4,160 manhours estimated to be required annually for the alternative are for the preparation and updating of internal operating budgets alone. Approximately 380 hours will be required for preparing the 159 report and 340 hours allowed for the command operating budget. The remaining manhours are required to prepare the other reports listed above.

b. Two GS-11 Budget Analysts will be required.

c. Costs:

	<u>One-time costs</u>
Desks	\$ 600
Calculators	600
Chairs	200
File cabinets	1,200
CRT	2,100
Total	\$4,700
	<u>Recurring costs</u>
Labor	\$57,124
Materials	160
Total	\$57,284

G-3. FINANCE AND ACCOUNTING OFFICE

a. Extra reports and annual workload are estimated below:

(1) CSCFA-218, Status of Approval Operating Budget, in lieu of the CSCFA-216:	144 hrs
(2) CSCFA-212 for P7S (monthly):	96 hrs
(3) Separate manpower financial data (monthly):	144 hrs
(4) Maintaining complete separate appropriated accounting systems (monthly):	6,444 hrs
(5) Completely separate IRCS-0192-OPM-AN (annual):	32 hrs
(6) Payroll (processing and maintenance of separate PCNS (monthly):	1,776 hrs
Total	8,636 hrs

b. Personnel requirements include:

- (1) One GS-09 Accountant
- (2) One GS-07 Accounting Technician
- (3) One GS-05 Accounting Technician
- (4) One GS-05 Payroll clerk
- (5) One GS-03 Clerk-typist

c. Costs:

One-time costs

Phone lines and instruments	\$2,500
Desks	1,500
Calculators	1,500
Chairs	500
Files	1,200
CRT	2,100
Total	\$9,300

Recurring costs

Labor	\$86,469
Material	400
Total	\$86,869

G-4. MANAGEMENT AND ANALYSIS DIVISION

a. The following additional annual workload would be required under the alternative due to additional reporting requirements at a more detailed level.

	<u>Hours</u>
(1) Method analysis	624
(2) Engineering standards development	2,288
(3) Standards revision and update	416
(4) Standards maintenance and reporting	832
(5) Readiness review	624
(6) Efficiency, effectiveness and productivity	229

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(7) Financial management improvement program	62
(8) Management studies	1,102
(9) Committee management	21
(10) Installation profile book	42
Total	6,240

b. Three GS-11 Management Analysts are required.

c. Costs:

	<u>One-time costs</u>
Desks, calculators, chairs, files, CRT, phone lines and installation	\$6,100
	<u>Recurring costs</u>
Labor	\$85,686
Materials	300
Total cost	\$85,986

G-5. MANAGEMENT INFORMATION SYSTEMS

a. Additional workload requirements are based on the assumption that a standard system for appropriated funds will not be made available to PBA. The computer design effort necessary would require 3 man-years at \$35,000 a year. Labor of \$31,005 per year and computer time costing \$4,000 are reflected in this figure. One-time costs, if no standard system is available, would require a minimum of \$105,000. Implementation of a standard system would cost \$35,000 or one man-year.

b. One GS-11 Programmer/Analyst and one GS-07 Computer Operator would be required on a continuing basis for data processing responsibilities.

c. Costs:

	<u>One-time costs</u>
Desks, chairs, calculators, files, CRT, phones	\$ 3,720
Personnel (3 man-years)	105,000
Total	\$108,720

	<u>Recurring costs</u>
Labor	\$47,859
Materials	200
Computer usage	10,080
Total	\$67,139

G-6. MATERIEL MANAGEMENT AND DEMILITARIZATION DIRECTORATE. The assumption was made that all the P7S mission support organizations on the post will be brought under one P7S account and that a pro rata share of arsenal overhead will be distributed or identified to P7S accounts.

a. The following estimated workload to initially set up a new financial management system (one-time change) is required:

(1) The estimated training effort expended in FY 83 was 9,940 hours. Twenty-five percent of this effort will be required (2,485 hours) for the alternative plus 900 additional hours for two new recruits, for a total estimated training time of 3,385 hours. **Note:** Software and hardware were not considered in this estimate.

