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LOGISTICS MANAGEMENT CONTROLS

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LOGISTICS

MANAGEMENT CONTROLS

PART ONE

INTRODUCTION TO LOGISTICS MANAGEMENT CONTROLS

CHAPTER 1

GENERAL

1. Purpose

a. This manual contains Army doctrine in the field of management controls as it pertains to the area of Army Wholesale Logistics. It is designed to provide a basis for appropriate courses of instruction in the Army school system, and guidance for operating agencies in the field. It is concerned with those systems, techniques, and procedures defined as controls which provide logistics managers with information upon which to base decisions. It is to serve as a reference for those at all levels in the Army Wholesale Logistics complex who exercise responsibilities in connection with accomplishing the mission objectives and goals of that complex.

b. Users of this manual are encouraged to submit recommended changes or comments to improve the manual. Comments should be keyed to the page, paragraph, and line of the text in which the change is recommended. Reasons should be submitted with each comment to insure understanding and complete evaluation. Comments should be forwarded to the Commandant, U.S. Army Logistics Management Center, ATTN: AMXMC–L–D, Fort Lee, Virginia.

c. Source data cutoff date for material in this publication is 31 March 1965.

2. Scope

a. This manual is directed to that area of the field of logistics defined as "wholesale" and comprised of the complex of Army organizations, installations and activities that perform the following functions to support the Army-in-the-field primarily and the balance of the Army secondarily: requirements determination, materiel development, procurement and production, distribution, maintenance, and disposal. (The specific management doctrine applying to each of these functions is covered in other Field Manuals of the 38-series.)

b. The subject matter of this manual encompasses those functions, principles, policies and controls inherent in the term "management controls." These are used throughout the Army establishment, however this manual specifically relates them to Army Wholesale Logistics and their common application throughout the complex. Special emphasis is given to financial management controls as being basic to all wholesale logistics activities. Lesser emphasis is given to other techniques of control since they are accorded detailed treatment in other publications.

c. The subject is developed as follows:

(1) *Part One, Introduction to Logistics Management Controls.* This part contains definitions pertinent to the subject matter of the manual; discussions concerning the purpose of logistics management controls in relation to the broad functional areas, missions and responsibilities of Army Wholesale Logistics; the general nature of controls as concerned with wholesale logistics; and organization for control within the wholesale logistics complex itself and the relationships of this organization to Department of the Army and Department of Defense.

(2) *Part Two, The Factors Affecting Logistics Management Controls.* This part covers the logical progression of steps that are taken from the development of a concept into a course of action and the final reaching of a goal or objective. Relationship is established between each of the actions taken under each step and the necessity of application of controls to these and subsequent actions by the wholesale logistician.

(3) *Part Three, The Means of Effecting Logistics Management Control.* This part covers in detail the various tools, devices and systems that are used to accomplish the function of controlling within the Army Wholesale Logistics complex.

(4) *Part Four, Special Considerations Relative to Logistics Management Controls.* This part deals with the requirement of establishing controls that are readily adaptable to and will be used during mobilization. Also covered is the application of management controls under the conditions of cross-service and common-service arrangements between elements of the Army Wholesale Logistics complex and non-Army agencies.

d. The material contained herein is applicable to both nuclear and nonnuclear warfare except as otherwise noted.

3. Definitions

The accepted terms and definitions contained in AR 320–5, are used throughout. In those instances where specific definition is required, the term or word is defined in the content of this manual.

CHAPTER 2

THE IMPORTANCE OF MANAGEMENT CONTROLS

4. Logistics Management Controls and the Total Logistics Mission

a. Army Wholesale Logistics is charged with the responsibility of providing the Army and other designated customers with the required implements of war. Involved in this responsibility are all the functions of supply management from the research and development initiated by a new idea or concept through procurement and production to final disposition of materiel either by consumption or withdrawal from the supply system. Current needs as well as progressively phased projections through twenty years into the future must be considered in assessing the mission and responsibilities of Army Wholesale Logistics.

b. Mission accomplishment required in FY 1965 a vast complex consisting of approximately 15 thousand military personnel and 150 thousand civilian personnel employed at some 250 installations and activities. Approximately 600 thousand line items of supply are managed within this complex. The inventory levels of these items represents some 23 billions of dollars which is maintained by $8 billions for procurement and production each fiscal year. Maintenance and modification of items in stock accounts for approximately $130 million per year. Research, development, test and engineer actions in connection with the continual search for better supplies and equipment consumes approximately one billion dollars per year.

c. The successful management of Army Wholesale Logistics in fulfilling its mission responsibilities rests on valid, timely information in the hands of its managers at all echelons within this vast complex. Without this information it would be impossible to determine where we stand at a given time or how best to proceed toward future objectives. The systems, tools and devices covered in this manual are designed to provide the required information at the time needed upon which manager can base decisions to assure mission accomplishment under peacetime, "cold war," limited war or general war conditions.

5. Supply Effectiveness and Logistics Management Controls

a. The ultimate, and most fundamental, measure of supply effectiveness is that applied by the Army-in-the-Field elements. They either have, or have not, the necessary supplies, and supply support, to accomplish their assigned objectives. It would, of course, be foolish and possibly disastrous to depend solely upon this method of measurement of effectiveness since the loss of a battle, due to lack of effective supply support, would be the gauge against which this effectiveness would be judged. Systems of control must be, and have been, established that provide the indicators of supply effectiveness (or the lack thereof) from the time that a requirement is determined to exist, until that requirement has been met. The use of such control systems should not only show whether supply efforts are, or are not, effective; they must also point to those areas that need management attention in time to preclude supply failure.

b. The responsibility for providing required supply support falls upon Army Wholesale Logistics. The sole reason for the existence of Army Wholesale Logistics is to assure the smooth, continuous flow of supplies in the right quantities to the proper places at the right times to support its customers. Large volumes of information concerning its customers' needs must flow into the logistics system, be evaluated against the system's ability to meet these needs and finally result in actions necessary to fill the customers' requirements.

c. Supply effectiveness measures are required

within the Army Wholesale Logistics complex to preclude supply failure. These measures are dependent upon the information generated within the complex itself and the systems providing this information must be so designed to furnish the managers with data upon which to take actions that will insure effective supply support.

6. Logistics Management Controls and Rapidity of Response to Requirements

a. A major factor governing the conduct of military supply in the existing climate of political and military affairs is the continuing threat of an enemy attack. The attack may involve a major conflict, initiated perhaps by devastating assaults upon the continental United States and its major oversea bases, or it may be limited in nature, confined to a distant localized area. Army wholesale logistics must stand ready to respond instantaneously to the support requirements arising from any attacks.

b. Rapid response by our combat forces to attacks, or threats of attacks, is the keystone to the modern concepts of defense of our nation. Forces in being should be capable of being transported to any point on the globe in a matter of days, or even hours, organized and equipped to enter combat immediately upon arrival at their destination. To effectively support any such contingency, the Army Wholesale Logistics complex must continuously plan and program for this support, thereby maintaining a capability to respond immediately. Information concerning supplies on hand, where they are located and the resources available and required to move these supplies to their destination are but part of the data required by logistics managers to be able to respond rapidly. This information must be current and valid. Management controls, properly applied, provide the means of furnishing this information.

7. Controls and Economical Supply

a. From a purely military viewpoint, the ideal state of our national defense would be to maintain in being the forces required to meet and defeat attacks of any magnitude, replacing weapons and equipment at a rate limited only by technological advances. This, however, is not possible. National defense can only be part of the nation's objectives and must be weighed in relation to the total objectives and the means available to achieve those goals. The people of the United States, through their government, determine the resources that will be allocated to the armed forces for a given period of time. This process then results in limitations on men, money, material and facilities within which the armed forces must operate.

b. Recognizing that these limited resources must be used to maintain the best possible combat forces, it is incumbent upon the Army Wholesale Logistics system to furnish equipment and supplies to the combat forces in the most efficient and economical way. This entails not only the use of the resources required to run the logistics system, but must necessarily include developing the best weapons and equipment possible and procuring or producing these items at the lowest reasonable cost.

c. The logistics managers are faced with a dilemma. They must assure economical supply operations but must never sacrifice or jeopardize supply effectiveness solely for reasons of economy. The search for better ways of doing things must be constant for the purposes of improving supply effectiveness while at the same time holding the costs of operation to the minimum. This can best be accomplished by diligent application of the accepted modern management principles, methods and techniques, all of which are dependent, in the final analysis, upon information in the hands of managers upon which management decisions can be made. Logistics management controls fulfill this need for information.

d. The same concept of effective, yet economical supply, must necessarily pertain to peacetime, "cold war," limited war and general war conditions. Management controls are required under any and all of these conditions, primarily of course to assure supply effectiveness and, secondarily, to insure that available resources are not wasted or diverted, thereby adversely affecting the accomplishment of the Army Wholesale Logistics mission.

CHAPTER 3

THE NATURE OF LOGISTICS MANAGEMENT CONTROLS

Section I. THE MEANING OF LOGISTICS MANAGEMENT CONTROLS

8. Control and the Function of Controlling

a. (1) A widely used military definition of the function of controlling states, "Controlling is the action taken by a commander (manager) to insure that plans, orders, directives and policies are being complied with in such a manner that the objectives will be attained. Through controlling, the commander (manager) seeks to constrain, regulate and adjust the organization's activities to coincide with the requirements of the plan in order to achieve the objectives."

(2) Controlling has also been defined in somewhat more concise terms as "management action to adjust operations to predetermined standards and its basis is information in the hands of the manager."

(3) The above are but two of many definitions of the function of controlling, but analyses of these definitions bring forth important points concerning attainment of objectives in accordance with predetermined plans and the necessity of managers taking action to adjust operations or activities in order to reach the predetermined goals. Either stated or implied in the definitions of controlling is the need for information in the hands of managers upon which to base adjusting actions to keep operations proceeding according to plan.

b. Management actions to adjust operations to achieve predetermined goals can be any of an infinite variety, but each finally results in the realignment of the use of resources to effect the desired results. We can now answer the question of what is controlled by stating that the use of the resources available to a manager is controlled. These resources are generally categorized as men, money, materiel and facilities. Of these resources, individuals must take action to initiate and direct the use of the other resources, therefore individuals are controlled and through individuals, the other resources planned to be used or consumed at preestablished rates are controlled.

c. The establishment of standards against which the use of resources can be measured is fundamental to the function of controlling and thence to the total function of management. Standards of measurement are used primarily to measure performance and through this measurement to compare actual results with those planned. To do this, standards must be realistic and attainable by the application of specified resources within a given time frame. Once established and validated, standards can be used for the satisfaction of at least three managerial requirements:

(1) Justification of the need for resources to achieve assigned objectives.

(2) Plan and program the use of resources.

(3) Evaluate performance accomplished against that programed.

d. The next consideration is the establishment of who controls. Since many standards of measurement have been reduced to the common denominator of the dollar as a means for standard data or information collecting and reporting, there has grown in some areas the feeling that Comptroller organizations perform the

function of controlling for a command, installation or agency. However, it will be brought out in succeeding paragraphs that controlling is one of the functions of management. Management, in turn, is the responsibility of those to whom objective achievement has been assigned and to whom resources have been allocated for the purpose of that achievement. Each manager is responsible for effecting control of the use of those resources and is thereby charged with the function of controlling.

9. Relationship of Controlling to the Total Logistics Management Function

a. Managers of Army Wholesale Logistics are concerned with the total spectrum of the functions of management, which can best be described as the—

(1) Definition of broad objectives and specific goals to achieve assigned missions.

(2) Planning, organizing, coordinating, directing, and controlling of all types of resources to achieve defined objectives and goals.

(3) Continuing evaluation and adjustment of objectives and goals in relation to mission, utilization of resources in relation to objectives and goals, and performance in relation to standards.

(4) Motivation of personnel.

(5) Development and maintenance of workable relationships.

b. (1) Whenever a manager is fulfilling the responsibilities of management, he is doing it by making decisions. The decisions may be a matter of such a routine nature that the manager may not even be aware that he is making them. Or they may be of the nature that they affect the future of his entire organization and require years of systematic analysis in order to make the decision. In either case, and in all others that lie between these two extremes, management is always a decision making process.

(2) Decision making is considered to have five distinct phases: Defining the problem; analyzing the problem; developing alternate solutions; deciding upon the best solution; and converting the decision into effective action. Additionally, effective management requires application of the decision making process in each of the functional phases of total management as shown in *a* above.

(3) Fundamental to the decision making process is information reaching the decision maker. The manager must have an analysis of the problem before him which: reveals the status quo of the situation; advantages and disadvantages of each alternative; and provides a comparison of the advantages and disadvantages. Based upon examination of the facts and consideration of available options, the manager can make a logical decision.

c. Management functions are neatly arranged in a logical progression for the purposes of study and discussion and are so presented in this manual. This necessary academic approach could easily leave the impression that the total management function is fulfilled in the same orderly manner in all instances, permitting the manager to allot specified time frames within a given period for accomplishing each of the separate functions of management. On the contrary, the dynamic character of military operations requires constant evaluation of, and frequent change to, stated goals and objectives, thus requiring revisions to plans, programs, budgets, etc. Because of this characteristic of operations, each of the separate management functions is being accomplished continuously and each in concurrency with the others.

d. The function of controlling, supported by its management controls for information gathering and presentation, is of primary importance to the total function of management. Without the information upon which to take action to make adjustments, or decisions, the

other functions of management become exercises in futility with no chance of becoming realities of progressive action. The responsibility for fulfilling the function of controlling is assumed as soon as the position of manager is accepted.

Section II. LOGISTICS MANAGEMENT CONTROLS

10. Tools, Devices and Systems of Control

a. The means of getting information into the hands of managers can generally be categorized as formal and informal. Formal means of information gathering can be defined as those which are established by means of the written word prescribing what, how, when, and oft times why, information will be accumulated and when, how and to whom it will be submitted. Informal information gathering is described as that which is accumulated by the manager through meetings, conferences, visits and personal inspections. This informal means of obtaining information is dependent on the leadership and managerial acumen of the manager concerned in that it will normally be oral and, quite often, visual.

b. Most formal control tools, devices or systems are neither new nor unique or peculiar to the logistics manager. These can be classified into the broad categories of plans, programs, budgets, funding or apportionment, organization, accounting, reporting, and review and analysis. The development and use of performance standards are primary tools of control. The Project Manager System and The Program Evaluation Review Techniques (PERT), although comparatively new in themselves and having particular application in logistics management control, are merely modern methods of utilizing established control systems or devices.

c. The various control systems or techniques covered broadly above will be dealt with individually in succeeding parts of this manual, however, certain salient features that are common to all these control devices are stressed at this time:

(1) The Army has adapted and developed many of the tools and devices of control into integrated systems. Many of these, such as Financial Inventory Accounting, the Army Stock Fund, Army Industrial Funds, and the Army Command Management System, have financial aspects or overtones. This is because these systems are designed to summarize operational and performance data into monetary or dollar terms, relating these data to cost-of-performance budgets and studies. Because of the financial aspects of these integrated systems and the important part played by comptroller organizations at all echelons of the wholesale logistics organization in designing and operating these systems, logistics managers must recognize that the data generate is for their use and the comptroller activities provide recording and reporting services. The comptroller personnel do not control; this is entirely the responsibility of the managers concerned to whom the comptroller personnel provide services.

(2) The tools, devices, systems, techniques and procedures available to logisticians, although defined as management controls, do not in any way perform the function of controlling. This is the responsibility of the manager who uses the product of these tools, devices, etc., to provide him with information upon which to base his decisions.

11. The Use of Tools, Devices and Systems in the Logistics Control Function

a. Under the hypothesis that people are the major resource that is controlled, and through people the uses of the other resources are controlled, logistics managers must give major consideration to the use of their tools and devices for controlling people. The logistics man-

ager does not directly control the quality of materiel but rather he controls the engineers who develop the specifications, the purchasing agent who procures, and the operator who processes, materiel. Nor does he control the operating or capital costs incurred. He controls the people who perform maintenance, who determine what items to buy and who provide storage and distribution services.

b. Paramount to effective management is the application of the principles of decentralization of operations and delegation of authority. While true in every military endeavor, this is of particular significance in a complex as vast and as complicated as the Army Wholesale Logistics system. Because of this, presiding over the delegation of authority becomes of primary importance to logistics managers.

c. Managers cannot simply delegate authority to accomplish missions or tasks and then assume that from this point forward the missions or tasks will be carried out. Each manager, at any echelon, retains responsibility for successful achievement of the goals or objectives that have been assigned to him. This total responsibility cannot be delegated. The function of controlling comes into play in all its importance when delegation of authority is exercised, for effective control is the means by which a manager can, with confidence, delegate authority to subordinates.

d. Management controls, used in the broadest sense, are the tools by which a manager can—

(1) Assign objectives. When authority is delegated people must know what they are expected to do. Objectives fulfill this requirement. Plans and programs complement objectives, spelling out how the objectives are to be attained and according to what schedule.

(2) Establish standards which provide yardsticks for preparing plans and programs and for measuring progress toward attainment of objectives.

(3) Prepare budgets, which spell out the resources required, or expected to be available for mission accomplishment.

(4) Review and analyze progress toward objective attainment through the use of reports, audits and inspections.

(5) Enter into the adjusting actions required to assure that objectives are met within the framework of plans, programs and budgets or to revise objectives and thus plans, programs and budgets if necessary.

e. Organization, assignments of duties and policy statements are further devices to aid managers in the effective application of the process of delegation of authority and the function of controlling.

(1) To properly delegate authority, the manager must have clear cut lines or channels through which this is accomplished. Here the process of organizing comes into play. This can be said to be the development and maintenance of proper relationships between the tasks to be performed and the personnel concerned in order to accomplish the desired objectives. The grouping of functions and establishment of lines of authority and coordination must be done under the accepted principles of unity of command and span of control. The organization developed is usually reflected on organization charts or in organization and function publications.

(2) A necessary companion to organization is the assignment of duties within the organization. Whereas the organization charts or publications establish lines of authority or command and the relationships between the elements of the organization, the assignment of duties provides, in essence, the delegations of authority to the managers or supervisors of each element of the organization. Assignments of duty can take any of several forms. These may be represented broadly as the act of placing a person in a position—

(*a*) For which job descriptions have been established;

(*b*) For which the functional statement is considered to be adequate to outline the duties and responsibilities of the incumbent; or

(*c*) By means of a writer directive which informs the person of the position he is to occupy and the nature of the duties and responsibilities ascribed to the person occupying that position.

(3) Policy is a predetermined guide or directive which establishes the limits within which the manager or supervisor of each element of the organization can make decisions and take action without reference to the higher echelons of management in the organization. A statement of policy economizes the time of managers and assists them to discharge their duties equitably and consistently without time loss for checking or coordinating each action with the next higher echelon. No organization should establish policy unless it is in writing. A "policy" which leaves no room for the exercise of discretion upon the part of those to whom it is directed is not "policy" but a firm rule, thereby defeating the concept of the establishment and use of policy as a management tool.

f. The foregoing management aids represent, in essence, those that are available throughout the Army. They are of particular importance to the logistician in that they have been designed to improve the management of the business or industrial-types of operations of the Army. The ultimate goal in the use of the manager's aids is effective, yet economical, support of the Army-in-the-Field.

Section III. RELATIONSHIP OF CONTROLS TO LOGISTICS FUNCTIONS

12. The Logistics Function

a. Logistics is defined in AR 320–5.

b. Army Wholesale Logistics is concerned with that part of the science of logistics which deals with "design and development, acquisition, storage, movement, distribution, maintenance, evacuation and disposal of materiel" specifically as it pertains to the Army as an entity. Wholesale logistics is not to be confused with "retail" or "consumer" logistics. That is the logistics inherent in Army-in-the-Field operations and installation (post, camp and station) logistics, both of which are rendered wholesale logistics support.

c. For the purposes of study, instruction, operations and control, wholesale logistics has been organized into functional areas, each of which represents a logical management unit.

(1) *Materiel Development.* The concept and development of materiel based on qualitative requirements established by our combat forces and, in some cases, based upon information derived from foreign sources.

(2) *Requirements Determination.* This involves the collection of all data relating to assets and demands for every item of supply; the calculations from this data of future requirements for each item both for peacetime and mobilization conditions; and the initiation of supply actions to fulfill these requirements without permitting excesses to accumulate or continue.

(3) *Procurement.* The placement and administration of contracts and other agreements with producers and distributors of materiel to fulfill qualitative or quantitative requirements.

(4) *Distribution.* This involves the receipt of supplies from procurement, or other sources, and the care, storage, and transportation to the customers of appropriate stocks to meet demands.

(5) *Maintenance.* This function entails the planning for, and support of, maintenance of equipment. Maintenance planning commences with the initia-

tion of the development of a concept expressed as a qualitative materiel requirement (QMR) or a small development requirement (SDR). It continues throughout the life span of an item of equipment. Maintenance support in the form of publications, repair parts, tools and test equipment must be established prior to the time an item of equipment is available for issue from wholesale stocks.

(6) *Property Disposal Direction.* This involves elimination of surplus materiel from the Army Wholesale Logistics inventories. Materiel excess to Army needs may not necessarily excess the needs of the other Armed Services, hence an important part of property disposal direction is the redistribution of excess inventories to those other services.

d. The order of progression of the logistics functions described in *c* above is deliberate. It is the logical order as applied to the entry of an item into the system and its use during its span of useful life until the time that it is eventually removed from the Army inventory.

e. The step by step movement through each of the wholesale logistics functional areas is followed in orderly progression for each individual item of supply. However, this is not to say that today only materiel development will be performed and tomorrow the actions necessary for requirements determination will be taken. The numbers and the diversity of items with which Army Wholesale Logistics is concerned requires continuous application of actions in each of the functional areas. Advances in technology create the necessity for unceasing research and development efforts in order to provide the Army with the best possible implements of war. Changes in force structures and disposition requires continual requirements determination actions as does the introduction of new or improved items into the logistics supply system. Accomplishment of procurement, distribution, maintenance and disposal actions must proceed apace with those of materiel development and requirements determination on a perpetual basis so that Army Wholesale Logistics can fulfill its mission responsibility.

13. Logistics Functions and Controls

a. The function of controlling, and thus the necessity for controls, is of primary importance to all wholesale logistics managers in any of the functional areas. The sheer volume of transactions conducted by wholesale logistics in itself dictates this requirement. When considered in the light of the size of the logistics organization, the diversity of operations and the importance of mission accomplishment, the requirement for responsive and reliable systems to provide accurate information becomes self-evident. The complete interdependence of each logistics function upon the other functions further emphasizes this need for information.

b. The logistics manager must utilize the same tools, devices, systems and procedures for control as must managers in any other military endeavor. Establishing objectives, planning, organizing, programing, budgeting, directing and controlling are equally applicable to managers engaged in materiel development, requirements determination, procurement, distribution, maintenance, and property disposal functions as to every other manager in the Army. The concept of controlling people, and through people, controlling the use of materiel, money and facilities, is the same throughout the Army and is not peculiar to Army Wholesale Logistics.

c. The interplay between the logistics functions does create management control problems for logisticians that are not common to other Army elements. Actions taken, or planned to be taken, by the activities or organizations that exist for the purpose of fulfilling the responsibilities of one of the major logistics functions definitely and invariably have effects on one or more of the other functional areas. Take for example, the final acceptance of a new item as the result of the research, development, test and evaluation efforts of those engaged in materiel development. The item must be accurately described and a Federal stock number obtained from the Defense Logistics Services Center (DLSC). Identification and management data

covering the item must then be published in the appropriate supply catalogs. Determination must be made of the quantity of this item that will be brought into the logistics system, during specific time frames. This, then must be translated into storage, care and preservation, and transportation requirements to support storage and issue actions by the distribution agencies. Maintenance requirements must be considered to determine resources required to support repair and rebuild of the item. Finally, the effect on property disposal functions must be considered, particularly if the item concerned is a replacement for one currently in use at the time of acceptance of the new item. This example has been reduced to its simplest elements merely to provide a picture of the interdependence of logistics functions one upon the other. However, this interplay is taking place constantly in one form or another. Without application of the available controls, logistics managers could soon be faced with conditions of chaos and supply failure would result.

d. In addition to the controls available to logistics managers that are common to other military managers, progress has been made in developing systems of control that are unique to wholesale logistics. Two of these, covered in greater detail in succeeding portions of this manual, are the Project Manager System and the Program Evaluation and Review Techniques (PERT).

(1) The Project Manager System provides for the assignment of responsibility, with commensurate authority, to a single project manager for the research, development, test and evaluation of a major item or weapons system.

(2) Program Evaluation and Review Techniques (PERT) provides a significant tool for management and control of research and development projects. It enables project managers to effectively plan and control complex research and development projects by providing techniques that—

(*a*) Define the work that is to be performed.

(*b*) Develop more realistic schedules and cost estimates based on resources planned for work performance.

(*c*) Determine where resources should be applied to best achieve the time, cost and technical performance objectives.

(*d*) Identify those areas developing potential delays or cost overruns in time to permit corrective action.

CHAPTER 4

ORGANIZATION FOR LOGISTICS MANAGEMENT CONTROL

Section I. GENERAL

14. The Army Wholesale Logistics Complex

a. Army Wholesale Logistics has heretofore been broadly described as a complex of men, money, materiel, and facilities which is assigned certain functional responsibilities in order to carry out its primary mission of providing the Army and other designated customers with the implements of war. Also brought out is the necessity for utilizing the management tool of organizing in order to be able to properly discharge the function of controlling, thereby leading to effective management.

b. Today's Army is organized under modern management principles and practices and has provided, under clear cut lines of command and delegation of authority, a major command for the purpose of performing the Army Wholesale Logistics mission. This major command is the United States Army Materiel Command. The Army Materiel Command reports, and is directly responsible, to Headquarters Department of the Army and has been given the missions to—

(1) Manage the wholesale materiel activities of the Army.

(2) Provide supply and maintenance support to the Army and to other customers.

(3) Assist in the formulation of the Army materiel plan and implementation of the plan.

c. A close look at the organization of the Army Materiel Command reveals direct relationships to the basic wholesale logistics functions. There are seven major subordinate commands under Headquarters, U.S. Army Materiel Command, as well as several separate offices and activities. Two of these commands and the separate offices and activities are function oriented. The remaining five commands are organized to fulfill the bulk of the logistics functional responsibilities under a "Centralized-by-Commodity" concept and are generally referred to as the Commodity Commands. These commands and the commodities for which they have been assigned responsibility, are directly related to the traditional Army tasks to move, shoot and communicate.

(1) U.S. Army Mobility Command is assigned materiel management responsibility for Army equipment needed to permit the Army to "move", such as aeronautical and surface transport items; aerial delivery equipment; power generation, construction, surface, barrier and bridging equipment; general purpose vehicles; and general support equipment and supplies.

(2) The materiel management responsibilities for those implements needed by the Army to perform its task of "shooting" is divided among three commands:

(*a*) U.S. Army Missile Command which fulfills the wholesale logistics responsibilities for free rockets, guided missiles and associated equipment.

(*b*) U.S. Army Weapons Command performs logistics functions in connection with weapons, combat vehicles, fire control equipment and common type tool and shop sets.

(*c*) U.S. Army Munitions Command provides the Army nuclear and nonnuclear ammunition; rocket and

missile warhead sections; chemical and biological materiel, propellants, explosives and pyrotechnics; and meteorological and propellant activated devices.

(3) U.S. Army Electronics Command provides the Army with the devices that permit transmission of information, or in other words, the means to "communicate", such as communications equipment (radios, telephones, etc.); electronic warfare devices; combat surveillance equipment, automatic data processing, radar and meteorological equipment.

d. A most important concept is employed within the Army Materiel Command for the delegation of authority and the assignment of responsibilities in relation to the wholesale logistics functions. Utilization of this concept brings into effective operation all of the management control principles and procedures referred to in the preceding portions of this manual. This is the concept of vesting in one national inventory control point (NICP) full responsibility for a segment of the total Army inventory. The chief of a NICP is responsible for all the interrelated functions involved in the worldwide inventory management of an item. These include cataloging direction, requirements computation, procurement direction, distribution management, rebuild direction, disposal direction, and financial management. These responsibilities are geographically and functionally integrated and managed, to include controlling, by a single commodity manager. The seven basic functions for which the chief of a NICP is responsible are described as follows:

(1) *Cataloging direction.* This is the establishment of the correct nomenclature and stock number, accompanied by all the other coding and identification required by the customer to be able to order the item he requires. The production and distribution of the catalogs themselves is not included in this function. This is done by a common service organization based on information provided by the commodity manager.

(2) *Requirements computation.* Requirements computations for major end items (PEMA financed) are based on force basis and allowance documents such as TO&E/TA and letters of authorization. Requirements for secondary items and repair parts are fundamentally based on forecasted demands. These requirements are evaluated against asset availability to include, where applicable, returns to inventory of items from the rebuild (maintenance) program. These data are evaluated, computations made, results tabulated, and as a result, net projected requirements for an item are matched to fund requirements or availability with which to initiate procurement or disposal action.

(3) *Procurement direction.* This responsibility is concerned with the authority, within limitations of approved programs or as otherwise directed by higher authority, to require procurement to be accomplished. The act of procuring materiel is normally provided the commodity manager as a common service function assigned to procurement or contracting agency or activity. (Regulations and policy governing the techniques of procurement are established by higher authority.)

(4) *Distribution management.* The commodity manager must plan for the entry of materiel into the wholesale logistics system. These plans must be very detailed. They include short range plans covering direct or immediate delivery of items to consumers; and long range plans covering storage and distribution of items concerned with reserve stocks, deferred projects, and the replacement of items consumed over a projected period of time. Also to be considered are storage space availability; where

items can be stored most economically from the standpoint of transportation costs incurred in delivery from the producer as compared to those incurred in delivery to the consumer; protection dispersal of assets; how best to geographically balance assets against projected demand; when to buy most economically because of production cycles or seasonal markets in relation to storage space availability to meet this economical buy program. This is a very detailed and complicated program and the commodity manager must personally provide the best of managerial skills in effecting it. The receipt of materiel into the supply system; storage; surveillance; in-storage care and preservation; picking, packing and handling for shipment; and the provision of transportation to a customer are all common services provided to the commodity manager by another agency.

(5) *Rebuild direction.* Since the commodity manager, or chief, or a NICP is assigned worldwide inventory management responsibilities for the items assigned that NICP, he must concern himself with the rebuild of those items that are subject to rebuild. Rebuild is another form of asset availability or procurement source, as the case may be, and must enter into requirements computation. Information relating to rebuildable assets in the hands of users must be provided the NICP and must be related to asset requirements when performing requirements determination studies. Through the information received, the chief of the NICP establishes quantitative requirements, by item, for serviceable materiel to be made available through overhaul or rebuild. Again, as for other functions, the actual rebuilding operation, whether in-house or by contract, is conducted by other agencies as a common service for the NICP.

(6) *Disposal direction.* The decision to dispose of items in the Army inventory emanates from the commodity manager of the NICP. The policy, procedures and criteria resulting from this decision must be promulgated by the chief of the NICP. This is a very sensitive and intricate area of responsibility and requires detailed and specific information in the hands of the manager concerned in order that the proper disposal decision can be made. The NICP's do not perform the actual disposal actions which can be, and often are, done at almost any point in the entire supply system, both wholesale and retail, but the commodity manager must direct and control the disposal function.

(7) *Financial management.* Each commodity manager is responsible for budgeting and budget execution in connection with his requirements for inventory. This involves funds under the appropriation "Procurement of Equipment and Missiles, Army"; Army Stock Funds; or the appropriation "Operation and Maintenance, Army," as the case may be. Inherent in the financial management responsibility is the requirement to understand financial inventory accounting and to use the information generated under this system.

e. The U.S. Army Supply and Maintenance Command (USASMC) is the agency of the AMC for exercising operational control over supply and maintenance activities on behalf of the Commanding General, USAMC. It operates the wholesale supply, maintenance and distribution systems for the Army and has responsibility for operating the depots, separate maintenance activities, storage sites and several miscellaneous activities. Specific responsibilities include: petroleum logistics; integrated inventory management and control of all secondary items; cataloging; asset reporting; geographical standardization; authorization documents; assignment of logistical responsibilities to the commodity commands;

management of the AMC Division of the Army Stock Fund; policy, systems and procedures for supply control, stock control, distribution, maintenance, land and air transportation, property disposal, and interservice support; and commodity item responsibility for assigned Defense Supply Agency items.

f. The U.S. Army Test and Evaluation Command provides the following services:

(1) Engineering and service tests and evaluations.

(2) Supports engineer design, production and post production tests.

(3) Participates in troop test planning.

g. U.S. Army Materiel Command separate activities, laboratories, procurement districts and procurement offices provide a variety of services to Headquarters AMC, the major subordinate commands and to Headquarters Department of the Army and other customers as directed. Manpower control agencies, inspectors general field offices, research laboratories, and specialized communications agencies are a sampling of some of these separate activities and laboratories. In this group are also found the AMC Data Center and the Major Item Data Agency, both of which are highly important in the field of data collection, evaluation and transmission through the use of sophisticated automatic data processing equipment. The U.S. Army Logistics Management Center and the Army Management Engineering Training Agency, the two most important training agencies of the Army Materiel Command, are designated as separate activities of AMC. The major AMC procurement offices and districts perform the necessary purchasing and contracting functions for AMC commodity managers and other customers as directed.

h. The USAMC employs a unique organizational concept to provide for the management and control of selected items or systems. This is the Project Manager System which is generally applied during the research, development, test and evaluation phases of the items or systems concerned. The project manager is, in effect, a major commander for the duration of the project, operating within the total money and other resources given him to support his project. This system is a vertical type management which is superposed on the conventional functional type management organizational structure used for the balance of the USAMC activities. Project managers are appointed by the Commanding General, USAMC, and may be located at a Commodity Command or in Headquarters, USAMC, as the case may warrant. Under this system, a single individual is vested with sole line authority and responsibility for the lift of the project. Organizationally, this practice establishes one individual to whom the command concerned can look for successful project completion.

15. Department of Defense and Department of the Army

a. The organizations and functions of the Department of Defense and the Department of the Army are printed in AR 10–1 and AR 10–5. It is not intended to repeat the substance of these regulations, nor to interpret or implement them here, but rather to bring forth in summary form some of the interests of these headquarters in the area of logistics management controls.

b. Since management is inherent in command, a brief reminder of the chain of command is in order to establish primary interests in the management and control of Army wholesale logistics. The command line runs from the President of the United States to the Secretary of Defense to the Secretary of the Army. The Commanding General, U.S. Army Materiel Command, the commanding general of the organization primarily responsible for all wholesale logistics activities of the Army, is under the supervision of the Chief of Staff, U.S. Army in accordance with the provisions of Section 3034 (c) and (d), Title 10, United States Code. In performance of his duties under the Secretary of the Army, the Chief of Staff issues directives, authorities, policy, planning and program guidance, approved programs and resource allocations to the CG, USAMC. However, in matters involving procurement policy and contracting which are the responsibility of the Assistant Secretary of the

Army (Installations and Logistics) (ASA (I&L)), the Commanding General, USAMC, is under the direct supervision of and is authorized to communicate directly with the ASA (I&L).

c. The Secretaries of Defense and Army are assisted in the discharge of their responsibilities by their deputies, assistant secretaries, and their military staffs. Each has an assistant secretary (Installations and Logistics). There is a Director of Defense Research and Engineering in the office of the Secretary of Defense and an Assistance Secretary of the Army (Research and Development). The military staffs of the Secretaries also have specific representations for the areas of logistics. Within the Army staff are the Deputy Chief of Staff for Logistics (DCSLOG) and the Chief of Research and Development (CRD). This is not to say that the other offices and agencies of the headquarters of the Department of the Army and the Department of Defense are without interest in the field of logistics. Each plays a vital role in the development of plans, programs, and budgets that result in the establishment of objectives that must be met by the Army Wholesale Logistics managers.

d. This very brief résumé of the basic organization of the Executive Branch of the government is for the purpose of highlighting the need for the information that is the product of logistics management controls. Not mentioned, but vitally concerned, is the legislative branch of the government, specifically the Congress of the United States, from which come the resources and the laws which determine the magnitude of the wholesale logistics effort and set the limitations under which that effort must be undertaken. The Congress is also concerned with the information generated through the systems of control.

Section II. LOGISTICS CONTROLS IN RELATION TO DOD, DA AND AMC

16. Pattern of Logistics Control

a. The objectives and operations of Army Wholesale Logistics and, consequently, the management of this system are profoundly influenced by the decisions reached by the President and transmitted through the Department of Defense to the Department of the Army. In our check and balance type of government there is an inevitable interaction between the spheres of responsibility assigned by the Constitution to the President and to the Congress. The Legislative Branch of the Government makes the law and appropriates funds and the Executive Branch carries out the law. Since the Army's Wholesale Logistics operations must be carried out within statutory (or legislative) limitations to include appropriations, Congress thereby exerts a controlling influence. Thus it can be seen that information concerning the conduct of logistics functions emanates from the highest levels of government. Through established command channels this information is passed down in one form or another, to the lowest management echelons of the logistics complex.

b. The information affecting, or governing, logistics operations can be in the form of orders, directives, approved programs, regulations, fund authorizations, or manpower authorizations, and quite often, a combination of these forms of guidance and control, each having an affect on the other. Information concerning objective achievement, resource utilization, manpower requirements, etc., must in turn flow back through the echelons of management that initially established the missions, objectives, or resource limitations or other type of control, and in many cases back to the highest echelons of the military structure of the government.

c. The flow of management information from the upper levels of management is used to activate the missions of wholesale logistics and start the processes that result in providing our combat forces with the required supplies and equipment. Information flowing back through the echelons of management reflect how well the job is being done, what problems exist or can reasonably be expected to occur, thus providing the planners and policy makers with vital data upon which they can make the decisions for future actions.

17. Information Requirements in Relation to Echelon of Management

a. Generally, management information issued by, or received back into, management echelons varies in detail in inverse proportion to the strata of the management echelon concerned. For example, a first line supervisor is vitally concerned with the man-hours spent on a job by each employee and in the specific details of other resources consumed in getting a job done. The installation commander or activity director over this first line supervisor is concerned with summarization of such data which reflect the picture of the entire installation or activity. And so it goes up through each level of management, particularly in connection with mission achievement, and its companion, resource utilization, for those routine operations which lend themselves particularly to delegations of authority and assignment of responsibility. Again, generally speaking, the assignments of objectives and allocation of resources follows this pattern in reverse from the top echelons downward through the management organization.

b. The above concept of flow of information is the pyramidal concept of management control. This concept does not apply in every instance. In certain instances, controls are applied at the executive and/or legislative levels in connection with specific items. Research and development in connection with an antimissile missile such as the Nike-Zeus is a case in point where progress has been constantly evaluated at all levels of the government. This is an extreme case to be cited as an example but there is a continual control on many individual items for which Army Wholesale Logistics has development, procurement or production, distribution and disposal responsibilities. In each of these instances, information concerning these items is separately identified throughout the defense organization to the executive and legislative levels of the government.

c. Elements of the tools, systems, devices, and procedures for control must necessarily be designed to provide the information to the manager at the time it is required. Some are designed to provide the greatest detail to the first line of supervision with greater summarization of data at each higher level of management. Others must be designed to provide basically the same amount of detail to each level of management. Each manager must decide within the limits of established policy what information is required by him in order to control his activities. He must also make provision to establish those controls that will furnish information required from him by his superiors either in summarized form or in detail.

PART TWO

FACTORS AFFECTING LOGISTICS MANAGEMENT

CHAPTER 5

LOGISTICS MANAGEMENT CONTROL CYCLE

Section I. THE CYCLE IN GENERAL

18. Description of Cycle

a. "If we could know where we are and whither we are tending, we could better judge what to do and how to do it."—Abraham Lincoln in his "House Divided" speech of 1858. This statement very succinctly sums up the total purpose of the management effort of those engaged in national security undertakings. Over the years a very well defined cycle of actions has come into being that provides commanders and managers with the answers to the "where," "whither" and the "what" and "how." This is the cycle of planning, programing, budgeting, program and budget execution, reporting, and review and analysis. Each of the functions that make up this cycle are of such importance to logisticians that they will be dealt with individually in chapter 6.

b. The functions of planning, programing, and budgeting assist in determining where we are going, what we are going to do as well as how we are going to do it. The function of budgeting has the ultimate result of obtaining the financial resources necessary to put into effect the plans and their supporting programs. Program execution is the performance of the tasks occasioned by the plans and programs and using the resources obtained through the budget function. Reporting provides the answer to "where we stand" and review and analysis provides the tool to assist in making the decisions necessary to keep within the programs or to initiate actions leading to a change in plans, thus starting the cycle again.

c. Commanders, managers and staff officers at all echelons are involved to some degree in all the functions that comprise the management cycle. In practice, however, it is generally found that decisions in connection with, and direct concern for, the execution function on a day-to-day basis is almost entirely in the province of the operating personnel and their immediate managers. It is also at the operating level that the basic management information is generated that comprises the reports upon which the review and analysis function is based. The higher the staff or command element in the military structure, the greater is the proportionate amount of time spent on the functions of planning, programing and budgeting.

d. The cycle of management functions is certainly not peculiar to the military services or the government but is employed to one degree or another by most civilian enterprises. Regardless of what it may be called these basic management functions are also followed in the day-to-day management of our personal and private affairs. It is the tools, techniques, procedures, devices and systems that vary rather than the principles of management and the application of the functions of management.

19. Plans, Programs, and Budgets as Elements of Control

a. Another definition of the function of controlling is management action to insure that plans are being complied with. Programs and budgets, for the purpose of discussing elements

of control, can be considered as adjuncts to plans. It has also been stated that through controlling, a manager seeks to constrain, regulate and adjust activities to coincide with the requirements of the plan in order to achieve the objectives of the plan.

b. Plans, programs, and budgets are elements of control. They are used to: establish objectives, show what resources will be used and by whom, what tasks are to be accomplished within a specified time period, and the dollar resources that are required to reach the planned objectives. Through their use, managers set the objectives to be achieved and the constraints or limitations within which the objectives are to be achieved. The tools, devices and systems of management information gathering and reporting are subsequently used to measure progress made and to provide the data upon which the manager can make the adjustments in order to comply with the plans.

c. Plans, programs, and budgets, when placed into effect, bring into operation the function of controlling through use of management controls. It is reemphasized however that plans, programs, budgets or other systems, procedures or devices do not in themselves control but provide the bases upon which managers take necessary actions to effect control.