(2) The labor hours to operate the alternative, assuming the product/service workload does not change, will not vary appreciably one way or the other. However, the administrative labor will increase by approximately 25 to 35 percent. The FY 83 estimated hours for administrative labor for reports and maintenance was 9,940 hours. The alternative would add 3,560 additional hours. **Note:** Sixty-five percent of the effort expended by four overhead type personnel is utilized in record maintenance and reports in the P7S accounts, and 75 percent of four Stock Control Supply Clerks' time is directed to the P7S effort.

b. One additional GS-09 Program Analyst and one GS-03 Clerk-Typist would be required.

c. Costs:

	<u>One-time costs</u>
Desks, chairs, calculators,	
CRT, phones	\$ 3,720
Personnel training	50,000
Total	\$53,720

	<u>Recurring costs</u>
Personnel	\$36,012
Material	200
Total	\$36,212

G-7. FACILITIES ENGINEERING DIRECTORATE. The estimated workload to initially set up a financial management system is 200 manhours. No additional personnel were considered.

G-8. FORCE DEVELOPMENT DIVISION. Estimates assume all reports, budgets, TDAs, etc. will be separated for P7S funding and AIF funding. P7S will be broken out by AMS code, and mission overhead will still be reported under the AIF. This workload estimate may be somewhat understated since mission overhead will have to be prorated based on usage of the supply function.

a. Additional workload required includes:

(1) A total of 1,717 manhours for separate reporting of AIF and supply activities. Greater detail will be required for supply activities.

(2) A total of 400 hours of one-time ADP support will be required to make program changes to local manpower and overtime reports.

b. One GS-09 Management Analyst is required to handle the additional workload

c. Costs:

	<u>One-time costs</u>
Desks, calculators, chairs,	
CRT, phones	\$ 1,860
ADP support	9,610
Total	\$11,470
	<u>Recurring costs</u>
Personnel	\$23,607
Material	100
Total	\$23,707

G-9. SUPPLY AND SERVICES DIRECTORATE. Supply and Services Directorate will have to produce additional records required under the seven P7S areas and process increased numbers of interservice support agreements. No additional personnel were considered.

G-10. PRODUCT ASSURANCE DIRECTORATE. Additional workload would be required to administer the enhanced controls necessary for allotment funding of the P7S mission. Administrative support to and control over Drug and Alcohol Abuse, Military Support, Base Operations, Audio-visual, Procurement, and Civilian Personnel Office would also be required. No new personnel were considered.

APPENDIX H

INDUSTRIAL FUNDS OF OTHER SERVICES

H-1. INTRODUCTION. This appendix provides a comparison of the other services industrial funds (IF) with the Army IF. A review of the other services was made to determine if the IF financial management for the other services would be applicable as an alternative to operation of the AIF.

H-2. SUMMARY OF INDUSTRIAL FUNDS. Six components of the Department of Defense finance various activities by means of industrial funding. Table H-1 shows how industrial funding was used by the three services in FY 1983. In addition to the three services, the Defense Logistics Agency funded clothing manufacture through the IF and the communications activities of the Defense Communications Agency were industrially funded. Together the IF activities represent a major portion of total DOD programs. Table H-2 shows the revenues generated and the personnel employed in the IF in FY 1983 by component. The total receipts of \$25.4 billion account for about 10 percent of last year's defense budget. The end-year count of almost 300,000 personnel was about 29 percent of the total DOD civilian work force. Note that the Army accounts for only 12 percent of these receipts.

Table H-1. Functions Using Industrial Funding

Activities	Army	Navy	Air Force
Weapon and equipment depots	X	X ^a	
Armament ordnance activities	X	X	
Missile activities	X	X	
Laboratories and proving grounds	X	X	
Transportation	X	X	X
Shipyards		X	
Aircraft depots		X	X
Base services		X	X
Printing		X	
Laundry			X

^aMarine Corps.