Section II. CYCLE IN RELATION TO LOGISTICS MANAGEMENT CONTROLS

20. Qualitative and Quantitative Materiel Requirements

a. The mission of Army Wholesale Logistics can be restated as having the responsibility for meeting the materiel requirements of the Army. To a logistician, a requirement connotes a need, or demand for either a specific quantity of a given item of materiel or a need for materiel of certain qualifying characteristics. To arrive at a requirement, three basic steps are required: first, a *need* for an item must be stated; next, the item must then be *developed, tested and accepted;* and finally it must be *produced* in quantity. It therefore follows that there are two categories of requirements with which wholesale logistics is concerned:

(1) *Qualitative materiel requirement.* A Department of the Army approved statement of a military need for a new item, system or assemblage, the development for which is believed to be feasible. The statement, which can take the form of a Qualitative Materiel Development Objective (QMDO), a Qualitative Materiel Requirement (QMR) or a Small Development (SDR), serves as the basis for the research and development effort.

(2) *Quantitative requirements.* Need or demand for item of materiel in the Army inventories:

(*a*) initially predicated on authorization documents (TO&Es, T/A, etc.);

(*b*) for support of operational plans and;

(*c*) upon customer demand for replacement of worn-out, consumed, lost or destroyed items.

b. Personnel concerned with wholesale logistics should be aware of how an item, system, or assemblage is initially introduced into the supply system. This matter, summarized here, is covered in detail in FM 38–2–1.

(1) The concept of a new item, system, or assemblage can originate anywhere within the Army. They may also originate outside the Army. A concept is passed through normal channels to the Combat Developments Command which is the major command under Headquarters, Department of the Army, responsible for—

(*a*) Formulating and documenting current doctrine for the Army in the field, and

(*b*) Determining the types of forces

and materiel needed in the future, and how these forces should be employed.

(2) The Combat Developments Command (CDC), after evaluation of the new concept for materiel, to include its impact on doctrine and organization, forwards the statement of requirements document (Qualitative Materiel Development Objective (QMDO); Qualitative Materiel Requirement (QMR); or Small Development Requirement (SDR)) to Headquarters Department of the Army. The requirement is considered by Department of the Army staff, and, when determined as feasible for development, is passed to the Assistant Chief of Staff for Force Development (ACSFOR). ACSFOR includes the requirement in the Combat Developments Objective Guide (CDOG) which is maintained by ACSFOR. The CDOG is the controlling document in the generation of materiel objectives, studies, tests and materiel requirements of the future and for coordinating the efforts of combat development agencies with those of research and development.

(3) The requirements indicated in (2) above, represent DA statements of the need for materiel in terms of fundamental characteristics, capabilities, and priorities, relating the materiel to the operational and organizational concepts of its use.

(4) DA approved QMR's and SDR's initiate the development process, leading to inclusion of the items in the program of the Chief of Research and Development. The CRD then directs action to one of the developing agencies such as USAMC, the Surgeon General, Chief of Engineers, or the Chief, USA Security Agency for initiation of a research project. From research and development, a prototype is produced for field evaluation and testing. Upon acceptance of the item, system or assemblage, it is brought into the Army wholesale logistics system as an item of supply in accordance with approved Department of the Army plans.

c. Type classification is the categorization of an item or system according to its suitability for service use. This is accomplished by formal action of a technical committee established and maintained by the head of a developmental agency. Materiel is type classified to provide a basis upon which to judge its current qualitative adequacy; to record its status in relation to its overall life history; and to plan and carry out its procurement, issue, maintenance, and disposal. The requirement for publication of the technical manuals, training literature and allied publications are also fulfilled at this time and sent to the interested agencies and organizations as well as are the Tables of Organization and Equipment and Tables of Allowances. The wholesale logistician must now assume the responsibility for requirements determination, procurement and production, distribution and maintenance functions. Reference is made to FM 38–2–1 for details concerning the doctrine in this area of requirements determination. It is sufficient to say here that the wholesale logistician will be guided by the approved plans, programs and budgets in fulfilling his assigned functions.

21. Effects of Plans, Programs and Budgets on Army Wholesale Logistics

a. Army Wholesale Logistics is a coequal partner with other Army elements in the total Army mission to support the national security objectives. The direction of the logistics effort is derived from the plans initiated at the Executive level of government and implemented by Department of Defense and Headquarters, Department of the Army. These plans, expressed in programs of action and supported by the funds appropriated by the Congress in response to the budgets, set into motion all the functions for which Army Wholesale Logistics is responsible.

b. Logistics managers must assure that their parts of the plans, programs, and budgets are adhered to through the function of controlling. The exercise of this function is made possible through information provided by the tools, devices, systems, and procedures of management control.

CHAPTER 6

ELEMENTS OF THE LOGISTICS CONTROL CYCLE

Section I. PLANNING

22. Introduction

In discussing logistics management controls, it is necessary to explore the basic elements that in themselves establish the need for those controls. The activities and operations of the Army Wholesale Logistics complex are governed by decisions reached at the national policy development levels and by the Congress. These decisions are extended down to the lowest management echelons in the Army Wholesale Logistics organization. When so extended, the objectives or goals to be attained by each management echelon in the logistics complex are established. All logistics managers engage in the functions of planning, programing, budgeting, execution, reporting and review and analysis, which comprise the elements of the control cycle, to varying degrees. A general understanding of the concepts and procedures employed at the levels of management in the national security organization will enable logistics managers to better appreciate the need for, and use of, logistics management controls. Each element of the logistics control cycle will be presented in the succeeding sections of this chapter for the reasons stated above and to prepare the foundation for the discussion of specific tools, devices, systems and procedures employed by logistics managers to achieve effective control that is presented in following chapters of this manual.

23. Planning for National Security

a. (1) The basic national security policy which provides direction for our defense effort is formulated by the National Security Council (NSC). This council, established by the National Security Act of 1947, advises the President with respect to the integration of domestic, foreign, and military policies relating to the national security so as to enable the military services and the other departments and agencies of the Government to cooperate more effectively in matters involving the national security. The Council is composed of the President, the Vice President, the Secretary of State, the Secretary of Defense, and the Director of the Office of Emergency Planning. Secretaries and undersecretaries of other executive departments may serve as members of the council when appointed by the President by and with the advice and consent of the Senate. With this membership, the council has immediately available the requisite knowledge and experience in the political, economic, psychological and military fields to permit broad determinations of national objectives and policies. This council performs a number of functions for the President, however, from the standpoint of the military departments, the annual review of the Basic National Security Policy (BNSP) is perhaps the most important. This is the paper which provides broad policy guidance for all agencies of the Government contributing to national defense. If and when reappraisal and reorientation of the U.S. military strategy are to be affected, this paper provides the direction for any such changes that may result.

(2) Drafts concerning the BNSP are referred to the Department of Defense, the Joint Chiefs of Staff, and to the military departments. Military views are therefore considered in the preparation of policy. Intelligence estimates pertaining to the military capabilities of potentially hostile powers are also considered. In final form, the BNSP contains a broad outline of the aims of the national strategy and a detailed discussion of the military, political, economic and domestic elements to support the overall strategy. Finally, when approved by the President, it becomes official guidance for all matters relating to national security.

(3) Of primary interest to the Army wholesale logistician is the definition of the "military logistics base" which is contained within the BNSP. The BNSP defines this term as "the total of all resources available or which can be made available to the military effort to meet foreseeable wartime needs." Having been told what the national policy and the national objectives are as they pertain to the military logistics base, the logistics planner is then able to translate this policy statement into the support forces required and the materiel needed to sustain those forces.

b. The responsibility for employment of our military forces is vested in the Joint Chiefs of Staff and is exercised through the unified and specified commanders as provided in the Defense Reorganization Act of 1958. It logically follows that responsibility for strategic planning devolves upon the JCS. To carry out in an orderly manner their responsibilities in the field of strategic planning, the JCS has a program for planning which calls for the annual development and dissemination of three major planning documents covering a span of twelve years into the future. These are the Joint Strategic Capabilities Plan (JSCP); the Joint Strategic Objectives Plan (JSOP); and the Joint Long Range Strategic Study (JLRSS). These plans reflect the national policies and objectives as established by the BNSP and consider the planning developed by each of the military departments.

c. (1) The Department of the Army is responsible for recruiting, organizing, supplying, equipping, training, mobilizing, and demobilizing Army forces that are furnished to the unified and specified commanders. The Army planning concept is designed to provide—

(*a*) A concept of Army strategy covering short, mid- and long-range time frames.

(*b*) Guidance for formulation and modification of the Army Five-Year Force Structure and Financial Program which is compatible with Department of Defense procedures.

(*c*) A basis for the statement of Army objectives and capabilities, as appropriate, in specific time periods.

(*d*) Army positions for input to joint planning that is necessary to support the Chief of Staff as a member of the JCS.

(*e*) Planning guidance in areas other than strategy and force objectives, such as research and development effort.

(*f*) Mobilization guidance covering both full and partial mobilization.

(2) This concept of planning is supported by a system utilizing three primary plans. The time span of these plans starts with the current year and projects twenty years into the future. These plans are the Basic Army Strategic Estimate (BASE); the Army Strategic Plan (ASP); the Army Force Development Plan (AFDP). This planning is designed to be compatible with that of the JCS and to provide planning guidance to the Army's other planning activities in such a way as to stimulate forward thinking.

24. The Planning System

a. The Joint Chiefs of Staff Plans.

(1) *The Joint Long Range Strategic Study (JLRSS).* This is the long range plan and covers a period beginning eight years in the future. It examines in broad terms the world situations affecting U.S. security that may develop during this time frame. It estimates possible enemy situations and courses of action, as well as the types of international conflict and their possible areas along with weapons and techniques of employment. It also includes statements of broad strategic guidance used in the preparation by the Office of the Secretary of Defense of an integrated DOD research and engineering program. Army research development, test and evaluation objectives are derived from basic ideas and concepts considered in this planning effort.

(2) *The Joint Strategic Objectives Plan (JSOP).* This plan covers a three-year time span beginning five years in the future and is referred to as the medium range plan. Its purpose is to provide planning guidance for the development of forces needed in the fiscal year beginning five years in the future. It estimates the military forces for cold, limited, or general war and includes a determination of the military forces, their dispositions and employment necessary to implement the military strategy derived from the BNSP. This plan is considered by many to be one of the most important documents prepared by the Joint Staff. Through it the Secretary of Defense is provided with the military judgment of the Joint Chiefs of Staff and the objectives he should consider in drawing up and defending the military budget for the next fiscal year. This plan considers resources that may be reasonably attainable during its time frame. In addition to the basic plan there are eleven annexes including one for logistics. The concept of this logistics annex is based on the Basic National Security Policy and the basic JSOP strategy and in it is set forth the broad objectives of the military logistics base. Considerations of the proper mix of stocks and dependence on the production base are expressed. Although support of allies is shown to be anticipated under war conditions, the logistics annex provides program objectives for U.S. forces only. In general war the annex anticipates that initial operations will be supported largely by resources in being with continuing operations supported by the surviving or reconstituted logistics base. Short of general war it is assumed that the U.S. production capability will be unimpaired. As will be seen, the time frame of this plan ties in to the time frame of the new DOD Program System and the planned objectives of this plan can be related to the program objectives of the DOD Five-Year Force Structure and Financial Program.

(3) The period of the current fiscal year through the succeeding five fiscal years is covered by the DOD Five-Year Force Structure and Financial Program which is discussed in section II, below. Other than the Joint Strategic Capabilities Plan, joint planning basically starts five years in the future.

(4) *The Joint Strategic Capabilities Plan (JSCP).* This is the short range plan which considers the present capabilities of current forces and resources. It covers a twelve-month period. The JSCP 66 for example covers the period 1 July 1965 to 30 June 1966 or Fiscal Year 1966. It translates the national objectives and policies of the United States into terms of military objectives, military strategy, and basic military undertakings which are in consonance with actual U.S. military capabilities. The JSCP has thirteen

annexes, including one for logistics. The logistics annex provides specific guidance on—

(*a*) The allocation of DSA-owned mobilization reserve stocks;

(*b*) Funding procedures for contingency or emergency events;

(*c*) Preallocations of transportation; and

(*d*) Such other factors as instructions concerning positioning of war reserve stocks.

b. DA Plans.

(1) *Basic Army Strategic Estimates (BASE).* This document establishes strategic concepts and guidance upon which all other Army planning is based. It covers the short-, mid-, and long-range time periods through twenty years into the future. The BASE, in the context of appropriate national policy and objectives, states an evaluation of the threat as i affects the land battle and develops a strategic concept to meet this threat under conditions of cold, limited or general warfare. It also includes a technological forecast which provides the basis for more specific research and development guidance to be stated in the Army Strategic Plan (ASP). It does not identify specific force requirements which are stated in other plans. BASE contains the Army position for input to the JLRSS as well as providing the basis for long-range doctrinal and organizational studies. Included in BASE are—

(*a*) Statements of national policy

(*b*) National objectives as stated in, or deduced from, the BNSP

(*c*) Intelligence estimates

(*d*) Resource estimates

(*e*) Technological forecasts

(*f*) Current operational planning, studies, evaluations and projects

(*g*) Appropriate input from staff agencies, including JCS planning and guidance.

BASE is maintained current with major updating and extension annually.

(2) *Army Strategic Plan (ASP).* This plan is directed toward determining Army objectives, forces, and deployments for the execution of the strategic concept. It is prepared within the context established by the strategy, intelligence and technological forecast of the BASE. The ASP provides a statement of Army needs, recognizing but not necessarily constrained by the limitations of the Army Five-Year Force Structure and Financial Program. It provides realistic objectives-levels planning, and a broad force structure to implement the strategy. ASP contains a statement of risks incurred at force levels below the total objective. This plan, like BASE, is also projected through twenty years into the future. In its mid-range time period (two to eight years into the future), along with BASE, ASP serves as a basis for developing Army input for joint planning activities for JSOP. In the longer time frame of eight to twenty years in the future, ASP provides broad, basic guidance for the Army research and development effort. The ASP provides guidance to the Army Force Development Plan (AFDP) in that it indicates the Army's full objectives against which the more realistic objectives contained in the AFDP, as a result of considering resources readily available, can be evaluated. The ASP also serves as a basis for evaluation of annual requirements studies. This plan, like the BASE, is maintained current with major review, updating and extension annually.

(3) (*a*) *The Army Forces Development Plan (AFDP)* encompasses those resources which are, or can be reasonably expected to be, available during the time frame covered. It serves three principal purposes—

1. It plans the development of balanced capabilities within the established constraints, considering also the strategic priorities implicit in the ASP. In so doing it will identify shortfalls, attendant risks, and alternatives for lessening those risks. The objective of the AFDP is to plan the best Army possible within the resources available.
2. It plans incremental increases to capabilities in order of priority to reach the objectives of the ASP and identifies the associated additional resources required to attain them in a reasonable time.
3. It plans incremental decreases to capabilities in inverse order of criticality to serve as a source of resources to meet unprogramed, or emergency, requirements.

(*b*) In accomplishing the above purposes, the AFDP provides guidance to the Army Five-Year Force Structure and Financial Program and includes a scheduling of new forces and weapons systems into the program. It is designed to precede the program and thus provide an indicator of the changes that are necessary to eliminate shortfalls or imbalances in the program and provide the best possible Army posture within available resources. The AFDP provides a priority listing of applications for adjustments of resources availability.

(*c*) The AFDP must be viewed as a dynamic plan and a day-to-day working tool. It is maintained under constant review and updated as changes occur. This permits adjustment, modification, comparison of courses of action and rephasing with current plans and programs as new developments materialize and estimates become more accurate, or as unforeseen or unplanned circumstances arise which dictate changes to accommodate such circumstances.

(*d*) The AFDP is a "total" plan which addresses all resources, not just structure and manpower. Each alternative represents a cost-effectiveness or total feasibility study of a different Army force structure and provides the top echelons with the data required in order to make the choice between the alternatives for making a decision or effecting management through controlling.

25. Planning and the Five Year Force Structure and Financial Program

This Army planning effort phases into that of the JCS, which in turn provides the necessary basis for the DOD Five Year Force Structure and Financial Program. Under this DOD program procedure it is essential that guidance derived from plans be translated into programs, or changes to programs, which detail the application of resources by program area. Refined and approved, plans serve as the blueprint for programs and program changes. Without such a blueprint, proposed changes to base programs on a random, or uninformed, choice basis defaults the discriminatory responsibilities of the Army staff and exposes any program to "spot" decisions, promotes imbalances, leading to fragmented or "patchwork" decisions. The Department of the Army planning concept, and in particular the AFDP under that concept, provides essential guidance to programing. Or in other words, planning triggers programing. Annual segments of the Army Five-Year Force Structure and Financial Program supports, and justifies, the Army's annual budget. Congressional decisions made on the budget provide the means for accomplishing the annual segment of the Five-Year Force Structure and Financial Program and reaching the objectives as planned.

26. Plans in Relation to Army Wholesale Logistics

a. The plans developed by the JCS and DA under the basic concepts described above, which in turn stem from the BNSP, all contain logistics recognition. Both qualitative and quantitative requirements are covered in, or can be derived from, the information in the plans.

From them, Army wholesale logistics can determine who must be supported with what materiel and at what time.

b. Most important to Army logisticians are the outgrowths of these plans, the Materiel Annex and the Research and Development Program to the Army Five-Year Force Structure and Financial Program. It is in the Materiel Annex that the details concerning asset availability and requirements are set forth which assist in determining funds required to effect procurement necessary to meet the planned military objectives. The Research and Development Program provides the guidance concerning the materiel development objectives. Wholesale logisticians contribute significantly to the development of this annex and the R&D program, using the information contained in the applicable portions of the plans.

c. In addition to the pure materiel aspects of the plans, the operations of the Army wholesale logistics organization itself must be planned, and eventually programed for. That is, the men, money, materiel and facilities required to perform the tasks associated with the wholesale logistics mission must be taken into account and this must be done within the framework and constraints established by the DA plans.

27. Planning in Support of Contingencies

Planning at its best is a well-educated forecast, based on the best of available information. The total world situation is such, however, that the unexpected can, and often does occur. Witness in recent years the Korean situation which broke upon the scene with explosive suddenness and subsequent to that the recurring "Berlin Crises," the Cuban situation and the problems in Africa, the Mediterranean Area and Southeast Asia. These contingencies, or unforeseen events, must necessarily have a disruptive effect on the plans in being at the time these events occur. These contingencies can only be offset by the abilities of the planners to be able to readily provide alternative courses of action to those who ultimately make the decisions to revise the plans in being to offset or ameliorate the effects of these events. In the field of logistics, management control systems provide the information that permits logistics managers to respond to these contingencies and immediately initiate actions to offset the disruptions in plans and programs caused by such events. It is of course impossible to plan for a specific contingency but it is entirely possible, and necessary, to have plans that permit the required rapid response to any contingency.

Section II. PROGRAMING

28. Objectives of Programing

a. The fundamental objectives of planning, programing, budgeting, and related management procedures are to determine force levels and other resource requirements necessary to accomplish assigned missions; obtain the authorizations and resources necessary to produce and maintain approved forces in the required state of readiness; and to manage the approved resources in such a manner that maximum benefit is derived from those resources. To attain these objectives the functions of planning, programing and budgeting systems must be integrated and directed toward the same goal.

b. (1) Planning at Headquarters, Department of the Army, is basically concerned with the examination of strategy, organizational and tactical concepts, technological forecasts and intelligence estimates which lead to a a determination of the broad force requirements essential to meet assigned objectives. These plans are prepared on various force levels encompassing varying degrees of risk, projected up to twenty years in the future with only limited regard to resource limitations.

(2) Budgeting, on the other hand, is concerned with the detailed application

of the resources required for the execution of assigned missions. This involves not only the expression of plans in dollar estimates, but also the required financing, accounting, distribution of resources to major commands, analyses of resource utilization, and justification of financial estimates submitted to higher authority in the form of a budget. Budgeting is generally concerned with only a single fiscal year and is predicated on a functional basis. That is, the framework upon which budgets are based is derived from the congressional appropriation system by which Congress makes money available for specific functions, or purposes, such as pay and allowances of military personnel, operations and maintenance, or procurement of missiles and equipment.

(3) The gap between planning and budgeting is filled by the Army program system. Under this system, which encompasses the current fiscal year plus the five succeeding years into the future, plans are developed into schemes of administrative actions designed to accomplish definitive and measurable planned objectives. Programing is specific as to the time phasing of the allocation of resources (men, money, materiel and facilities) to accomplish the objectives. The stated objectives of Army programing are to—

(*a*) Relate resource input to planned military output.

(*b*) Attain mission-oriented planning.

(*c*) Provide for coordination of long-range planning with budgeting, which is short-range.

(*d*) Permit continual progress toward planned objectives.

(*e*) Provide the basis for an effective progress reporting system.

(*f*) Permit improved analyses of alternate ways of accomplishing desirable military missions in order to provide the greatest return from resource application (cost-effectiveness studies).

29. The Programing System

a. Programing within the Army is concerned primarily with two different systems. First is the Department of Defense Five-Year Force Structure and Financial Program (FYFS & FP) from which the Army FYFS&FP is derived. The Department of Defense and the Department of the Army FYFS & FP's provide a means of communication by and between DOD and HQ DA. Second, the Army program system is the means by which HQ DA communicates with its major field commands and agencies who in turn use the system to conduct programing actions with their subordinate commands and agencies.

b. An understanding of the Army program system appropriately should start with an examination of the DOD program structure upon which it is based. DOD is concerned with nine major programs which are organized essentially on a mission-oriented basis.

(1) *Program I, Strategic Retaliatory Forces.* This program is limited to Air Force and Navy strategic weapons systems, e.g., Polaris and Minuteman. There are no Army elements currently in this program.

(2) *Program II, Continental Air and Missile Defense Forces.* This program is composed of those forces, to include command and control systems, associated with continental U.S. air defense. NIKE HERCULES battalions and their headquarters and command support are representative of the Army contribution to this program.