Table H-2. Industrial Fund Revenue and Employment, FY 1983

DOD component	Revenue (millions)	Employment ^a
Army	\$ 3,100	69,000
Navy	15,400	181,000
Air Force	6,000	45,000
Marine Corps	90	1,500
Defense Logistics Agency	30	1,300
Defense Communications Agency	850	200
Total DOD	\$25,400	298,000

^aSeptember 30, 1983.

NOTE: Details may not add to totals due to rounding.

H-3. AIR FORCE INDUSTRIAL FUND (AFIF). The Air Force operates four types of installations under the Air Force Industrial Fund with a total of 19 installations performing the following functions:

Installation type	Number of installations
Depot maintenance	6
Airlift service	3
Laundry and dry cleaning services	9
San Antonio Real Property Maintenance Agency (SARPMMA)	1

a. Depot Maintenance. There are five air logistics centers and one Aerospace Guidance Meteorology Center (AGMC). Depot maintenance is provided for repairing and modifying aircraft, overhauling engines, overhauling exchangeables, supporting area and base tenants, repairing and modifying missiles and other major items, and local manufacture.

b. Airlift Service. This service provides for TDY, PCS, cargo, special assignment, aeromedical evacuation, exercises, airborne training, distinguished personnel, mail, rest and recuperation, courier, etc.

c. Laundry and Dry Cleaning Services. Nine laundries, five in the US and four overseas, are operated under the AFIF. Other laundries, formerly operated under AFIF, have been turned over to O&M funding or private contractors as a result of cost studies.

d. **SARFMA.** This agency provides civil/facilities engineering support to all DOD installations in the San Antonio area, including FT Sam Houston. The AFIF funding of these operations resulted from a DOD Directive in FY 79.

H-4. THE NAVY INDUSTRIAL FUND (NIF). The Navy operates 52 installations under NIF. The 52 installations are grouped according to the type of work performed. The following listing shows the groups and the number of installations operating within each group. Subparagraphs discussing the mission of each group follow the listing.

Installation type	Number of installations
Naval shipyards	8
Naval ordnance	10
Public works centers	8
Naval research	14
Naval air rework facilities	6
Publications and printing	1
Military Sealift Command (MSC)	1
Marine Corps	2
Polaris missile facilities	2

a. **Naval Shipyards** provide logistic support for assigned ships and service craft: perform design, construction, conversion, alteration, overhaul, drydocking, repair, activation, inactivation, and outfitting of ships and craft.

b. **Naval Ordnance Activities** provide technical, engineering and logistics support for combat systems, components and support systems, and equipment. They also test, inspect, store, disassemble, assemble, issue, convert, alter, overhaul and repair ordnance items.

c. **Public Works Centers** provide maintenance and inspections and operate facilities which provide services common to activities and which are not within the reasonable scope of the mission of the activity. This activity is analogous to Army Base Operations. An example would be vehicle repair.

d. **Naval Research Activities** conduct research; warfare analysis; feasibility studies; development, design, engineering, testing and evaluation relating to naval vessels, aircraft, weapons and their components.

e. **Naval Air Rework Facilities** provide rework, overhaul, conversion, maintenance, modification and repair of aircraft, guided missiles, target drones, engines, accessories, and components.

f. **Publications and Printing** provide printing and related services and products.

g. **The Military Sealift Command** provides sealift services for all DOD.

H-5. DIFFERENCES AMONG SERVICES

a. **Location of Depot Supply Function.** Within the Department of the Army, the supply function is integrated with depots. In the Navy, by contrast, there are separate supply depots financed by O&M; stocks and materials are funded by stock funds. These are basically different physical and management arrangements.

b. **Research and Development.** The treatment of research and development is not uniform. The Navy finances all R&D under NIF. The Army is in the process of removing R&D from AIF.

c. **Printing and Computer Facilities.** Only the Navy maintains industrially funded printing and computer facilities.

d. **Public Works.** The Army operates no public works activities under AIF. The Navy has eight public works centers under NIF. The Air Force is currently testing SARPMA.

e. **Carryover.** An issue of recurring concern to Congress is that of the management of industrially funded DOD workload carried over from one year to the next. Carryover can be defined as work funded but not yet started, and the costs to complete work that has already been started. Each service has established its own position on how much carryover is acceptable. The Army has a formal written policy that an acceptable level of carryover for operations and maintenance is 90 days. This, however, is a composite figure representing widely varying carryover levels, depending on the item being overhauled or repaired. The Navy does not have a formal, written policy on carryover. Each group of activities, aircraft rework facilities, or shipyards has established its own informal standards of acceptable carryover. The Air Force has not analyzed its carryover levels in this manner.

H-6. **EXAMPLES OF SHIFTS OVER TIME IN IF, NON-IF FUNDING.** The services determine, with OSD's approval, which method of financing best promotes effective and efficient operation. This mix of industrially and directly funded activities, moreover, has not remained constant. As an example, in 1976, there were six Air Force printing plants which were industrially funded. Today there are none in the Air Force. In 1976, there were 17 industrially funded and 130 directly funded laundry and dry cleaning plants in DOD. Today only nine industrially funded cleaning plants remain. In the case of these printing and cleaning plants, industrially funded facilities have given way to more cost-effective, directly funded contract facilities. If more cost-effective cleaning plants are established in areas where the nine industrially funded facilities remain, these plants may also be removed from IF operation. In 1976, 18 R&D facilities were industrially funded. After the end of FY 1985, this number will be reduced

to 14 and will include only major Navy laboratories. In these and the other functions, which include both industrially and directly funded facilities, the choice of financial management depends upon which would be most effective and efficient.

H-7. APPLICABILITY TO AIF. A review of the financial management systems for the Air Force and Navy was made. The Navy and the Air Force operate functions differently than the Army. Flexibility to shift or remove certain functions under IF is desirable and changes should not be applicable to all services. The systems in use by the other services are not new or innovative and would not increase the Army's efficiency in the use of IF. Based on the foregoing analysis, no further consideration of the other services' IF financial management systems was made.

APPENDIX I
SPONSOR'S COMMENTS



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

4 SEP 1984

DALO-RMB

SUBJECT: Army Industrial Fund Analytical Study (AIFAS)

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

1. Reference CSCA-RQR letter, 27 July 1984, subject as above.
2. The draft study evaluating the single financial management system of the Army Industrial Fund (AIF) versus alternatives has been reviewed. Our specific editorial comments are enclosed.
3. The study findings are extremely valuable to HQDA and the AIF activities. I am confident that the study can be used to further the stability of the AIF. We look forward to working with you and your staff on studies in other areas in the near future.

FOR THE DEPUTY CHIEF OF STAFF FOR LOGISTICS:

2 Encl


HEZEKIAH M. RICHARDSON
Colonel, GS
Acting Director of
Resources and Management

CAA-SR-84-15

(NOT USED)

STUDY CRITIQUE

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

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

2. Was the work accomplished in a timely manner? Yes. If not, please comment. _____

3. Does the work report address adequately the issues planned for the analysis? Yes. If not, please comment. _____

4. Were appropriate analysis techniques used? Yes. If not, please comment. _____

5. Are the findings fully supported by good analysis based on sound assumptions? Yes. If not, please explain. _____

6. Does the report contain the preferred level of details of the analysis? Yes. If not, please comment. _____

7. Is the written material fully satisfactory in terms of clarity of presentation, completeness, and style? No. If not, please comment. The minor exceptions are noted on separate page.