(3) *Program III, General Purpose Forces.* The forces upon which we rely to fight local or limited wars or theater engagement in general war are the component elements of this program. For the Army, this is the largest pro-

gram and includes the major oversea commands and STRAF units in CONUS. Elements within this program are identified by type of unit and geographical location such as Armored Division, Europe; Sergeant Battalions, Pacific; Administrative and Command Forces, CONUS; or Combat Support Units, Alaska.

(4) *Program IV, Sealift and Airlift Forces.* For the Army portion of this program there is a deviation from the mission-oriented concept in that the functional activities of Army port terminals worldwide are included. For Air Force and Navy, aggregations identify whether sealift or airlift while elements identify type of carrier or support units.

(5) *Program V, Reserve and Guard Forces.* Those Reserve and National Guard forces consisting of units and personnel organized, maintained, and trained to provide a reservoir of trained individuals and units available for active duty in the event of a national emergency are accounted for in this program. Aggregation breakout within this program identifies general categories of forces similar to the major program breakout of regular forces, i.e., continental air and missile defense forces; general purpose forces; and airlift and sealift forces. For the Army, active Army support to Reserve and Guard forces is included in this program.

(6) *Program VI, Research and Development.* Research and development activities are accounted for here under six major aggregations—research; exploratory development; advanced development; engineering development; management and support; and operational system development. Within each of these major groupings, program elements generally parallel the research and development project lists, with each project being identified as a program element.

(7) *Program VII, General Support.* This is the "all-other" program since it accounts for those activities which are not directly relatable or attributable to specific operational missions or forces. Included are individual training and education; intelligence and security; communications; logistics support; medical services; command and general support; and other activities relating to participation in joint and defense agencies. The Army Materiel Command and the Army Combat Development Command, less their research and development activities, are accounted for in program VII.

(8) *Program VIII, Civil Defense.* The Army has no input to this program as it is solely a DOD program dealing with civil defense.

(9) *Program IX, Military Assistance.* This program embraces OSD MAP activities. There are no specific Army elements identified with this program.

c. There are six major characteristics of the Army program systems:

(1) *Mission-oriented.* The program elements of the program structure, discussed in paragraph 30, derive basically from the major force units which have been used for some time in force structures and force tabs. This basic structure is filled out with those other elements which cover the remaining combat and supporting units as well as support activities. It can be seen from the nine major programs descriptions shown above that programs I, II, III, and V are the forces programs. Program VII accounts for the overall support activities conducted for the most part in the continental U.S. such as Army Wholesale Logistics, individual training and general management activities. Programs IV, VI, VII, and IX are essentially functional in nature. The appropriation structures

used by the military departments under Congressional direction differ from the program structure in that they are functional, e.g., military pay and allowances, procurement of missiles and equipment, construction, and operations and maintenance. Through detailed allocation and distribution procedures, these various functional costs are brought together into the applicable program elements of the program structure in order to provide the total cost picture as related to the Army's missions.

(2) *Long-range programing* is the next characteristic. The documentation that supports the Army program system presents force information for the current year plus eight years projected into the future. Detailed cost estimates and other resource information for the current year plus a five year period into the future are provided. Army planning documents look up to twenty years into the future whereas the annual budget confines itself to one year into the future. The five year time span used for programing provides sufficiently detailed information upon which to make the major decisions on forces, deployments, equipment to include phasing in of new weapons systems, and other resources while at the same time confining the period to that for which reasonably accurate information, to include budgetary implications, is attainable.

(3) *"Approved" program.* The Army's five year program is approved by the Secretary of Defense and therefore serves as an authoritative base upon which budgeting, planning and operations can be conducted. This characteristic, along with the mission-oriented program structure, produces greater consistency of effort within the military departments and agencies; reduces duplication of effort; and promotes a more effective national defense. The Army program, although approved by the Secretary of Defense, is flexible and can be amended by a formal program change procedure which is covered in the paragraph 31.

(4) *No pre-set ceilings.* The principal idea behind this concept is to permit the military departments to suggest changes to the approved base program without the inhibiting influence of pre-established resource ceilings. This concept is aimed at generating valid proposals for improving the national defense. Each proposal must be well justified, demonstrating major advantages and a favorable cost-to-benefit ratio to aid in the decision making process when considering the proposal. Information is also furnished when submitting the proposal as to whether additional resources will be required or if it is to be met by reprograming already available resources.

(5) *Program decisions to be budget decisions.* The concept of the Five-Year Force Structure and Financial Program and program change control system, which follows top command and management lines, is aimed at achieving major decisions pertaining to forces and funds in the programing process rather than at the budget review table since the approved program serves as the basis for budget requests. Decisions to change the program thus have the effect of changing the budget. Budgets are drawn up at a specified point in time based on the then current approved program. Naturally, however, the need to accommodate defense requirements within the total national budget may require a reconsideration of earlier program decisions with, possible, resulting reprograming actions being required. Therefore programing and budgeting cannot be viewed as separate and independent steps since they frequently

overlap and impact one upon the other.

(6) *Continuity of base program versus annual development.* Through the use of the program change control system, programs are updated whenever new program decisions are made. Once a year, the program is extended by the addition of a new fiscal year's program in consonance with the Army's plans. This provides a continuing program rather than needing to devise a completely new program on a periodic basis.

d. The complete Army program system is extended below Headquarters, Department of the Army, by means of a guidance document entitled Program and Budget Guidance for Major Commands and Agencies. This document is provided by Headquarters, Department of the Army, to each major command or agency reporting directly to and funded by that headquarters. Contained in this document is an extract from the Army Five-Year Force Structure and Financial Program which specifies those resources that have been programed for allocation to each command or agency involved, together with statements of goals or workloads to be achieved with those resources. From this guidance, each major command or agency develops its own five year program detailing the programed application of those resources to accomplish the assigned goals, missions and workloads of the command or agency. Command or agency five-year programs thus constitute an integral and significant part of the Army Program System and serve the following purpose:

(1) Permit the commander concerned to assess the balance and adequacy, over an extended time frame, of the resources programed to be provided him for the accomplishment of his assigned missions.

(2) Provide an approved framework within which subordinate commanders down to the installation or activity level may participate actively and continuously in the programing process.

(3) Constitute a program base to which changes can be addressed, either by Headquarters, Department of the Army, or by the commander concerned.

(4) Provide Headquarters, Department of the Army, with data necessary for program and budget development and justification.

e. A significant feature of the Army program system is that it emphasizes total costs of all the programed actions. That is to say that all costs of each program elements are reflected to include such items as military pay and allowances, procurement of equipment and missiles, construction, maintenance, or research and development, as applicable to each element thus relating the resources provided under the budgetary structure (functional) to the mission-oriented program structure.

f. In summation, the Army program system, with its emphasis on total costs projected over an extended period of time, insures that all resource implications are provided when program proposals are submitted to the decision makers. Planning is aided by having a five-year base program as a point of departure. Budgeting is benefited by having a sound, costed program, specifically related to national objectives through the planning and programing systems. The result is a more closely integrated relationship between the functions of planning, programing, budgeting, execution, and reporting.

30. Composition and Use of Programs

a. Program terminology. The Army program system, as well as the DOD System, involves the use of a number of terms applicable throughout the structure. These terms, listed below, will be used often in the following discussions on the program system and on other elements of management controls which bear a relationship to that system—

(1) *MAJOR PROGRAMS.* Programs I through IX described in paragraph 29*b*.

(2) *AGGREGATIONS.* Groupings of elements with similar mission characteristics employed within the structure to

facilitate organization and control of the many diversiefied elements.

(3) *PROGRAM ELEMENT.* An integrated activity—a combination of men, equipment and facilities which combined constitute an identifiable military capability or support activity. The program element is the basis for control in the system.

(4) *COST CATEGORIES.* The costs allocated to a given program element are broken down into "Research and Development," "Investment," and "Operating" cost categories as follows:

(*a*) "Research and Development" cost category includes those costs primarily associated with the development of a new capability to the point where it is ready for operational use.

(*b*) "Investment" cost category consists of those costs required beyond the developmental phase to introduce a new capability into operational use. The procurement of major items or weapons systems and military construction provide examples of "investment" costs.

(*c*) "Operating" cost category covers the costs, generally of a recurring nature, incurred in the operation and maintenance of a military capability.

(5) *ELEMENT CODING SYSTEM.* An eight digit numbering system given to each program element for ease of identification and for use in data processing operations. There are approximately two hundred and fifty program elements within the nine major programs which are selected to present data pertaining to Army activities. The actual number at any given time will vary as program refinements are made, or when new weapons systems are introduced or as activities are changed. An example of the coding system showing its relation to the program system is given below:

	Number
Program Element	3 02 05 04 1
Armored Divisions, Europe	
(1) Identifies major program, i.e., Program III, General Purpose Forces.	
(2) Identifies Army Forces Europe (as distinguished from Pacific, Alaska, etc.).	
(3) Identifies the aggregation ("combatant" forces as distinguished from "Command and Support")	
(4) Identifies the specific element Armored Divisions (as distinguished from Infantry Divisions or Brigades, or SERGEANT Battalions).	
(5) Army identification number (2, 3, and 4 indicate Navy, Marine, and Air Force units respectively).	

b. The Army program system is given form and substance by means of a formal documentation procedure. The major documents are—

(1) *Army Five Year Force Structure and Financial Program (FYFS & FP).* The continuously updated program for the Army which has been approved by the Secretary of Defense. It is expressed in terms of major programs and program elements. For funding purposes, it covers a time span embracing the current year plus five years into the future. For forces, it covers the current year plus eight years into the future. The FYFS & FP is organized into the separate volumes shown below:

(*a*) *Summary Tables.* These tables contain a summary of data by major program expressed in terms of forces, total obligational authority (TOA) totals, cost category totals, appropriation totals, and military civilian manpower totals.

(*b*) *Major Programs, Volumes II through VII.* A separate volume is established for each of the major programs in which the Army is concerned. Each volume contains two basic types of data for each program element of the major pro-

gram, quantitative and descriptive. In addition, each volume contains a summary table, identical in format to those contained in Volume I—Summary Tables, as it pertains to the individual program.

(*c*) *Force Basis Annex*

1. This program document—

(a) Provides current and specific guidance to the DA staff regarding the programed TOE and TD unit composition of the Active Army, the Reserve Components, and the Army of the United States (AUS) augmentation units for the end of the current fiscal year plus eight years into the future.

(b) Is consistent with the current Five-Year Force Structure and Financial Program.

(c) Is suitable for the employment of automatic data processing techniques to the maximum extent feasible, thus providing a basis for other programing, particularly in the logistics area.

2. The published annex contains as a minimum, the following parts:

(a) Part I, Allocation of Active Army troop units to program elements.

(b) Part II, Allocation of Reserve component troop units to program elements.

(c) Part III, Allocation of AUS Augmentation forces troop units to program elements.

(d) Part IV, Allocation of manpower of Active Army to program elements.

(e) Part V, Allocation of Reserve paid drill of Reserve component units to program elements.

(f) Part VI, Force basis for Army programing (for use in materiel requirements computation).

(Includes:

Authorized force division summaries; basic data indexed by troop program sequence number; basic data indexed by program element; basic data indexed by TOE/TD (standard requirements code format); composition and deployment of forces on D-Day; post D-Day deployment of forces, D-Day to D plus 6 months.)

(*d*) *Materiel Annex.*

1. This annex, which is of specific interest to Army wholesale logisticians, encompasses certain specific documents required by the Office of the Secretary of Defense program system. It also includes a series of other Army staff documents containing policies, programing and other information necessary for integrated Army staff management of army materiel items (major items, major components and assemblies, and secondary items) not controlled by other annexes or programs such as the construction Annex and Program VI—Research and Development.

2. The Materiel Annex involves the functional area of requirements, programing, budgeting, procurement, production, distribution, stockage, maintenance and disposal of materiel items financed by the PEMA and O&MA appropriations and the Army Stock Fund.

3. The Materiel Annex provides integrated basic guidance and direction to the U.S. Army Materiel Command in the development and execution of its production and procurement programs. This annex is composed basically of a series of documents as follows:

(a) *Basic Policy Document.* This

is the major policy document of the annex and contains important narrative policies of the Department of the Army. Of the ten prescribed sections of this document, each of the sections 3 through 10 contains paragraphs on definitions, objectives, PEMA items, O&M,A items, stock fund items and MAP materiel as appropriate. The ten sections are—

Section 1—Introduction (purpose, scope, and applicability)
Section 2—General (assumptions, materiel objectives, and other guidance applicable to all materiel annex items)
Section 3—Requirements
Section 4—Programing
Section 5—Budgeting
Section 6—Procurement and production
Section 7—Distribution
Section 8—Stockage
Section 9—Maintenance
Section 10—Disposal

Note. Attention is directed toward the relationship of the sections 3–10, above, to the logistic functions discussed in paragraph 12.

(b) *Part 1, PEMA Procurement List.* A list of selected PEMA Items showing the procurement program for the last prior year, the current year, and the proposed program for the budget year and each of the ensuing four fiscal years. This document is prescribed and controlled by the OSD Program System.

(c) *Part 2, Materiel Annex Data Sheets.* A collection of sheets containing information on item mission description, production, costs and other logistical information for selected items in the PEMA Procurement List. This document is also prescribed and controlled by the OSD Program System.

(d) *Part 3, Procurement Schedules, PEMA.* A detailed statement of major end items procured in the preceding fiscal year for the Army and its customers, and those which are planned for procurement in the current fiscal year in support of the programed items in Part 1, PEMA Procurement List. This is the principal Army document for execution of the approved PEMA program by the U.S. Army Materiel Command.

(e) *Part 4, Supply and Services.* This is the principal guidance document covering the Army materiel functional aspects in connection with central (wholesale) supply activities, transportation services and local (installation) logistics services. The costs incurred under these services are normally associated with the appropriation Operations and Maintenance, Army (O&M,A). This is an integrated Army staff document for the functional areas concerned. It provides the basis for guidance to the major commands and agencies and for DA formulation of program guidance to be included in Major Command Five Year Programs.

(f) *Part 5, Maintenance.* The O&M, A guidance document covering the Army materiel functional aspects in relation to major overhaul and maintenance and field maintenance activities. It is an integrated Army staff document for the functional areas concerned. It provides guidance to the major commands and agencies and is a basic source document for

formulation of the Major Command Five Year Programs.

(g) *Other supporting documents for the Materiel Annex.* These include detailed procedural and policy documents, regulations and communications as required to implement and support the basic policy document and organic parts of the Materiel Annex described above. These are adjuncts to the Materiel Annex rather than integral parts thereof.

(e) *Construction Annex.* This annex includes all information required for the Army staff management of the military construction program except for that related to family housing. It encompasses certain specific documents required by the OSD Program System. It provides integrated basic guidance for the Chief of Engineers in the development and execution of the military construction program. Guidance to the major commands, agencies and installations concerning the military construction programed for them is provided in this document. An applicable section concerning Reserve components, reflecting individual construction projects by installation is also included. A tentative list of individual construction projects costing $1,000,000 or more proposed for the five year forecast period is contained in this annex as the current year and for the two preceding fiscal years. These lists are complete as to showing the location of the project, a code showing the DOD facility classes and construction categories, a description of each project, the dollar cost of each project, and the program element code number.

(f) *Installation Annex.* This is primarily an Army staff document designed to meet the requirements for information of the DA staff and OSD regarding the current and projected use and changes in status of Army installations. It provides planning, programing and budget guidance to major commands and agencies as to the utilization of their installations. For the DA staff, additional information is included which assists in planning and programing activation, inactivation or excessing actions.

(g) *Family Housing Annex.* Included here is all information necessary for the management of the Defense Military Family Housing program including functions related to construction, operation, maintenance and debt payments. A five year program for each command or agency receiving allocations from the Family Housing Management Account for support of such housing is also included.

(2) *Five Year Program and Budget Guidance for Major Commands and Agencies.* Program and budget guidance for each major command and agency is formulated within the total resources contained in the currently approved FYFS & FP. Consequently, the content of all such guidance must be consistent within the resources approved for the Army by the Secretary of Defense. Objectives, priorities, standards and workloads, together with the resources necessary for their accomplishment are established. Figure 1 provides a comprehensive picture of this system of guidance.

(3) *Major Command/Agency Five Year Programs.*

(a) These programs, maintained by each major command and agency receiving program and budget guidance from Headquarters, Department of the Army, consist of a number of separate, and sometimes

BASIC DOCUMENT

SECTION I. POLICIES AND OBJECTIVES

SECTION II. PROGRAM GUIDANCE

PART A, ACTIVE ARMY FORCES AND STRENGTHS
PART B, MANPOWER
PART C, OPERATIONS AND TRAINING
PART D, INSTALLATIONS
PART E, MATERIEL
PART F, RESEARCH AND GUARD FORCES
PART H, OPERATIONS AND MAINTENANCE
PART I, FINANCIAL SUMMARY

SECTION III. ADMINISTRATIVE INSTRUCTIONS

INCLOSURES

MANPOWER

SECTION A, MILITARY MANPOWER WORLDWIDE QUARTERLY AUTHORIZATIONS BY IDENTITY.
SECTION B, MILITARY MANPOWER AUTHORIZATIONS, ARMY STAFF FIELD ACTIVITIES, DEPARTMENTAL, JOINT ACTIVITIES.
SECTION C, WAC AUTHORIZATIONS BY IDENTITY.
SECTION D, OFFICER GRADE AUTHORIZATIONS BY COMMAND.
SECTION E, AMS AUTHORIZATIONS BY COMMAND.
SECTION F, CIVILIAN STRENGTH AUTHORIZATIONS BY BUDGET ACTIVITY.
SECTION G, RECRUITING, INDUCTION AND EXAMINING LOADS.
SECTION H, PERSONNEL PROCESSING LOADS.

TROOP TEST

FIELD EXERCISE

SCHOOL QUOTAS

REPLACEMENT TRAINING

FAMILY HOUSING

(COMMAND PROGRAMS CONSIST OF THE GUIDANCE PROVIDED BY HQ, DA, PLUS MORE DETAILED, TIME-PHASED SCHEDULE OF ACTIONS PREPARED BY THE COMMAND CONCERNED. THE ABOVE CONTENT REPRESENTS THE DA GUIDANCE WHICH CONSTITUTES THE ABSOLUTE MINIMUM OF A MAJOR COMMAND/AGENCY FIVE-YEAR PROGRAM.)

Figure 1. Content of major command/agency five year programs.

unrelated, functions and activities which when considered together, constitute the program as a whole. At Headquarters, Department of the Army, the Five-Year Force Structure and Financial program is organized in terms of a structure consisting of the major programs and program elements described in *a*, above. At the major command/agency level, however, the five-year program utilizes the Army Management Structure provided in AR 37–100 as an organizational framework. Correlation between these dissimilar structures is effected at Headquarters, Department of the Army.

(*b*) The programs of major commands and agencies involve three distinct types of resources.

1. Manpower and appropriated funds programed for availability to the command or agency concerned for execution of its missions and tasks. These resources are announced in the Headquarters, Department of the Army, program and budget guidance document together with restrictions, where applicable, concerning their employment.

2. Other resources made available to the command or agency from programs executed by other commands or agencies. These involve, for example, the PEMA items programed for delivery to a command or agency for which the procurement, production, and delivery costs are programed to the Army Materiel Command. Another example is military construction projects executed by the Corps of Engineers for the benefit of a major command. Programs for such activities are contained in the appropriate annexes to the Army Five-Year Force Structure and Financial Program. Although an integral part of the program and budget guidance document, information concerning this type of resource may be published and issued separately. In such cases, reference to these separately issued publications appears in the program and budget guidance document.

3. Revolving funds, such as the Army Stock Fund or the Army Industrial Fund, that are not a part of the Army Five-Year Force Structure and Financial Program but which are essential to program execution of the pertinent commands or agencies.

(*c*) Command/agency five year programs consist of the guidance provided by Headquarters, Department of the Army, in each resource or activity area together with the more detailed time phased schedule of actions prepared by the command or agency concerned. For example, in the resource area of Army forces and strengths, Headquarters, Department of the Army, provides guidance which includes a force structure of major units, a schedule of activations and inactivation of units, and manpower authorizations. From this guidance the command prepares a five year troop basis. Each of these program segments, that is the various types of guidance as well as the troop basis prepared by the command, become integral parts of the five year program prepared by that command. It is essential to retain the identity of these program segments as a part of the command program since any subsequent changes initiated by Headquarters, Department of the Army, would necessarily be addressed to these segments.

(*d*) It is not required, nor anticipated to be required, that the same degree of detail be contained in each resource or activity area for each year of a command or agency five-year program. The Command Operating

Budget submitted annually to Headquarters, Department of the Army, in accordance with AR 37–15, constitutes a detailed expression of the planned utilization and justification for the dollar resources programed to be allocated to the command for the first year of the five-year period. Headquarters, Department of the Army, does not require such detail for the ensuing four years of the program for either programing or budgeting purposes. Because of the numerous changes that must be anticipated, it is unlikely that the value that could be realized from the maintenance of such detailed projections over the five year period would justify the effort involved. Thus, the financial resource area of the command/agency five-year programs will normally contain progressively less detail for each of the five years. Major commands and agencies are authorized, however, to develop for their own internal programing purposes additional program detail beyond that required by Headquarters, Department of the Army.

(*e*) The several program segments that constitute the five-year program are not required to be assembled into a package and submitted to Headquarters, Department of the Army. Certain individual program segments, such as the five-year troop basis and the Command Operating Budget, which are essential to the program and budget formulation activities at Headquarters, Department of the Army, are submitted separately. Once acted upon, these segments join the remainder in constituting the program base of each major command or activity to which future program changes are identified. Contained in figure 2 is a tabulation showing the various program segments which are combined to make up a major command or agency five-year program. However, all of the segments listed are not universally applicable to each and every command and agency; for example, the Research and Development Program segment is applicable only to those commands or agencies executing a portion of the centrally controlled RTD&E program.

(4) *Major Command Operating Budgets.* The Department of the Army's Annual Apportionment Request to obtain apportionment of the funds appropriated by Congress, is based on the Major Command Operating Budgets. This is the documentation which details how each major command and agency is going to utilize its resources and accomplish its missions. The Major Command Operating Budgets contain estimates which show the purposes for which the resources will be used and the time-phasing of their use by fiscal quarter. This budgeting system is designed to start at the installation/separate activity level of each command or agency. The principal Army regulations dealing with the budget preparation are 37–15, 37–1, 37–100, and 37–108. It is evident from this array of regulations that the operating budgets are very detailed in their composition and in the information they present. The major components of these budgets are—

(*a*) *Commander's Narrative Analysis.* This is a brief statement referring to those missions, policies, priorities, standards and workloads which are of sufficient significance to warrant the attention of commanders or chiefs of both the preparing and reviewing commands or agencies. Estimated accomplishments and any impacts on the preparing commands or agencies due to resource programing for the budget year are reflected in this

TABULATION OF PROGRAM SEGMENTS THAT ARE COMBINED TO MAKE UP MAJOR COMMAND/AGENCY FIVE-YEAR PROGRAM

RESOURCE/ACTIVITY AREA	PROGRAM SEGMENT	RESPONSIBILITY FOR DEVELOPMENT
ACTIVE ARMY FORCES AND STRENGTHS	FORCE STRUCTURE	DA (ACSFOR)
	SCHEDULE OF ACTIVATIONS, INACTIVATIONS, REORGANIZATIONS AND DEPLOYMENTS	DA (ACSFOR)
	MILITARY MANPOWER QUARTERLY AUTHORIZATION BY IDENTITY	SECTION A- DA (ACSFOR)
	OFFICER, WAC AND AMS AUTHORIZATION BY IDENTITY	DA (DCSPER)
	RECRUITING, INDUCTION EXAMINING & PERSONNEL PROCESSING LOADS	DA (DCSPER)
	CIVILIAN STRENGTH AUTHORIZATION BY BUDGET ACTIVITY	DA (DCSPER)
	FIVE-YEAR TROOP BASES	APPLICABLE MAJOR COMMAND/ AGENCY
OPERATIONS AND TRAINING	TROOP TEST PROGRAM	DA (ACSFOR)
	FIELD EXERCISE PROGRAM	DA (ACSFOR)
	SCHOOL QUOTAS	DA (ACSFOR)

Figure 2. Tabulation of program segments that are combined to make up Major Command/Agency Five Year Programs.

	REPLACEMENT TRAINING PROGRAM	DA (ACSFOR)
INSTALLATIONS	INSTALLATIONS ANNEX TO ARMY FYFS&FP	DA (DCSLOG)
	CONSTRUCTION ANNEX TO ARMY FYFS&FP	DA (DCSLOG)
	FAMILY HOUSING ANNEX TO FYFS&FP	DA (DCSLOG)
MATERIEL	MATERIEL ANNEX TO ARMY FYFS&FP	DA (DCSLOG)
	MAJOR ITEM DISTRIBUTION PROGRAM	DA (DCSLOG)
RESEARCH AND DEVELOPMENT	RDT&E PROJECT LIST	DA (CRD)
RESERVE AND GUARD FORCES	RESERVE COMPONENT FIVE-YEAR TROOP BASES	DA (CORC)
FINANCIAL	FINANCIAL SUMMARY	DA (APPROPRIATION AND BUDGET PROGRAM DIRECTOR)
	ANNUAL OPERATING BUDGET	COMMAND OR AGENCY CONCERNED
	COMMANDER'S STATEMENT AND BUDGET SUMMARY	COMMAND OR AGENCY CONCERNED

Figure 2—Continued.

Analysis. It is here also that unfinanced requirements are highlighted by the preparing commanders or agency heads.

(*b*) *Command Personnel Summary (CPS).* The CPS provides a detailed analysis of military, civilian and foreign national strengths. This includes the projected distribution of of strengths, as well as the associated manpower costs, to budget activity accounts, as shown in the Army Management Structure, in accordance with assigned missions and priorities.

(*c*) *Workload and Cost Schedules.* The purpose of these schedules, with supporting narrative statements, is to provide each succeeding echelon with sufficient data to support the financial summaries shown in the related operating budgets. The narrative statements are in sufficient detail to convey an adequate understanding of the schedule concerned, to clearly justify the things to be done, to provide reasons why other things cannot be done, and to explain the deviations from year to year. These statements serve as the fundamental support and justification of the Department of the Army Apportionment Request. Therefore, they have a direct bearing on the Department of the Army's ability to secure funds and thus provide the commands and agencies with the resources necessary to accomplish their missions. The actual detail that comprises the Workload and Cost Schedules is contained in AR 37–15.

(*d*) *Other Supporting Documents.*

1. *Reserve Personnel.* Detailed information concerning grade structure and field training for reserve personnel.
2. *Operation and Maintenance of Facilities.* Detail concerning the costs of operating and maintaining installations as such as distinguished from mission costs of the activities or agencies located on the installation.
3. *Appropriation/Budget Program Summary.* This is a financial data summary that relates funded costs to obligations.
4. *Reimbursement Analysis.* This provides the detail concerning workload and performance related to other commands or agencies and which is financially supported by those commands or agencies.
5. *Nonreimbursable Support Analysis.* Provides detail, justification and authority for providing support to elements of other commands or agencies on a "free" basis to those elements.
6. *Command/Agency Statement of Adjustments to Dollar Guidance.* This is the means by which a commander or agency chief informs the higher echelons of those funding adjustments desired which cannot be effected at the reporting level.
7. *Unfinanced requirements.* The detail and justification for those programed and unprogramed items whose accomplishment cannot be provided for within the resources allocated to the reporting agency or command.

(5) *Milestone schedules and monthly progress reports.*

(*a*) Part 2, PEMA Equipment Data Sheets, Materiel Annex, of the Army Five-Year Force Structure and Financial Program, contains detailed information for about one hundred and seventy-five selected items of equipment. These items are of such vital significance to the plans and programs of both DOD and DA that a separate programing and reporting technique is required. This is the "Milestone Schedules and Monthly Progress Reports" system. A "milestone," for the pur-

pose of this system, is defined as a significant measurable and definitive act in the time frame of an item from its concept through to its actual operational use by the Army-in-the-field. Milestones include not only development and production acts but also include individual and unit training actions, unit activations and deployment, documentation and funding.

(*b*) To accommodate this system, Department of the Army System Staff Officers (DASSO's) are appointed at DA staff level to prepare and maintain DOD Master Milestone Schedules and to submit appropriate monthly progress reports to OSD. The DASSO system, including milestone schedules and progress reports, is monitored by the Director of Army Programs (ODAP). Each DASSO has DA staff information responsibility similar to that of a project manager (para 83–85) in the U.S. Army Materiel Command and must work in close coordination with the appropriate project manager.

(*c*) Milestone schedules include, as a minimum—

1. Cost data by fiscal year obtained from Part 2, The Materiel Annex, and other appropriate sources, categorized as RDT&E; procurement and construction; investment including PEMA funded modernization and modification; industrial facilities; construction other than RDT&E; and other miscellaneous costs.

2. Procurement buy data by fiscal year and quarterly production schedules.

3. Key events in the development, test, demonstration and delivery of equipment; equipping units; training and operational deployment.

(*d*) A schedule for the accomplishment of the key events (milestones) is determined and posted on the milestone schedule format. This schedule serves as the basis for monthly progress reports to OSD when approved by ODAP, the Secretary of the Army and an appropriate authority in OSD. Monthly reports are required to be submitted to DASSO's from major commands (e.g., U.S. Army Materiel Command, U.S. Continental Army Command, U.S. Army Combat Developments Command) to reflect the status of milestone accomplishment. Predictions of slippages from schedule, the reasons slippage has occurred, recommendations for rescheduling and other pertinent information are required in these major command reports. These reports and information from other sources available to Headquarters, Department of the Army, are analyzed. Monthly reports are then prepared by the DASSO's and submitted through channels to Chief of Staff, Secretary of the Army and OSD.

(*e*) DASSO's perform an important part in the milestone system. The DASSO, as the DA focal point for information concerning a specific item must—

1. Be thoroughly knowledgeable with the overall status of the item or system assigned to include all functional aspects composing the milestone schedule and related reports;

2. In conjunction with the appropriate DA staff agencies and major commands, develop, coordinate and maintain his assigned milestone schedule and submit this schedule through his staff agency to ODAP;

3. Prepare, coordinate and submit the monthly progress report through his staff agency to ODAP;

4. Maintain liaison with, and be responsive to, DA staff agencies and

major comands to insure a continuous flow of information concerning all current and proposed actions relating to the assigned item or system;

5. Respond to OSD inquiries and coordinate replies to such with ODAP and concerned staff agencies.

c. This programing system provides a means for establishing the interrelationship of requirements derived from the approved plans to the resources necessary for their implementation. The approved DA Five-Year Force Structure and Financial Program (FYFS & FP) reflects the allocation of resources to programs and serves as guidance for the determination of the annual budget estimate. For the Army wholesale logistician, definitive guidance and direction are provided specifically in the Materiel Annex and in the Research, Development, Test and Evaluation Program and generally through the other annexes and volumes of the FYFS & FP.

31. Program Change System and Reprograming

a. Because of the non-static nature of military operations, the Five-Year Structure and Financial Program procedures are designed to recognize and accommodate the necessary changes. Since the program systems comprise a primary tool for the management, direction and control of DOD and the military services, it logically follows that changes, though mandatory for effective use of the program systems, must in themselves be systematized and controlled. (The detail concerning the change systems are contained in appropriate directives, therefore only the philosophy will be discussed in this manual.) The program change system is designed to achieve the following objectives:

(1) Provide total information for decision making purposes.

(2) Ensure that each program change proposal is referred for decision making purposes to the appropriate level of authority.

(3) Ensure rapid, but complete, review of proposals by the proper authority.

(4) Ensure that current and budget year decisions are made in light of their implications on future years and their effect on overall Defense requirements.

(5) Permit the maintenance of an up-to-date five-year approved program.

b. It is not necessary that each desired program change be submitted to the Secretary or Deputy Secretary of Defense for approval prior to effecting a program change. The Secretary of Defense has delegated to the heads of the military services and DOD agencies the authority to make changes within certain limitations. In program parlance, these limitations are known as "thresholds" and are applied by category of expense as follows:

Category	*Threshold*
Research and Development	Any new program element.
	Changes to program elements of $10 million and over in current or budget fiscal year, or over $25 million in total cost irrespective of the number of fiscal years involved.
Investment	Approval for procurement and deployment of items under development with a total cost of $10 million and over for total force requirements.
	Addition of a New Materiel Annex item of $10 million and over in the current or budget fiscal year, or a total of $25 million irrespective of the number of fiscal years concerned.
	Changes to program elements or Materiel Annex items of $10 million and over in current or budget fiscal year, or over a total cost of $25 million in the aggregate.
	Addition of new projects to the Construction Annex of $5 million or over in the current or budget fiscal years, or a total cost of $5 milion or over.
Operating Costs	Changes to a program element of $20 million or 10 percent, whichever is greater, in any year. The cumulative effect is applicable.

Category	*Threshold*
Forces and Manpower	Any planned changes in forces listed in the base program. Any change in total authorized year-end military or civilian manpower spaces.

c. Program changes which exceed the thresholds outlined above are accomplished under the DOD Program Change Control System.

Note. This system includes changes relative to funds already appropriated by the Congress and those relating to manpower. The program change systems concerning these resources are discussed in *d* and *e* below.

This system provides for changing programs at the time that the need for such a change is recognized. In this way decision making is not held in abeyance for some arbitrary calendar period but is entered into as the situation requires. A formal mechanism, the Program Change Proposal (PCP) is the means for requesting approval of the Secretary of Defense for changes to the base program which exceed the thresholds described in *b*, above. PCP's of direct concern to the Army may originate with the Secretary or Deputy Secretary of Defense, the Chairman of the Joint Chiefs of Staff, the Joint Chiefs of Staff, the Director of Defense Research and Engineering, the Assistant Secretaries of Defense, other military departments, independent DOD agencies, and within the Department of the Army. PCP's originated outside the Department of the Army in which the Army has an interest are coordinated within the Army staff by the Director of Army Programs and appropriate comments are submitted to the Assistant Secretary of the Army (Financial Management) for transmittal to the Assistant Secretary of Defense (Comptroller). In either case, when PCP's are approved by the Secretary of Defense, action is taken to revise the applicable program element data sheets to reflect the changes occasioned, assuring a valid, up-to-date five-year program. Implementation of the DOD Program Change Control System is restricted to Headquarters, Department of the Army except in the area of the programing for PEMA funded items of materiel. In this case, the Commanding General, U.S. Army Materiel Command, is delegated authority to make certain changes to the prior and execution years of the Five-Year Force Structure and Financial Program and to prepare and submit to Headquarters, DA, the PCP's for the following:

(1) Incorporation in the procurement list of items where procurement of the total force requirement will equal $10 million or more.

(2) Changes to procurement list items already approved for production of $10 million or more in the budget fiscal year or a total of $25 million or more over the entire program period.

(3) Any change which requires an increase in total obligation authority for the appropriation.

(4) Proposals not meeting the criteria shown in (1) through (3) above may be submitted by any appropriate means of communication, supported by detail necessary to establish the validity of the proposal. In those cases where increased funding is required to support the proposed change, but an increase to total obligation authority is not requested, recommendations for offsetting program reductions to support the increased funding must be included.

(5) All the above pertains only to changes in part 1, PEMA Procurement List, Materiel Annex, Five-Year Force Structure and Financial Program in paragraph 30*b*(1)(*d*)*3*(b).

d. (1) The DOD Program Change Control System described above is oriented primarily to elements of the major programs and to line items of the Materiel and Construction Annexes of the Five-Year Force Structure and Financial Programs. Changes involving the use of funds already appropriated by the Congress require other procedures, namely reprograming. Reprograming is defined as changes in the application of financial resources from the purposes originally contem-

plated and budgeted for, testified to, and described in the justifications submitted to the Congressional Committees, other than changes made to comply with the intent of the Congress in its action on authorization or appropriation legislation.

(2) Personal prior approval of the Secretary or Deputy Secretary of Defense is required on—

(*a*) Any reprograming action involving the application of funds, irrespective of amount, to items or activities omitted or deleted by the Congress from programs as originally presented; items or activities for which specific reductions in the amounts originally requested were made by the Congress; and an increase in the procurement quantity of an individual aircraft, missile or naval vessel, fund authorization for which has been enacted in compliance with Section 412(b), P.L. 86-149, as amended; or items in which any one or more of the Congressional Committees is known to have a special interest.

(*b*) Any reprograming actions, single or cumulative, involving the application of funds to an increase of $5 million or more in a budget activity in the Military Personnel and Operation and Maintenance appropriations; an increase of $5 million or more to a procurement line item or the addition of a new procurement line item amounting to $2 million or more; or an increase of $2 million or more in any budget subactivity in the appropriation for research, development, test and evaluation, including the addition of a new budget subactivity the cost of which is estimated to be $10 million or more within a three year period.

(3) Approvals by the Armed Services Committee and the Appropriations Committee of both Houses of Congress are required prior to their implementation on all reprograming actions described in (2) (*a*) above. Within forty-eight hours after Secretary or Deputy Secretary of Defense approval of reprograming actions outlined in (2) (*b*) above, notification must be provided the House and Senate Armed Services and Appropriations Committees specifying, when appropriate, that the items or activities are covered by legislation authorizing the appropriation of the funds involved.

(4) Special restrictions on reprograming actions concerning the Procurement of Equipment and Missiles, Army and Research, Development, Test and Evaluation appropriation accounts irrespective of amounts, are as follows:

(*a*) The application of funds to fiscal year programs prior to that of the current fiscal year cannot be taken for—the addition of new programs and procurement line items; enlarging the scope of existing approved program line items; or increasing the quantity of procurement line items except for normal production overruns.

(*b*) Reprograming actions cannot be taken to transfer programs, line items or segments thereof, from a prior fiscal year program to a current fiscal year program solely as the result of the delay in the obligation of funds against the prior year program.

(*c*) Any approved program or line item for which no funds have been obligated within the first two years under the RDT&E appropriation, or within the first three years under the PEMA appropriation, must be deleted from the program for the year in which originally approved. Such requirements, to the extent they can be proved valid,

may be considered for inclusion in current fiscal year program.

(5) Reprograming of funds under the military construction appropriations is severely restricted since the Congress permits very limited latitude in the use of these funds for purposes other than those for which they were originally justified. In the event reprograming is deemed necessary, requests for changes must in all cases be submitted through command channels to the Office of the Secretary of Defense for approval prior to implementation of the change. In most instances, OSD must, in turn, secure Congressional approval prior to any further action concerning the requested change.

e. Manpower resources, both military and civilian, are subject to controls imposed as the result of numerous legislative and administrative actions. To assure compliance with these controls, Army program changes involving manpower are subject to the following limitations:

(1) *Total military and civilian ceilings.* Any change of one-hundred or more spaces affecting the total manpower resources of a major command, office or principal activity, must be reported to the Assistant Secretary of Defense (Manpower) prior to the execution date of such program change.

(2) *Departmental ceilings.* Changes in total departmental manpower authorizations, irrespective of amounts, require prior approval of the ASD (Manpower).

(3) *Manpower changes due to reorganizations.* Changes in manpower requirements resulting from programing new organizations, reorganization, consolidations, or transfers of functions or activities within the Department of Defense, which are subject to the approval of the Secretary of Defense, require detailed proposed implementing staffing plans. These plans must be approved by the Secretary of Defense prior to their implementation.

(4) *Personnel changes in Research and Development in-house laboratories.* Proposed changes which indicate a requirement of changing the Research, Development, Test, and Evaluation establishment manning level by one-hundred spaces or ten percent of the total spaces must be submitted to the Director of Defense Research and Engineering for approval prior to effecting the proposed program change.

f. Program changes can be effected by Headquarters, Department of the Army, within the thresholds and other limitations described above. When such changes are instituted, they are reflected on planning and program control sheets as pluses or minuses to the affected base program, or in the cases wherein a reallocation of resources available is required, the changes are expressed as restatement of the base program for all the program elements involved. The Army Five-Year Force Structure and Financial Program is then formally updated in October and January of each year. This formal action includes fund reprograming actions resulting from other than PCP actions, known sub-threshold changes within the authority of Headquarters, Department of the Army, and errata changes which have occurred since the last updating. The Army Five-Year Force Structure and Financial Program is updated at times other than the above October-January period as required to reflect budget and program actions and decisions that have occurred since the last updating. Program updating actions, to include the deletion and addition of program years, are in all cases addressed to the detailed data bases which support the program element summary data and the program annexes. Changes to program annexes are published each time the program updating action is undertaken and at such other times as may be necessary.

g. (1) Program changes between Headquarters, DA, and major commands and

agencies take the form, generally, of the reprograming actions outlined in *d* above. The exception to this is the delegation of authority to the Commanding General, U.S. Army Materiel Command, for initiating PCP's in connection with the PEMA Procurement List, Part 1, the Materiel Annex (*c* above).

(2) Headquarters, DA, imposes reprograming limitations on the major commands and agencies which generally follow the OSD limitations imposed on that Headquarters. Reprograming criteria are established by the individual appropriation directors of the Army staff, thus reporting and control procedures can and do vary among the several appropriations. Authority to reprogram funds for prior and current fiscal years is delegated to the heads of the major commands and agencies as follows:

(*a*) Funds included in the military personnel appropriations are centrally controlled by Headquarters, Department of the Army and are generally accounted for below that level as "open allotments."

(*b*) For the operations and maintenance appropriations, funding changes between budget programs must be approved by Headquarters, Department of the Army. Additionally, as a result of Congressional action, specified minimum amounts under these appropriations must be spent for the maintenance of real property facilities and for field maintenance of equipment.

(*c*) PEMA reprograming authority is delegated to the Commanding General, U.S. Army Materiel Command under the following limitations:

1. Procurement of quantities of items other than those stated in the approved program is not authorized, however all but Production Base Support funds may be reprogramed within the current and prior fiscal years without prior approval of Headquarters, DA, as follows: increase the total cost of individual line items by fifteen percent of the program value or a maximum of $5 million, whichever is the lesser; contracts for line items may be finalized for any amount less than that approved if the program scope is not reduced; delete any approved line item having a program value of less than $1 million; add standard type line items to meet current issue requirements not in excess of $500,000.

2. Reprograming funds between fiscal years is not authorized without prior approval of Headquarters, Department of the Army.

(*d*) Research, development, test and evaluation funds may be reprogramed in the current fiscal year without prior approval of Headquarters, Department of the Army, as specified below:

1. Budget subactivities (program elements) for which two or more developing agencies are responsible may be reprogramed by the agency heads shown below for their assigned portions of the budget subactivity:

(a) Commanding General USAMC—Cumulative changes not to exceed $1,000,000 in the current base program amount.

(b) Commanding General, USACDC, The Surgeon General and the Director of Army Research — Cumulative changes not to exceed $250,000 in the current base program amount.

(c) Chief of Engineers and Chief, U.S. Army Security Agency—Cumulative changes not to exceed $100,000 in the current base program amount.