STUDY CRITIQUE (CONTINUED)

8. Are all Figures and Tables clear and helpful to the reader? Yes.
If not, please comment. _____

9. Does the report satisfy fully the expectations that were present when
the work was directed? Yes. If not, please explain how not.

10. Will the Findings in this report be helpful to the organization which
directed that the work be done? Yes. If so, please indicate
how, and if not, please explain why not. The findings will aid in the
argument to include supply equipment in the Asset Capitalization Program
and retain supply activities in the AIF.

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

Poor Fair Average Good Excellent

APPENDIX J
DISTRIBUTION

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Headquarters US Army Armament Munitions and Chemical Command ATTN: DRSMC-CPF-O(R) Rock Island, IL 61299	2
US Army Materiel Development and Readiness Command ATTN: DRCES-RE-SA Rock Island, IL 61299-7000	1
US Army Depot System Command ATTN: DRSDS-RM-RBA Chambersburg, PA 17201	2
Headquarters US Army Materiel Development and Readiness Command ATTN: DRCCP-BF 5001 Eisenhower Avenue Alexandria, VA 22333	5
US Army Finance and Accounting Center ATTN: DACA-PAA Indianapolis, IN 46249	5

GLOSSARY

1. ABBREVIATIONS, ACRONYMS, AND SHORT TERMS

AAP	Army ammunition plant
ACP	Asset Capitalization Program
AD	Army depot
ADP	automated data processing
AFIF	Air Force Industrial Fund
AGMC	Aerospace Guidance Meteorology Center
AIF	Army Industrial Fund
AIFAS	Army Industrial Fund Analytical Study
AMCCOM	Armament Munitions and Chemical Command
ammo	ammunition
AMS	Army management structure
APC	Army personnel codes
ARRADCOM	Armament Research and Development Command
ARRCOM	US Army Armament Materiel Readiness Command
CAA	US Army Concepts Analysis Agency
COA	Comptroller of the Army
COB	command operating budget
COE	Chief of Engineers
CONUS	Continental United States
CRT	cathode ray tube
DA	Department of the Army
DAB	Director of the Army Budget
DARCOM	US Army Materiel Development and Readiness Command
DCAS	Defense Contract Administrative Service
DCSLOG	Deputy Chief of Staff for Logistics

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DCSPER	Deputy Chief of Staff for Personnel
DESCOM	US Army Depot System Command
DFE	Directorate of Facilities Engineering
DMMD	Directorate of Materiel Management and Demilitarization
DOD	Department of Defense
DOT	Department of Transportation
DSU	direct support units
EEA	essential element of analysis
EOE	element of expense
FAO	Finance and Accounting Office
FHMA	Family Housing Management Account
FMS	foreign military sales
FORSCOM	US Army Forces Command
FY	fiscal year
G&A	general and administrative
GAO	Government Accounting Office
GFE	government furnished equipment
GSU	general support units
HQ	headquarters
HQDA	Headquarters, Department of the Army
ICP	inventory control point
IF	industrial fund
IOB	internal operating budget
IPE	industrial plant equipment
JO/PCN	job order/program control number
LEAD	Letterkenny Army Depot
LSSA	Logistics Systems Support Activity

MACOM	major Army command
MAD	Management and Analysis Division
MCA	military construction, Army
MICOM	US Army Missile Command
MISO	Management Information Systems Office
MLC	Missile Logistics Center
MRC	Materiel Readiness Command
MRO	materiel release order
MSC	Military Sealift Command
MTMC	Military Traffic Management Command
MY	man-year
NASA	National Aeronautics and Space Administration
NICP	national inventory control point
NIF	Navy Industrial Fund
O&M	operation and maintenance
ODAB	Office of the Director of the Army Budget
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans
OMA	operation and maintenance, Army
OMAR	operation and maintenance, Army Reserve
OMB	Office of Management and Budget
OPA	other procurement, Army
OSD	Office of the Secretary of Defense
P7M	maintenance mission
P7S	supply mission
PAD	Program Assurance Directorate
PARR	Program Analysis and Resource Review