2. Budget subactivities (program elements) for which one agency head has sole responsibility. Each of the agency head listed in *1* above may reprogram cumulative changes not to exceed $2,000,000 in the current base program amount.

3. Proposed reprograming of funds, in any amount, between program years must receive prior approval of Headquarters, Department of the Army.

(*e*) Military construction appropriation funds are centrally controlled at Headquarters, Department of the Army, and as such are not subject to reprograming below that level.

(*f*) Defense family housing funds are subject to statutory and administrative limitations.

32. Flow of Program Data

a. In retrospect, it can be seen that the Army Program System is a major management tool for the direction and control of Army activities. As such it provides a means of data communication between Headquarters, Department of the Army, and its major commands and agencies and then to the installation and separate activity levels.

b. In general, the pyramidal concept of providing information is followed. Program objectives and schedules become progressively more detailed at each level from Headquarters, Department of the Army, to the lowest operating level to establish the action responsibility at each successive level. Program progress reporting is accomplished in reverse, with the data concerning the quantity and quality of performance and accomplishments and resource utilization evaluated against the missions, objectives, schedules and workloads which have been programed for each level. Normally this flow of data is subjected to more and more summarization at each higher echelon of management, culminating in a Composite Review which is considered as the Chief of Staff's report to the Secretary of the Army.

c. There are significant exceptions to the pyramidal concept of information flow outlined above. The monthly progress reports on selected materiel items, resulting in the establishment of Department of the Army System Staff Officers concept (discussed in para 30*b*(5)), are not subject to summarization. Further, OSD has prescribed quarterly reporting on selected resource categories. A resource category for this purpose is an individual line item of materiel, a construction project or an individual research and development project. Resource category reporting pertains to the capital accounts. Procurement of Equipment and Missiles, Army (PEMA); Research and Development, Test, and Evaluation, (RDT&E); and construction. This specific interest of DOD and thus Headquarters, Department of the Army, requires detailed accounting and reporting at all levels concerned, with little or no summarization at any levels. The importance of these detailed requirements to Army Wholesale Logistics must be stressed since the line item of materiel, PEMA and RDT&E, control systems represent by far the major part of the Army Wholesale Logistics programed effort.

d. The flow of program data is to all intents and purposes, constant. It is true that there are many kinds of program data that are transmitted on well-established periodic bases, however, program changes must be accommodated immediately in order to preserve the basic premise under which the program change system operates.

33. Program Limitations

As tools of management, program documents establish definite limitations within which each manager concerned must perform. Within these limitations an amount of flexibility can be, and generally is, provided managers to permit them to achieve maximum program performance by judicious use of the resources provided. Any rigid limitations imposed are usually the result of legislation such as that which pertains to the use of the funds appropriated by the Congress or in the area of manpower authorization and utilization. These limitations, or any other, may be overcome, however, by application of the program change control procedures on the reprograming procedures covered in paragraph 31.

Section III. BUDGETING

34. Concepts and Characteristics

a. The Budget and Accounting Act of 1921 requires the President to submit to the Congress the Annual Federal Budget. This budget is made up of the annual estimates of all Government agencies. A Hoover Commission statement in 1949 that "The budget and appropriation process is the heart of management and control of the executive branch" aptly describes the role of the budget process in its relationship to the management of the Army. The Army budget, as an expression of a program in financial terms, represents the costs and related fund requirements necessary to accomplish the missions and functions contained in the approved Army Five-Year Force Structure and Financial Program for the budget year. As submitted to Congress, the budget represents a request for new obligational authority and in making this request, the Army presents the entire financial plan for each of its appropriations. The plan shows the obligations and expenditures which will result from the requested appropriations as well as those which will result from prior authorizations, particularly in relation to funds made available under continuing appropriations such as the multiple-year appropriations which support the research, development, test and evaluation effort and the procurement of major end items and weapons systems. When acted upon by the Congress, it represents the best judgment of the various levels of authority within the Executive Branch of the Government and the Congress as to the funds which are to be provided to the Army to carry out its missions.

b. Budgeting, however, is more than a procedure for requesting funds from the Congress. It is a complete process that includes—the determination of the funds required to reach programed objectives; requesting and obtaining those funds; and, distributing and controlling the use of the funds in accordance with the approved budget and programs. The budget process, or system, formally encompasses formulation, execution, and review and analysis phases, each of which will be discussed below.

c. A principal characteristic of budgeting is that it is a decision-demanding process. This characteristic applies equally in the formulation, execution, and review phases and affects all levels of command and management concerned with any of those phases. Decision making is called for from the time that budget formulation for a particular fiscal year is initiated (which is normally eighteen months in advance of the beginning of that fiscal year) and continues through the execution and review phases of the budget concerned. (Since even the single-year appropriations established by the Congress normally remain available for expenditure for two years after the close of the fiscal year in which obligations can be incurred against those appropriations, a minimum period of four and one-half years exists during which budget, and also programing and planning decisions are called for.)

d. The Department of the Army budget is a Headquarters, Department of the Army, staff formulated budget. This concept of staff formulation of estimates is employed on the basis that the Headquarters, Department of the Army Staff has adequate current data in the form of a current Five-Year Force Structure and Financial Program, command operating budgets, reports covering current status of program progress, and fiscal and cost experience which permit the forecasting of dollar requirements and the costs of Army activities for the budget year. Such forecasting follows the Army Staff development pattern of plans and program objectives for the budget year. In brief, the Army staff formulates the plans, programs objectives, and develops the budget estimates in support of them, taking into consideration the current status of the Army and available future guidance. Views of the major commands and agencies with respect to the costs of the programs and funds required for the budget year are obtained through the Command Budget Estimates.

e. In peacetime, the availability of funds (appropriations made by the Congress) is the limiting factor in determining the size of the Army, the amount and kinds of materiel to be procured, the extent of the research and development effort, and the degree of readiness to be attained in the myriad of objectives that comprise the Five-Year Force Structure and Financial Program in order to provide a balanced and adequate defense program. The lack of funds to carry out desirable actions is often difficult to understand by those unfamiliar with the role the budget process plays in decisions affecting the size and scope of all programs throughout the Government. The Department of Defense budget, although formulated in close liaison and coordination with the Bureau of the Budget, must still, in a sense, compete with the nonmilitary programs of the Government in order to obtain its fund requirements. In a particular year, for example, there may be justifiable pressure for increased expenditures for nonmilitary programs such as aid to education, medical research or aid to foreign countries, all of which must be supported from the single source of public funds which must also support Army programs. Even within the DOD and the Army, the competition for use of available resources exist in that there is never enough to do all the things required; therefore, decisions must be made from among alternative courses of action as to which will provide the most defense from the dollars available.

35. Relationship of Budgeting to Plans and Programs

a. Plans, programs and budgets are directly related to each other. Plans state the long range objectives necessary to support national policy; programs detail the work to be done in a specific time frame to approach the planned objectives; budgets represent the request for resources, expressed in dollars on a functional basis, necessary to accomplish the programed work. In essence, plans, programs and budgets differ only in the detail and the time frame involved. Plans are broad and generally project up to twenty years into the future; programs provide costed detail through the first five years of the planning cycle and general forecasting for the succeeding three years; budgets are in detail as to the resources required to support the budget year (first) of the five year program.

b. Within the Army, the Five-Year Force Structure and Financial Program is the document which provides guidance for the annual budget formulation. Programing decisions tend to be budget decisions and also decisions which provide the objectives for the annual operating programs. The impact of program, or budget, decisions can be evaluated throughout the same time period in terms of the required resource inputs and military output and can be related to the objectives established by the planning effort.

c. Budgeting must be the joint effort of the planner, the programer, budget analysts, operating officials and commanders. Although the Army budget is prepared by the Headquarters, Department of the Army staff, Army Wholesale Logistics personnel are called upon to provide much of the data pertaining to resource requirements for research, development, test and evaluation; procurement of supplies and equipment; and the depot maintenance and rebuild programs. These data are derived from such sources as the Research and Development Program and the Materiel and Force Structure Annexes to the Five-Year Force Structure and Financial Program and from materiel studies conducted under the Army Materiel Plan.

36. The Budget Cycle

a. The budget cycle consists of two separate, but overlapping phases—formulation and execution. Figure 3 illustrates the flow of program and budget actions that take place during the budget formulation phase. The first action involves the Five-Year Force Structure and Financial Program (FYFS & FP) approved by the Secretary of Defense which is used as the basis for the budget. The Secretary of the Army and the Chief of Staff provide guidance and the Army staff updates guidance to the major commands and agencies accordingly. Simultaneously, the Department of the Army staff is preparing Program Change Proposals

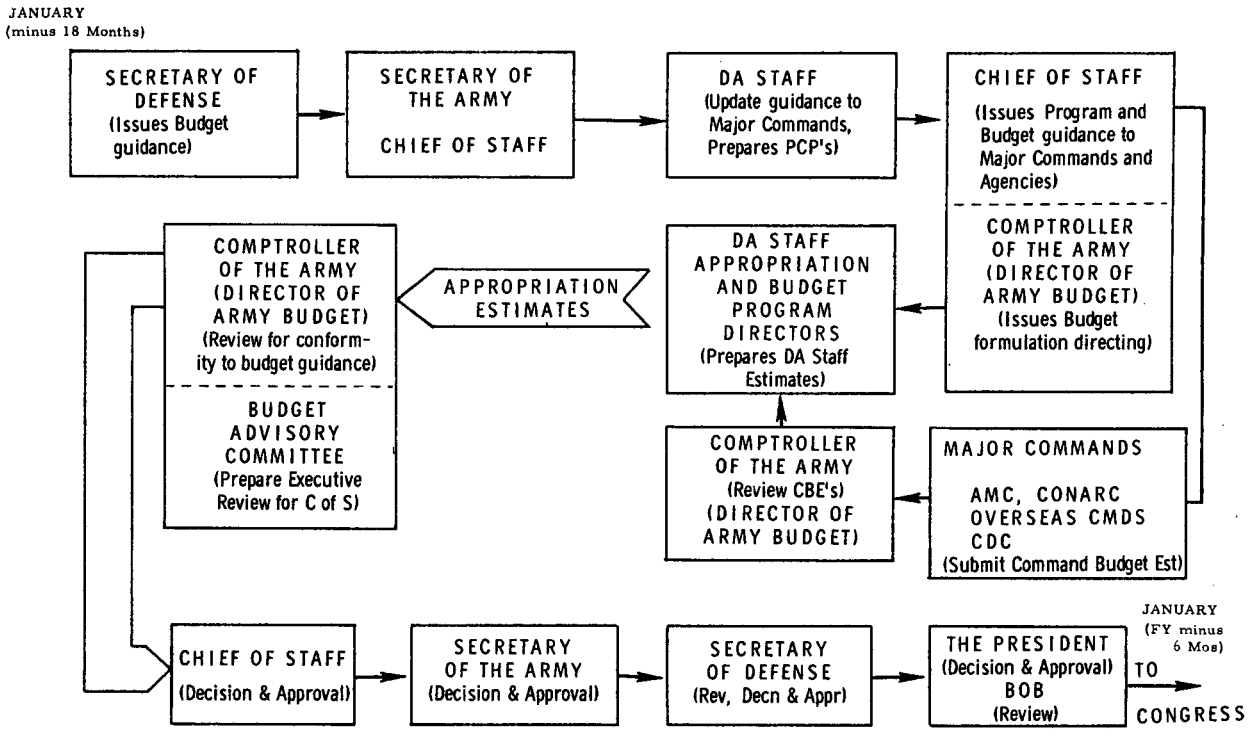

Figure 3. Flow of program and budget action—budget formulation phase.

to the FYFS&FP based on Chief of Staff guidance to effect any changes necessary to the FYFS&FP. After completion of these actions by the staff, Program and Budget Guidance (P&BG's) documents are issued to the major commands and agencies by the Chief of Staff.

b. Meanwhile, the Director of the Army Budget issues the Budget Formulation Directive to the Department of the Army staff. This directive contains technical and administrative instructions and policy guidance on the preparation of data on each appropriation and budget program. In this same time frame, the major commands and agencies prepare and submit to the Director of the Army Budget their Command Budget Estimates which are based on the DA Program and Budget Guidance. These estimates, in effect, constitute detailed backup support to the appropriation estimates. Using the Command Budget Estimates in concert with the information in the Budget Formulation Directive, the Appropriation and Budget Program Directors of the Army staff prepare budget estimates. These estimates conform to the appropriation structure (functional) as opposed to the mission-oriented program structure. The staff prepared estimates, which include consideration of the major commands and agencies estimates, are submitted by the Appropriation and Budget Program Directors to the Director of the Army Budget (DAB).

c. The Budget estimates are then reviewed by the Director of the Army Budget analysts for the purpose of determining that the estimates conform to the program and budget guidance and to establish that the proposed financing is sound, economical and balanced. After this review, any questions are resolved to the extent practicable with the Appropriation and Budget Program Directors, and the Director of the Army Budget submits recommendations to the Army Budget Advisory Committee (BAC) for Executive Review. BAC recommendations are submitted through the Comptroller of the Army to the Chief of Staff and the Secretary of the Army for decision and approval prior to submission to the Secretary of Defense by the first of October of the calendar year preceding that in which the budget (fiscal) year commences.

d. The Army budget estimates, along with those of the other services, are then subjected to the close scrutiny of the budget analysts of the Assistant Secretary of Defense (Comptroller) jointly and in company with examiners of the Bureau of the Budget. This results in the Secretary of Defense mark-up upon which budget schedules for the President's budget are based. Normally in December the President's decisions are received, through the Bureau of the Budget, and the Army's budget estimates are amended to conform to these decisions. These amended estimates are then included in the publication entitled "The Budget of the United States Government" (commonly referred to as the President's Budget) and the publication is submitted to the Congress in January of the year in which the budget (fiscal) year begins on the succeeding 1 July. It is at this time that the budget formulation phase of the budget cycle ends.

e. The budget execution phase is considered to have started at the time of submission of the President's budget to the Congress. Based on the content of this budget, the Army Five-Year Force Structure and Financial Program is revised, or updated, and becomes the basis for reallocation of anticipated resources to the major commands and agencies in January by means of updated Program and Budget Guidance (P&BG) documents issued to them by the Chief of Staff. These revised P&BG's state, in effect, that if the Congress allows the President all the funds and other resources he has requested for the Army, the major commands and agencies can expect to receive resources as stated in the revised P&BG documents. The major commands and agencies then prepare their Command Operating Budgets. These COB's are returned to Headquarters, Department of the Army, normally in April and contain detailed information concerning the purposes for which the resources are to be used and time phasing by fiscal quarters.

f. After review by Department of the Army staff, the Command Operating Budgets become the basis for developing the annual Apportionment Requests of the Army. These requests generally must be justified in exhaustive hearings before members of the Office of the Secretary of Defense and the Bureau of the Budget in order to obtain apportionment of the funds appropriated by the Congress. After apportionments of funds are made by the Bureau of the Budget, they are forwarded to the Comptroller of the Army through the Secretary of Defense. The Office, Director of the Army Budget, then establishes the Annual Funding Programs and these in turn are reviewed by the Army Budget Advisory Committee. The funds are subsequently allocated to the operating agencies. At this point, the Army Staff updates as necessary the Five-Year Force Structure and Financial Program based on Congressional and apportionment actions.

g. As the major commands and agencies receive their funding programs and approved Command Operating Budgets, they then conduct reviews in order to adjust the installation and separate activity Command Operating Budgets as required and return them to the installation and separate activity commanders together with their funding programs and allotments. (These adjustments consist essentially of distributing within the major command or agency the difference between resources requested and the resources received and this procedure is followed down through the activities and subactivities at each installation or separate activity.)

h. Ideally, all the actions discussed above pertaining to the formulation and execution phases should be completed before the budget (fiscal) year commences. Unfortunately this is not always possible and as a result emergency measures are required in order to permit the carrying on of essential activities until such time as those actions are accomplished. Under these circumstances the Congress will enact enabling legislation in the form of a Joint Resolution that will permit the incurrence of obligations for a specfic period at a specified rate. This condition requires that particular attention be paid to the impact that these circumstances have on Command Operating Budgets and the FYFS&FP which may require immediate revision when the appropriations and apportionments are finally made available.

i. The execution phase of the budget continues through the time that the Congress has

allowed for incurrence of obligations against the funds they have appropriated. During this period all commands and agencies submit periodic status of funds reports and make a mid-year Budget Execution Review. These are used as the basis for appropriate adjustments to the funding programs, operating budgets and Army programs as required.

37. Apportionment, Allocation, and Allotment Procedures

a. Probably the most stringently controlled resources in the Government are the monies made available for use by means of the appropriations acts passed by the Congress. The legislative and administrative controls applied to these monies, which are discussed in chapter 7, can be summarized for the purposes of this paragraph as follows:

Under only the most exceptional circumstances, such as an emergency situation in which the health and/or welfare of troops is jeopardized, may an officer or employee of the Government incur obligations or expenditures against the monies appropriated by the Congress without a specific funding authorization to do so. The appropriations established by the Congress are made available down through the echelons of command in the Army through a well-defined distribution process.

b. Monies are made available to Headquarters, Department of the Army, by means of an apportionment. An apportionment is defined as an authorization by the Director of the Bureau of the Budget to a Governmental agency making a designated portion of an appropriation (or contract authorization) available for obligation. The Department of the Army must submit an Apportionment Request to the Director of the Bureau of the Budget through the Secretary of Defense and must be prepared to justify and defend that request before both of those agencies (para 36). In other words, apportionments are not automatically made available upon enactment of the appropriation legislation, but the funds deemed to be required by Headquarters, DA, must again be fully spelled out and defended. After this request is approved, a formal apportionment document is issued by the Director, BOB, to the Comptroller of the Army through the Secretary of Defense. In effect, this document notifies the Comptroller of the Army that a deposit of funds has been made to his account and that the authorized agents of the Army may then incur obligations against that account for the purposes specified but under no circumstances may checks be written against that account the total of which would exceed the amount apportioned.

c. (1) The funds apportioned to the Department of the Army are distributed by means of allocations. An allocation is an authorization by a designated official of a component of the Department of Defense making funds available within a prescribed amount to an operating agency for the purpose of making allotments. The "designated official" within the Headquarters, Department of the Army, is the Comptroller of the Army (COA).

(2) The Department of the Army utilizes two types of operating agencies "Special Operating Agencies" are those headquarters receiving allocations from the Comptroller of the Army and having limited authority to suballocate funds to designated operating agencies under their command jurisdiction. A "general operating agency" is defined as an organizational unit consisting of major commands, headquarters or agencies funded by allocations from the Comptroller of the Army or by suballocations from a special operating agency with authority to distribute funds by means of allotment as distinguished from suballocation.

(3) The U.S. Army Materiel Command presents an excellent example of the use of special and general operating agencies to provide control of the funds made available to support Army wholesale logistics programs. Headquarters, U.S. Army Materiel Command is designated a "special operat-

ing agency" and as such receives allocations of funds from the COA to support the approved programs of the entire USAMC. The headquarters of the major commands of USAMC, such as the Supply and Maintenance Command, the Weapons Command and the Test and Evaluation Command are established as general operating agencies. These commands are provided funds to execute their programs by means of suballocations issued by Headquarters, USAMC.

d. The final step in the distribution of funds is the allotment process. An allotment of funds is an action taken by a general operating agency making the funds allocated or suballocated to that general operating agency available to another office, generally one subordinate to it, for obligation by that office. (An obligation, as defined in AR 320–5, is the dollar amount specifically reserved against an appropriation or fund for expenditure in payment for an order placed, contract awarded, or service received.)

e. Control does not end with the above distribution process but continues through the obligation and expenditure processes also. In summary, the budget process forecasts the use of funds in detail in order to support a one-year segment of the Army Five-Year Force Structure and Financial Program and once funds are appropriated the distribution procedures as well as fiscal and financial procedures control the actual use of those funds. Within Army wholesale logistics, there can be valid planning and programing for research, development, procurement and production or for maintenance and rebuild, all of which have necessary approvals, however not one step can be taken toward program accomplishment until the necessary funding is authorized under the procedures discussed above.

38. Budget Execution Phase

a. As indicated in preceding paragraphs, the budget execution phase of the cycle commences with the submission of the President's Budget to the Congress. The execution phase, initiated by certain procedures, is implemented by a vast number of people throughout the Army establishment. It ends only with the recording of the expenditure of the last dollar properly chargeable to the funds appropriated for the budget in question. The fact that some expenditures have been recorded against funds appropriated ten years earlier is evidence that budget execution may cover a long time span. The use of funds over so long a period does not apply to all appropriations, however, as annual appropriations normally expire for expenditure purposes two years after the close of the budget year unless otherwise specified in the appropriation act or other law. The appropriations that provide for a longer time span for execution are: Procurement of Equipment and Missiles, Army (PEMA); Research, Development, Test and Evaluation; and Military Construction, Army. The PEMA and RDT&E are almost entirely in the province of Army Wholesale Logistics and the management and control of these appropriations rest with the managers of the wholesale logistics complex.

b. In the main, budget execution is the process of keeping the Army's programs and budgets (as represented by the distribution of appropriate funds) in balance as related to work progress. This process involves all Army managers and is controlled by accounting and reporting procedures, reviews and analyses, and audits, all of which are designed to enable managers, in turn, to exercise control over the levels of fund availability and the use of those funds. They further provide data to permit revision and adjustment to assure that program and budgets are kept in proper alinement.

c. As with planning and programing, the necessity for change must also be recognized and accommodated in the budget execution process. The systems of control are designed to provide Army managers with the information required to make decisions concerning changes to the budget as the necessity for those changes becomes apparent. The rigidity of the controls

concerning appropriated funds must be re-emphasized and it must be borne in mind that the authority for change to budgets is severely restricted and changes can only be effected within definite limits authorized to each echelon of command or management.

Section IV. PROGRAM AND BUDGET EXECUTION

39. Importance of Controls in the Program and Budget Cycles

a. The budget is the one instrument in the Army through which the annual segments of the Five-Year Force Structure and Financial Program are developed, approved, funded, and controlled. As a management tool, it is a strong motivating force for the orderly execution of programs. It is a convenient device for measuring program performance. Review of program performance permits the evaluation of accomplishment in relation to the underlying plans.

b. The information necessary for such review is obtained from many sources such as fiscal reports, cost and performance reports, status of materiel report, and manpower reports. Analyses of these reports show how well programed objectives are being attained, how well funds are being used, the effect of one program segment's progress or delay on other program elements' progress, and any savings made or additional funds required to reach established goals.

c. At every Army management level, the operating programs and budgets are used as the basis for analyzing the progress of programs in relation to plans. From the data made available through the various reporting systems, management can make the decisions necessary to assure that program and budget execution continues toward proper accomplishment through the function of controlling, using the established systems of control. Through the Army programing system, goals are established relating the work to be done on a time-phased basis and indicating the resources to be made available to support that work. Through the budgeting process and the fund distribution procedure, the funds required to carry on the work are provided. The data provided by the reporting systems originate at the post, camp, station, program director or activity level and flow upward through the command or management channels to Headquarters, DA. Thus it is through the execution cycle that the primary source of data necessary to effectively exercise control is generated. The exercise of the function of controlling to assure adequate program performance and budget execution must be continuous to blend diverse operations into a balanced effort resulting in effective military capability.

40. Importance of Timely Logistics Decisions

a. In today's environment, more than ever before, military effectiveness depends on materiel support. The criticality of this support is recognized throughout all echelons of command and management. The necessity for information upon which to make decisions in the materiel support area is evidenced in the programing and budgeting processes. The DOD and DA Five-Year Force Structure and Financial Programs provide for specific identification of materiel development under Program VI — "Research and Development." The Materiel Annex of the FYFS&FP's provides for detailed programing in the areas of procurement, production and distribution of materiel. In the budgeting process the appropriation structure under which budgets are formulated and executed is organized in such a manner so as to identify specific wholesale logistics activities. The appropriation Research, Development, Test and Evaluation, Army (RDT&E), for example, supports the programed actions contained in Program VI—"Research and Development." The appropriation Procurement of Equipment and Missiles, Army (PEMA), supports the programed procurement and production of those items covered in parts 1, 2, and 3 of the Materiel Annex, FYFS&FP. Special budgeting, accounting and reporting techniques are required under the RDT&E and PEMA

appropriations in order to provide information to commanders and managers concerned with the programs supported by these appropriations. The PERT/Cost system of accounting and reporting has been devised to provide a tool for management and control during the development of selected materiel. In fact, the requirement for information concerning the status of certain items or weapons systems to be introduced into the Army's arsenal is considered of sufficient importance that "information centers" have been established in the Headquarters, Department of the Army staff in the form of Department of the Army Systems Staff Officers (DASSO's) (para 30*b*(5)-(*b*)).

b. It is incumbent upon all managers concerned with Army wholesale logistics to exercise positive management control over their assigned areas of the materiel support mission to the Army. A primary use of the management tools available is early detection of deviations from programed and budgeted courses of action. This early detection allows prompt resolution of the problems leading to, or resulting from, these deviations or, as the case may be, of immediate reporting of the problems to higher authority when they cannot be resolved at the local level. It is only under this principle of operation that the data generated by the control systems can be of full value; that the plans, programs and budgets can be kept valid and in balance; and that the impact from deviations can be minimized.

Section V. REVIEW AND ANALYSIS

41. Purpose of Review and Analysis (R&A)

a. An organization as large as the Army requires decentralization of authority in order to conduct its far flung and diverse operations. A primary function of each level of command and management is the continuous review and analysis of program and budget execution and the reporting of the findings of such reviews and analyses to higher authority. The Department of the Army is concerned with the quantitative and qualitative evaluation of progress toward meeting the assigned objectives and with the effective, consistent and balanced use of the resources provided to achieve these goals. Properly exercised, the function of review and analysis highlights deviations from approved plans, programs and budgets and provides an informational basis upon which decisions in those areas can be made.

b. The basis for review and analysis is provided by the following:

(1) Information on accomplishments, progress and conditions derived from progress reports and identifiable with the objectives and schedules of the applicable activity or agency.

(2) Information from inspections, surveys, staff visits, and correspondence expressed as findings, conclusions or recommendations which relate to stated missions, program or budget objectives and scheduled accomplishments.

(3) Information on financial status, command operating budgets, cost and work performance for the individual activities, expressed in terms that are relatable to the ceilings, levels and such other standards that are, or may be, established.

c. Effective review and analysis depends on the following:

(1) The recording of essential, complete and reliable data for an activity by responsible operating personnel at the time operations are performed. The kinds of data and the form in which they are recorded are determined on the basis of the facts that need to be known in order to measure results and progress against objectives and schedules.

(2) The reporting of recorded data by the operating officials in a uniform and consistent manner and at regular intervals, or as the particular circum-

stances may dictate, so that data can be analyzed in relation to a period of time.

(3) The interpretation of reported data in relation to programed and/or budgeted objectives and schedules—their adequacy and validity, whether they have been met, the extent of deviation and the significance of the deviation. The factors or conditions which cause deviations must be isolated in order to permit evaluation of their effect upon the objectives and schedules and to indicate corrective actions taken or required.

(4) The presentation of interpreted data to the head of the command or agency in order that determination may be made that goals or objectives are being met; that readjustment of emphasis or resources within the command or agency is required; or that deficiencies exist which require action by a higher echelon. Presentations are based on statements of analysis covering—

(*a*) Goals intended to be met during the period covered by the review and analysis as related to the appropriate operating programs, budgets, or other directives.

(*b*) Actual performance, progress, and accomplishments in relation to those goals and including a forecast and significance of trends as they affect the accomplishment of future scheduled objectives.

(*c*) Critical problems or deviations in operations which need to be corrected to permit the reporting agency to proceed toward established goals.

(*d*) Adequacy and validity of factors and standards which are used to establish the quantity, quality, rate and resource requirements of performance and accomplishment.

(*e*) Significant improvements in administrative and operational procedures and their effect on future accomplishments.

(*f*) Need for revision to command operating budgets, financial programs or schedules.

(*g*) Corrective action initiated and contemplated and recommendations for corrective action required to be taken by higher authority.

d. For the wholesale logistics manager, review and analysis procedures provide one of the primary means of controlling operations and of measuring actual accomplishments against desired results. Review and analysis must be employed on a continuous basis, particularly in the diverse and interdependent logistics functional areas. The successful attainment of logistics support depends on the timely work performance of a number of individual activities under various major subordinate commands and it is through the total review and analysis process at all echelons of management that the entire wholesale logistics effort can be kept in balance and on schedule; or in the event of program slippages the facts can be known immediately and corrective actions or adjustments may be made to minimize the impact of those slippages. Review and analysis techniques, properly applied, are used to detect areas of strength or weakness throughout the wholesale logistics system and thus lead to improved operations with resulting increases in effectiveness and economy of operations.

42. Responsibility for Review and Analysis

a. The head of each command, agency, and installation charged with programing or budgeting responsibility is responsible for review and analysis of his programs or budgets and prescribes review and analysis procedures consistent with the following principles:

(1) Program objectives and schedules are made progressively more detailed from Headquarters, Department of the Army level to the lowest operating level to establish the action responsible at each level. Review and analysis is accomplished in reverse, with successive summarization, based largely on reports, of the evaluation of quan-

tity and quality of performance and accomplishments against the mission, objectives, schedules and workloads which have been planned for each level and culminates in the Composite Review made for and presented to the Chief of Staff and the Secretary of the Army.

(2) Review and analysis is conducted for the major activities within a program individually and in relation one to another. The results of this review and analysis are presented to the head of the command, installation or agency at least semi-annually.

(3) Each command, agency and installation takes the necessary action, within its jurisdiction, to correct deviations disclosed by review and analysis, and reports to higher authority the conditions requiring action outside the jurisdiction of the reporting agency.

(4) Statements of analysis, progress report summaries as backup data for the statements of analysis, and presentations of program progress are furnished as required by the next higher echelon.

(5) Publication of instructions covering requirements for proper reporting concerning review and analysis actions. These instructions must provide guidance which—

(*a*) Relates the reports and other data to be used for program analysis with the appropriate program objectives.

(*b*) Prescribes the frequency and timing for the recording and reporting of appropriate data to establish an integrated sequence of review and analysis data and narrative analysis.

(*c*) Provides for the appropriate use of statements of analysis as a medium for summarizing and presenting the results of review and analysis.

b. Review and analysis responsibility is not limited to the heads of commands, agencies or installations but is the responsibility of every manager and supervisor including those within the wholesale logistics complex. This responsibility encompasses more than merely complying with orders or seeing to it that planned activities are carried out. These officials must accomplish their jobs on schedule, within given standards and with limited financial and other resources. They must keep their superiors informed as to the achievements in the performance of assigned tasks, resources utilization, and the problems that have developed or may arise. These responsibilities can only be fulfilled by some form of review and analysis, the results of which are reported to the head of the next higher echelon of management. At the command level the utilization of staff members as program, or major activity directors, and as members of a Program/Budget Advisory Committee, affords the commander the opportunity to have presented to him a thorough and complete composite review of the command's accomplishments and problems. Such a presentation should also provide the commander with alternative courses of action, with consideration of the impacts of those courses upon his missions, performance and resources, from which he can make his decisions and make his reports to the next higher echelon of command.

43. Actions That May Follow Program Review and Analysis

The mere presentation of facts and figures will not in itself correct deficiencies or eliminate problems. In identifying the deficiencies and need for action, criticism must be in a constructive vein that will permit the commander to direct necessary action. Typical actions that may follow a review and analysis are—

a. A study of possible revision of organization or procedures.

b. Reexamination of objectives, standards or priorities.

c. Rescheduling of work.

d. Reallocation of manpower or other resources.

e. Requests to higher headquarters for additional resources.

f. A request to higher authority for reprograming action and the reasons for the request.

PART THREE

MEANS OF EFFECTING LOGISTICS MANAGEMENT CONTROL

CHAPTER 7

REGULATORY BASIS FOR LOGISTICS MANAGEMENT CONTROLS

Section I. LEGISLATIVE CONTROLS

44. By the Constitution of the United States

a. Common meanings of the term control are to—direct, govern, influence, and restrain. In relation to these meanings of control, significant portions of the Constitution of the United States reveal that the basis for controls applied to and by the Army stem from that document.

b. The Constitution, as the supreme law of the land, directs the Congress to raise and equip armies, establish the rules for regulating and governing the armies and to provide for their financial support, all under laws which the Congress alone can make. The execution of the laws and the command of the Army is vested in the President. The making of laws and the direction of their execution in themselves do not fulfill the management function of controlling. To control it is necessary to take those actions which insure that the plans, orders, directives and policies promulgated to effect the intent of the laws are being complied with. Thus it can be seen that, in order to fulfill the responsibilities established by the Constitution, the Congress and the President are engaged in the function of controlling and must therefore assure that systems of control are in being and are used.

45. By Congressional Action

a. The need for logistics management controls emanates from actions entered into by the Congress of the United States. The fulfillment of the congressional responsibilities prescribed by the Constitution for raising and equipping, and for governing and regulating the Army is initiated by the passage of laws. The Congress, as any other governing, regulating, or directing body, exercises the function of controlling to insure that its laws (or orders and directives) are being complied with.

b. Basically, the Congress—prescribes the size of the Army, establishes the amount of money that can be spent by the Army and defines the purposes for which it can be spent, and, for goods and contractual services, directs how money will be spent in the manner of procurement laws (as implemented by ASPR). The accounting and reporting concerning the resources of men, money, materiel, and facilities are prescribed by the Congress. Restrictions and limitations imposed by the Congress on wholesale logistics functions are not uncommon, for example; the quantity of a major item that can be produced or procured in a given fiscal year, the provisions of the "Buy American Act" which restrict procurement of foreign goods, or the redirection of effort in research and development (e.g., The Nike "Zeus" versus the Nike "X" systems). Specific limitations are imposed for the procurement of aircraft and missiles by Section 412 b, Public Law 86–149.

c. Financial inventory accounting, stock funding, industrial fund operations, PEMA programing and funding, financial management systems and procurement regulations are all direct outgrowths of Congressional interest in

wholesale logistics. The establishment of the Defense Supply Agency and the use of the General Services Administration for specified supply support by the Armed Services are the results of comparatively recent reactions to Congress-directed inquiries into the more efficient and economical supply operations.

d. The influence of Congressional actions upon Army wholesale logistics does not end with the enactment of legislation. Control is continuously exercised by Congress through the means of hearings, investigations, General Accounting Office audits and reviews, budget reviews and by review and analysis of reports that are required to be submitted to the Congress. Thus it can be seen that logistics management controls are required to satisfy the needs of the Congress as well as to provide the basic tools of good management within the wholesale logistics complex.

Section II. ADMINISTRATIVE CONTROLS

46. Regulations, Orders, and Other Directives

a. The use of the laws themselves by elements of the Army as the sole means of direction and control would be extremely difficult. The laws generally are concerned with what is to be done and do not normally contain the details of accomplishment or the "how" things are to be done. For example, let us look at a summarization of the provisions of Public Law 216, 81st Congress, "Promotion of Economy and Efficiency through Establishment of Uniform Budgetary and Fiscal Procedures and Organizations;"

(1) Section 401—established a comptroller in the Department of Defense to manage the DOD budget. The comptroller, through centralization and integration, is to lay down policies, promulgate principles and procedures, and to establish uniform terminology and classification in the areas of budgeting, accounting, progress and statistical reporting and internal auditing.

(2) Section 402—established a comptroller in each of the three military services.

(3) Section 403—directed the budgets to be prepared on a cost-of-performance basis for functional programs and specified that there be a separation between operational costs and capital programs.

(4) Section 404—specified that appropriations made to DOD and the military services were to be available for obligation and expenditure only after rates of obligation and expenditure are approved by the Secretary of Defense.

(5) Section 405—authorized the establishment of working capital funds.

(6) Section 406—provided for the establishment of management funds to finance services required by two or more appropriations.

(7) Section 410—specified that property records must be maintained on both a quantity and a dollar basis.

b. The example shown above has led to numerous implementation documents for use by and within the military services. Sections 401 and 402 have an effect on the organization, functions, and responsibilities of both DOD and Headquarters, DA, in addition to establish a new pattern of budget submission. Section 401 also established the basis and need for common DOD account structures, accounting, reporting, etc. Cost-of-performance budgets as they are now used within DA, with their attendant preparation instructions, accounting, reporting, review and analysis, are the outgrowth of Section 403. Section 404 has led to the apportionment-allocation-allotment procedures for distribution of appropriated funds while Section 405 has resulted in the Army Stock Fund and the Army Industrial Fund being in prominent use today. The Family Hous-

ing Management Account concept of managing the public quarters furnished military personnel and their dependents has evolved from Section 406 as has the use of the Military Transportation Management Fund system of financing and accounting for movement of goods and personnel. Section 410 was the basis for establishing financial inventory accounting.

c. It is readily apparent that to carry out the intent of the law, it is necessary to provide all elements of the Army with the necessary tools to do the job. It is here that the Army system of administrative controls comes into play by providing the detailed guidance to accomplish the provisions of the legislation enacted by the Congress and as directed to be executed by the President. So, in effect, Army regulations, orders, and other directives are instruments of control, setting forth the Army manner of complying with the laws of the land.

47. Supply and Equipment Controls

a. All the functions and activities of the Army Wholesale Logistics complex evolve from the function of requirements determination and the actions taken to satisfy those requirements. Quantitative requirements determinations can be categorized broadly into two areas: the development of requirements for new items of equipment entering Army inventories, and the determination of replacement and maintenance requirements for items already in Army inventories.

b. Materiel requirements management is a complex and difficult area of endeavor and is accorded particular attention in other publications such as FM 38–2–1 and FM 38–22. This paragraph points up the means of controlling the supplies and equipment which the Army Materiel Command must provide to the Army.

c. An authorization must exist for each item obtained for use by the Army. The authorizations for end items of equipment are specific and are contained in either Tables of Organization and Equipment (TOE's), Tables of Allowances (TA's), Equipment Modification Lists (EML's) or in special documents such as Operational Project orders or bills of materials prepared for specific units or activities. Department of Defense Directive 4200.13, "Department of Defense Equipment Allowances and Authorization Plan" is the basis under which DA allowance authorization documents are required.

d. Minor secondary items and repair parts stockage and issue policy and procedures are contained in AR 710–45 and AR 711–16.

e. The procurement, stockage, and issue of selected items or systems are strictly controlled, requiring approval of the highest echelons to include the President and the Congress. At the other extreme are the items procured, stocked and issued on the basis of customer demand and limited only by appropriated fund availability current at the time the procurement or issue is requested. In either instance, and in any others that fall between these two extremes, an authorization for supply or equipment items concerned must be in existence and must be quoted to permit the supply action to be consummated.

CHAPTER 8

FINANCIAL MANAGEMENT SYSTEMS OF CONTROL

Section I. THE ARMY FINANCIAL MANAGEMENT PLAN

48. Concept of Financial Management

(1) Prior to World War II the Army was a comparatively small organization. Those responsible for its management could plan, observe, and control its activities directly. The subsequent rapid and huge expansion of the Army brought many problems to top management which were not in reality solved during the war years, but, rather, overcome. The close of World War II was followed by a drastic change in national policy covering the defense and security of the nation—large military forces were maintained in being instead of reverting to cadre-sized forces as has been the case in past peacetime situations.

(2) The peacetime, or "cold-war" posture of the Army has to be achieved under different circumstances from those which pertain during war. The constraints, or limitations, under which the resources necessary to equip and maintain the forces are provided are carefully arrived at by the highest levels of the government. Consideration must be given to the ability of the national economy to support all government programs to include defense. The President's Budget, which includes the Army budget, is the vehicle by which the Army's requirements are made known to Congress. The Congress, in fulfilling its Constitutional role, determines the size of the Army; regulates its activities by authorizing it some functions and denying others, and permitting it to assume other functions as corollaries to performing its basic missions; and provides the funds to pay for the goods and services necessary to accomplish the Army missions. Since funds for government expenditures are limited by the ability of the economy to provide them and further limited by the legislative controls imposed by the Congress, it becomes extremely important that the maximum benefits accrue from each dollar made available. Management must know the uses that are going to be made of the funds requested in the budgets, and, further, must be apprised of the actual use made of the monies appropriated. The means of furnishing this information is the current financial management system.

(3) The present systems of financial management had their beginnings in the report of the first "Hoover Commission"—entitled the "Report of the Commission on Organization of the Government Entitled Budgeting and Accounting." The report contained conclusions that there were serious weaknesses in the Federal Government in the fiscal field. Among them are findings that the budgets submitted to the Congress did not accurately indicate what the costs of each activity over the budget year would be, that the government accounting system was outmoded and cumbersome, and no indication could be provided as to what was specifically accomplished with the money spent in the past year.

Based on the assumption that "the budget and appropriation process is the heart of the management and control in the executive branch," the report made several recommendations concerning budget reform and accounting systems.

(4) Two significant pieces of legislation emanated from the above report and other studies: Public Law 216, 81st Congress—Reorganization of Fiscal Management to Promote Economy and Efficiency, which is discussed in paragraph 46; and Public Law 784, 81st Congress, which is an Act "to authorize the President to determine the form of the national budget and of departmental estimates, to modernize and simplify governmental accounting and auditing methods and procedures, and for other purposes." Public Law 784 provides for full disclosure of the results of financial operations, adequate financial information for use by management and for budget administration, and effective control over revenue, expenditures, funds, property, and other assets.

(5) The above laws were enacted in 1950. The Army itself had recognized the need for improving its financial management even before enactment of these laws. The statutes, however, provided the legal basis for the development and use of a sound financial management system. AR 37–5, was first published in 1953 and remains the basis for financial management in the Army today.

b. The primary goal of the plan is to provide managers with the information needed upon which to base decisions, or, in other words, furnish the tools which will lead to more effective and efficient management of the Army. Through the use of accounting methods and techniques similar to those used in industry, each manager is provided data for the evaluation and control of the costs of labor, supplies and services consumed or expended in the accomplishment of his assigned operations. Item and financial accounting for materiel have been integrated, affording a means for better inventory management and control.

c. The plan is predicated on the principle that each commander be provided with the resources necessary to perform his assigned functions or missions and that he be held strictly accountable for the use of those resources. The basic elements of the plan embraces the following:

(1) Use of industrial funds—revolving funds established to provide working capital for the operation of commercial-type or industrial-type activities that manufacture goods for or furnish services to customers within or among the departments or agencies of the Department of Defense. The fund is is reimbursed by payment for the goods or services by the customers who order, and receive, those goods or services.

(2) Use of stock funds—revolving funds for procurement and ownership of inventories of common-use, standard items of stocks. These funds are maintained by the proceeds from the sales of items to their authorized customers.

(3) Establishment of management funds for the purpose of facilitating the conduct of operations financed by two or more appropriations where the expenditures are not readily allocable to those appropriations initially.