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PBA	Pine Bluff Arsenal
PBD	program/budget decision
PBG	program budget guidance
PCS	permanent change of station
PDIP	program development increment packages
POC	point of contact
POL	petroleum, oil, and lubricants
POM	Program Objective Memorandum
PP&C	production, planning, and control
PRON	procurement request order number
PSR	program status report
RRAD	Red River Army Depot
RDTE	research, development, test, and evaluation
SAG	Study Advisory Group
SARPMA	San Antonio Real Property Maintenance Agency
SICA	secondary inventory control activity
SICC	service item central center(s)
STANFINS	standard financial system
TACOM	Tank Automotive Command
TDA	table(s) of distribution and allowances
TOAD	Tobyhanna Army Depot
TRADOC	US Army Training and Doctrine Command
USAFAC	US Army Finance and Accounting Center
USAINTC	US Army Intelligence Command
W/L	workload

2. DEFINITIONS

Accounting and Reporting System	Control over funds, assets, liabilities, revenues, and expenses.
accrual accounting	When a company or government entity assigns revenues to the period in which they are earned and deducts from the revenues all expenses associated with their being earned, the company is said to keep its records on an <u>accrual basis</u>. Under the accrual basis of accounting, revenues are assigned to the period in which they are earned, revenues and expenses are matched, and no consideration is given to when cash is received from the revenues and disbursed in paying the expenses. Most business concerns keep their records on an accrual basis. The <u>accrual basis</u> is to be distinguished from the <u>cash basis</u>. Under the cash basis of accounting, revenues are considered to be earned in the period in which they are collected in cash, expenses are charged to the period in which cash is disbursed in their payment, and the gain or loss of an accounting period is the difference between revenue receipts and expense disbursements.
budget mark	Initial budget set for use as guidance to subordinate organizations.
double-entry, single-entry	Business accounting records are customarily kept on a <u>double-entry</u> basis. The mechanics of double-entry bookkeeping are such that every transaction affects, and is recorded in, two or more accounts with equal debits and credits. Not all business firms keep their accounting records using a complete double-entry system of accounts. Under the so-called <u>single-entry</u> record keeping system, the minimum essentials consist of accounts with debtors and creditors and a record of cash receipts and disbursements. Other accounts, records, and memoranda may be maintained, but a bookkeeping system short of a complete set of double-entry accounts is still regarded as a single-entry system.
industrial fund	A working capital fund designed to finance industrial and commercial type activities of the DOD so that they may be operated and managed as similar activities in private industry.

Materiel
Readiness
Command (MRC)

Subordinate commands of DARCOM who manage an assigned group of commodities. Recently, many MRC were merged with the Research and Development Commands that were also subordinate to DARCOM. The new commands manage items from "conception to the grave." The General Services Agency (GSA) has a wholesale stock fund for commodities that are used throughout the Government whereas the MRC has commodities used throughout the Army.

primary item

A machine that, by itself, performs a task for the user. Examples: helicopter, tank, truck. Always a procurement item.

a procurement
item

Anything that costs \$3,000 or more and can be used over and over.

reclama

A request to duly-constituted authority to reconsider its decision or its proposed action.

retail stock
fund

An inventory management system used to acquire and stock items for sale to organizations of a particular installation or group of installations.

stock fund

A working capital fund established to finance inventories of consumable materiel (supplies).

secondary item

A machine that is only a part of a primary item. Examples: an engine, transmission, a gun tube. Normally a procurement item.

a stock fund
item

Anything that costs less than \$3,000 per unit or is consumed when used.

tenant activity

An operating unit located on an installation with a host operating unit and attached to host unit for administrative/logistical support.

wholesale stock
fund

An inventory management system used to acquire and stock items used throughout the Army. Items are sold to retail stock operations (i.e., retail stock funds and industrial funds).



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(AIFAS)

ONE SHEET
STUDY GIST
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