(4) Integrated accounting—a system of accounting for all financial transactions relating to the activities of a command within a single comprehensive system of related records. It covers; financial accounting for supplies outside of stock and industrial funds; accounting for costs of operations; appropriation accounting; and including a basic classification structure which will be used to identify all operations of the Army establishment

for management and budgeting purposes, thus enabling closer correlation between budget and program structures.

(5) Consumer funding, which requires that, to the extent practicable, agency and installation commanders be provided with funds through their command channels with which to finance their costs of operations.

(6) Financial reporting for all management purposes including budget formulation, presentation and execution.

(7) Internal audit, to assure adequate controls and surveillance over resources.

d. The use of the elements of the financial management plan has led to more precise budgeting, directly relating dollar resources to the cost of performance. The Army Command Management System discussed in chapter 9 has been made possible through the plan. This, in turn, has provided a firm basis for the direct relationships that now exist between planning, programing, and budgeting.

49. Providing Financial Support for Operations

a. Financial support for all operations undertaken by the Army is obtained through the budget process outlined in part two. In summary, under this process plans are developed into costed, time-phased programs of accomplishment. The Army's request for appropriations, contained in the President's budget is derived from the approved FYFS&FP, representing the financial support required for the budget year.

b. The apportionment-allocation-allotment procedure described in paragraph 36 is the means by which funds are made available to the installation/activity commanders. These commanders incur the obligations against which expenditures will be made, or, in simpler terms, buy and pay for the goods and services needed to perform the Army's missions.

c. Financing of operations is provided under the "consumer funding" concept, paragraph 48*c*(5). Consumer funding, however, does not provide a direct financial support to a commander for all purposes but is restricted to those items of cost incurrence over which he has direct control. The pay and allowances of military personnel are centrally managed and financed therefore the funding for these items of cost are not provided installation/activity commanders. Selected items of equipment and certain of their components are of such importance they are centrally managed. This management includes requirements determination, procurement, and distribution. The items concerned are issued "free" to the consumers or users so there is no requirement to include the financing of them in the consumer funds of the user. Financing of major construction is normally provided the District Engineer under whose direction the construction is being accomplished rather than to the installation or activity commander for whom the work is being done. Certain other items are issued "free" to the user such as supplies required to accomplish Modification Work Orders (MWO's) on equipment or items required to establish basic loads contained in Basic Issue Lists Items (BILI's) directives. In the main, consumer funding provides for the financing of all operations and maintenance costs incurred in the accomplishment of a commander's missions to include the maintenance and repair of those items initially provided on a "free" issue basis.

d. A basic precept of the consumer funding concept is that commanders be permitted the maximum flexibility in the use of their resources to include financial resources. The degree of permitted flexibility is a subject open to interpretation and question, particularly in the face of the limitations that are imposed. First, there are legal restrictions which specify the amounts of funds that may be obligated for specified purposes. Generally, fund usage is limited by time periods, e.g., fiscal quarters and by fiscal year. Fund limitations are also established by subdivisions of appropriations and the local commander is denied authority to transfer funds from one subdivision to another even though he would remain within the total provided him under the appropriation. (Trans-

fers between appropriations require Congressional approval, however, intra-appropriation transfers can often be accomplished by the operating agency head or at Headquarters, DA, upon proper justification.) A comparatively new technique of establishing funding limitations is by ascribing "floors" within the total funding authority. A "floor" in this instance is a fund control directive which specifies that a minimum amount must be costed for a specific purpose such as the maintenance and repair of real property or for the maintenance of equipment. "Floors" are the result of Congressional interest in specific areas, particularly those which over a period of years have shown an increasing backlog of work to be done as a result of a "shortage of funds."

e. Normally, a commander will not be provided financing to accomplish all the work that has accumulated nor to meet one hundred percent of the supply and equipment requirements of the units and activities he is supporting. Therefore, higher headquarters in his chain of command will establish priorities within which he must operate, thus creating further limitations on his use of the resources available to him. Despite all the various limitations and restrictions, flexibility does exist to a degree in the use of a commander's resources. Rescheduling of work; savings generated as a result of management improvements; shifts in emphasis on locally established priorities; elimination of nice-to-have but nonessential items or standards; increases in efficiency and economy; and many other actions, all of which fall under the heading of good management, are available to commanders as a means of making maximum use of their resources and providing a degree of flexibility.

f. Public funds are a strictly accounted for resource. From the time that an appropriation is enacted into law until the last cent has been spent and the appropriation account reconciled and audited, each and every transaction is meticulously recorded. The information gathered in the fiscal accounting records can, and does, serve managers as well as preserving the integrity of the appropriations. The financial reports derived from these records are designated to provide information revealing—actual fund usage and a comparison to that programed; value of goods and services ordered, received, and used; kinds and value of goods and services ordered and received such as pay of personnel, temporary duty travel, supplies, equipment, utilities, communications, and other contractual services—all of which provide the managers concerned with the means, in the form of data, to evaluate and control their operations.

g. Comptrollers organizations at the various levels of command are responsible for accumulating, recording and reporting financial management data. They also act as the commander's agents for establishing procedures and controls to preclude the overobligation or overexpenditure of appropriated funds made available to the commanders. Commanders, their staffs and operating managers use the financial management data to aid in effecting proper and positive management and control. It must be emphasized that the management and control responsibilities are those of the commander and his managers, not the responsibility of the personnel who maintain the records and furnish the information. Under the present day need for obtaining the maximum benefit from every dollar made available for defense, the wise and prudent manager makes use of all the data provided him in order to effectively and economically perform his functions.

50. Integrated Accounting System

a. The integrated accounting system, briefly described in paragraph 48*c*(4), provides commanders and other managers with significant managerial data. The purpose of discussing the system here is to point out what the managers of the Army wholesale logistics complex can expect from the system rather than to attempt to describe in detail the accounting procedures and techniques involved. In general, the accounting system is based on a double-entry, accrual method similar to that found in most businesses and industry. It is operated under the direction of the comptroller of the Army and the accounting functions at installation

level are performed in the comptroller organization, normally under the direct supervision of the Finance and Accounting Officer.

b. The integrated system is designed to comply with the provisions of Public Laws 216 and 784 and to meet the Army's requirements for accounting to assist in management and control. These requirements can be summarized as follows:

(1) Exerting positive control over the obligation of appropriated funds. This covers both the purpose for which funds are used and the amounts that can be obligated. This requirement for close control of obligating the government to make expenditures from public, or appropriated, funds stems from the legal requirement that obligations against public funds must not exceed the amounts appropriated by the Congress. Paragraph 51 covers the administrative control of appropriated funds.

(2) Maintenance of adequate accounting records that reveal, and provide control over, the disbursement and collection of governmental funds. The use of these records are to insure that: funds are disbursed only as authorized; the proper amounts are paid to the proper payee; and that amounts due the government are collected and properly deposited into the Treasury of the United States.

(3) Establishment and use of accounting records of all resources acquired through the expenditure of government funds, or acquired by other means. The resources can be personal services, nonpersonal services or property (both real and personal). The records show also the use made, or the disposition of these acquired resources.

(4) A complete accounting in both item and monetary terms of all inventories of materials, supplies, and equipment, and the transactions into and out of these inventory accounts.

(5) Sound accounting for the nonexpendable property in use, its location, and employment. This includes the recording of the disposition of this property when no longer required or when it becomes worn out or obsolete.

(6) Proper accounting for all real property to include the cost of any additions, modifications, or reductions to that property.

(7) Cost recording for activities, functions, or organizational elements in sufficient detail to provide for effective management of these operating entities. In one sense, this may be considered as the needed end-product of the integrated accounting system. Control of funds and the acquisition of resources through the expenditure of those funds is a very necessary and important activity. However, it is only through the control of the use of these resources, whether they be of the nature of personal services, supplies, equipment, facilities, or nonpersonal services in the accomplishment of the Army's missions that true economies can be achieved. Commanders, staff officers, and operating managers must have adequate, valid, and timely cost information if they are to insure that necessary work is performed at the lowest possible cost consistent with sound performance standards.

c. The presence of the integrated accounting system assures the availability of intelligence critical to effective planning, programing, budgeting, and review and analysis. It provides a ready, single source of the data required to assist managers in the exercise of the function of management and its necessary adjunct, control. It provides financial management data in the form of status of funds, inventory reports, real property records, cost and performance reports, the status of orders and contracts for goods and services, personnel costs, and a variety of other types of information which can be stated in financial terms. Costs, per-

formance, and obligations when required, are accumulated, recorded, and reported under the Army Management Structure (Fiscal Code), which also provides the basis for programing and budgeting under the Army Command Management System. It must be strongly reemphasized that the data recorded and reported through the integrated accounting systems, which is a subsidiary system of the Army Financial Management Plan, is for the use of the managers of the Army and not intended to be used solely by the personnel responsible for performing the accounting functions.

51. Internal Controls

a. The provision of funds and their subsequent obligation and expenditure is accomplished under a series of exacting processes. Each year the Congress appropriates billions of dollars for the Army. Eventually these dollars are distributed to the many and far-flung installations, activities and outposts responsible for conducting the Army's business. There are precise methods for distributing funds and for the accounting for, and reporting on, the status and use of these funds. Army regulations of the 35– and 37– series are the primary sources of guidance in the field of financial management and control of fund resources. The installation or activity commanders to whom funds are provided are responsible for the management and control of their fund resources. Since it is virtually impossible for any such commander to personally approve each and every one of the myriad transactions that flow daily, the exercise of the prerogatives of delegation of authority and the assignment of responsibilities in this particular area assume specific and peculiar importance, particularly in view of the legal requirements and the administrative controls imposed in the area of financial management. The law and its implementing Department of Defense and Headquarters, Department of the Army, directives require that the delegations of authority to exercise the administrative control over appropriated funds be in writing, naming a specific individual, or individuals, to exercise this control for the commanders concerned.

b. There have been in the past, and unfortunately there occur at the present, instances wherein public funds have been used in excess of the amounts authorized, or used for purposes other than those intended when the funds were made available. The Congress in 1870 passed the so-called "Anti-Deficiency Act" which prohibited the departments of the government from expending sums in excess of the amounts appropriated. Various amendments to this Act followed over the years. In 1950 the law was significantly amended to include the apportionment-allocation-allotment process and to provide for administrative control of public funds. DOD Directive 7200.1, Administrative Control of Appropriations within the Department of Defense, as revised, was initially published in August 1955. The Army implementation of the law, Section 3679 Revised Statute (31 U.S.C. 665), and DOD Directive 7200.1 are contained in AR 37–20. Both Revised Statue 3679 and DOD Directive 7200.1 are reprinted in AR 37–20, which gives an indication of the significance placed on the administrative control of appropriated funds.

c. To the personnel of the Army who are responsible for the control of appropriated funds, the term "anti-deficiency" means "overobligation"; that is, an action which results in a legal liability on the part of the government which exceeds the authority to incur obligations. This has special significance since the authority to incur obligations is not restricted to the amount authorized by the appropriation itself but applies to the subdivisions of that appropriation whether they be in the form of apportionments, allocations, suballocations, allotments, or suballotments, or any other lawful administrative restriction or subdivision thereunder. Thus an overobligation can be incurred even though there are sufficient funds remaining available in an authorization such as an allotment, e.g., if obligations are incurred under a subdivision of an appropriation, such as a budget program, which exceed the amount administratively established by means of an annual funding program. Another example is that of an installation incurring obligations in excess of the allotted amount while sufficient funds to cover the overobligation are

available in the allocation or suballocation of the operating agency supporting the installation. In this instance, the installation commander concerned has violated the provisions of Revised Statute 3679. The fact that funds were available in both the instances outlined above has no bearing on the act of violation. Legally, a contracting officer can be in violation of Revised Statute 3679 if he awards a contract that eventually results in a liability to the government in excess of the amount of funds administratively reserved in the financial records to cover the payment of the contractor for goods or services provided under that contract.

d. (1) The Congress has also accorded recognition to another area of fund control. This area deals with the use of funds for purposes other than those for which the funds were made available and particularly the use of available funds to satisfy a requirement for which the proper funds are unavailable. Revised Statute 3678 (31 U.S.C. 628) contains these restrictions. A key provision of this statute states "Except as otherwise provided by law, sums appropriated for the various branches of expenditures in the public service shall be applied solely to the objects for which they are respectively made, and for no other." This prohibits the use of funds available under any legislative or administrative subdivision from being used to finance requirements that are properly chargeable to another subdivision of funds.

(2) Revised Statute 3678 does not carry the punitive provisions that are a part of Revised Statute 3679. However, in instances where funds have been misapplied according to the terms of Revised Statute 3678, adjustments must be made in order to charge the proper funds. If, as a result of these adjustments, the proper funds are placed in a deficient or overobligated position, the provisions of Revised Statute 3679 with its punitive measures, become applicable.

e. Another significant piece of legislation is the Act of September 2, 1958 (10 U.S.C. 2674). This is the basis for several DOD and Headquarters, Department of the Army, directives. It deals with the establishment and development of military facilities and installations, or in other words the construction, modification or alteration of real property. Basically, it authorizes the Secretary of Defense to further authorize the secretaries of the military departments to acquire, construct, convert or extend facilities and installations where such work costs less than $200,000. The key features of this Act, which must be rigidly adhered to, are—

(1) It authorizes urgently needed permanent or temporary works not otherwise authorized by law.

(2) Site preparation, utilities, and equipment costs must be included in the project cost.

(3) Total project cost cannot exceed $200,000.

(4) Projects costing over $50,000 must be approved, in advance, by the Secretary of Defense.

(5) Projects costing over $25,000 must be approved, in advance, by the secretary of the military department.

(6) Only one allotment per project will be be made.

(7) Operation and maintenance, Army funds can be used for urgent projects when approved by competent authority and only when the total project cost is under $25,000.

(8) Detailed reports concerning each project entered into under the authority of this Act must be submitted to the Congress every six months.

f. Violation of the provisions of 10 U.S.C. 2674 results in an automatic violation of Revised Statute 3679, the "Anti-Deficiency Act" with its punitive provisions. The restrictive provisions of 10 U.S.C. 2674, coupled with the fine distinctions that exist between conversion, alteration, modification, and the guidelines established for maintenance and repair of real

facilities make this one of the most susceptible areas in which to incur a violation of the laws. In addition to seeking advice from the personnel directly concerned with such projects, e.g., the Post or Depot Engineer and the AC of S, G4, or his staff equivalent, commanders should also obtain the advice and concurrence of both his comptroller and staff judge advocate prior to proceeding with projects under the provisions of 10 U.S.C. 2674.

g. Violations of the above cited statutes can occur in a number of ways which can generally be summarized into the following: through deliberate action, through ignorance, or through faulty management. Education and training of personnel and proper supervision are the basic means of assuring violations will not occur through ignorance or deliberate action. Commanders can be faced with many ways in which overobligations can be incurred through faulty management. Lack of document control resulting in non-posting of transactions leading to inaccurate statements of fund availability; lack of accounting controls; absence of good operating procedures; failure to establish adequate responsibilities because delegation of authority in writing, as prescribed, has not been accomplished; lack of organizations and functions manuals which adequately define responsibilities concerning the control of appropriated funds; and many other faulty management procedures are likely to lead to improper administrative control of funds and thus to violations of Revised Statute 3679.

h. In addition to the statutes mentioned, as well as DOD Directive 7200.1 and AR 37–20, managers of the Army Wholesale Logistics complex would be well-advised if they became familiar with the provisions of AR 37–21, AR 37–22, and AR 37–108. A working knowledge of the content of these laws and directives coupled with good management practices provide a sound basis for effective administrative control of the appropriated funds made available to support a commander's missions.

52. Reports and Their Use

a. The essence of control is action which adjusts operations to predetermined standards, and its basis is information in the hands of managers. Under this premise, reporting is elevated to a level of very considerable importance for it is through reporting that information is made available to the managers. Reporting, in a very broad sense, can include special reports; routine reports; written, oral or graphic reports; staff meetings or conferences; or any other means whereby information is transmitted to a manager. Reports can be described as processes of communicating information.

b. To serve their primary purpose, reports must be both valid and timely. Those which do not contain pertinent, accurate, or correct information are worse than useless since they can lead to taking actions which are detrimental rather than serving as the basis for proper corrective action. The detection of deviations from programed courses of action must be made at the earliest possible time in order to reduce to a minimum the impacts arising from the deviations. Delayed reports, or reports that allow information to accumulate for a period in excess to that required by managers are ineffectual tools of management.

c. The primary purpose of the integrated accounting system of the Financial Management Plan is to provide for an effective, simplified and standardized accounting and reporting system. It provides commanders and managers with statistical, financial and cost-of-performance data upon which decisions can be based. Accounting information is historical or after-the-fact, however, it is used to predict or forecast; that is, it states what has happened in the past and thus provides a basis for logically estimating what will happen in the future. Through the medium of standardized charts of accounts, the source and application of all resources are traceable from the time the resources were requested or ordered until the time they are consumed or otherwise disposed of. The Army Management Structure is the basis for cost-of-performance accounting and reporting which in turn is the foundation of the Army Command Management System (ASMS). ACMS provides a standard, Army-wide vehicle for programing work to be done,

the allocation of resources to do the work, and the means of comparing actual work performed, and its costs, with that which was programed.

d. The comptroller, or his counterpart, of an organization has staff responsibility for all accounting within the organization. The Finance and Accounting Officer is responsible for technical supervision and assistance over all financial accounting in a command under the policy guidance established by the Comptroller. He furnishes accounting advice in connection with managerial endeavors and is generally responsible for—

(1) Prescribing, and revising, accounting directives and methods to include those pertinent to cost and property, and to electrical accounting machine and automatic data processing applications.

(2) Preparing reports and financial statements to provide commanders and managers with adequate, sound and timely information.

(3) Assisting with the establishment, or revision, of accounting and operating systems to provide the necessary basis for control.

(4) Assuring that accounting systems comply with Department of the Army criteria.

e. Current information gathering and recording methods and means are concerned with a tremendous volume of data since every transaction that has financial significance is entered into the accounting processes. It is possible to virtually inundate commanders and managers with data. This raises the question of what constitutes adequate information to serve a manager's purpose. A first-line supervisor might well need to know the complete detail concerning all the resources used or consumed during the conduct of his operations. His activity chief, however, is probably concerned only with total costs incurred as related to end items produced. Thus the requirements for information change with the succeedingly higher echelons of management. A reports control system is required which provides that —reports provide data that are adequate, accurate, and timely to management's needs; reporting workloads are kept to a minimum consistent with the capabilities of preparing and using agencies; only reports essential in terms of actual need are provided; the reporting of unnecessary, duplicating, erroneous or misleading data is prevented or eliminated; reports are appropriate to the mission of the directing, initiating, and using agencies; preparing agencies be specifically designated; reporting instructions, definitions, and forms are explicit, clear, and complete and are designed to facilitate preparation, processing, and use of the reports; report forms, definitions, and source records are standardized to the maximum; reporting systems and procedures are simple, flexible, and capable of ready response to the needs of management. AR 335–15, establishes policy, prescribes rules, and defines responsibilities for the Army worldwide reports control system.

53. Financial Inventory Accounting

a. A most important part in the concept of the financial management plan is the necessity to price each item of supply entering the Army inventories. The costs of supplies and equipment are as important to managers as the costs of personal or contractual services. In addition, managers of supply activities at all echelons need a tool or system by which supply effectiveness and economy can be gauged. The vast number and variety of items in the Army inventories makes it difficult to develop meaningful summaries of inventory data for supply management. Individual item management is, and will continue to be, necessary to assure effective supply support to the Army-in-the-Field and other customers, yet it is an almost impossible task to review or measure supply operations on a quantitative basis alone at all the echelons of management. Only at the smallest installation with a minimum of inventories can the supply manager study each item individually; and even here it is unlikely that a higher level of management can reach mean-

ingful conclusions about the supply manager's performance solely on the basis of quantitative reports of stocks.

b. A consolidation of inventory data is required upon which measurements and comparisons are essential to supply management and performance can be made. It must provide statements in terms of common denominators and language that can be used by the upper echelons of the Army, by the Department of Defense, and the Congress, all of whom are concerned with Army supply management and control. Tonnage and line item reports are forms of consolidation of inventory data and they have been used by the Army for some time past. Tonnage reports indicate tons of materiel received, stored and shipped; line item reports show the numbers of items received, requisitioned, procured, stored, shipped or backordered. Both of these types of reports are essential and valuable in some areas of supply management. Tonnage data are use to—compute transportation requirements; determine storage space needed; forecast personnel and equipment required for storage and handling of supplies. Line item information is used to determine clerical and administrative workload, providing the basis for programing and budegt actions. Tonnage and line item reports have their limitations as management tools, however, and if applied to the overall control of inventories they can result in highly misleading equations; for example, tonnage reports tend to give the same degree of importance to a ton of coal as to a ton of transistors.

c. The enactment of Public Law 216, 81st Congress (para 46*a*) required the Army to adopt a method of financial valuation of its bulk inventories and to the establishment of financial inventory accounting (FIA), as well as the other elements of the financial management plan. FIA is defined in the Army dictionary as the act of establishing and maintaining monetary accounting for material, supplies and equipment held in stock on records of accountability in the Army supply system. This accounting in turn provides the base for supply management data upon which supply performance can be measured. FIA provides a method for summarizing stock positions by pricing inventories and a system of reporting inventory transactions in monetary terms in summary form. Reports cover the status, condition and purposes of the materiel held in inventory. They also depict the transactions and movement that occur within the inventories.

d. The first step in establishing financial inventory acounting is to price the items. The next is to identify logical classes or categories of materiel covering all items stocked so as to bring together like items into significant groupings for management purposes. The Federal Supply Classification (FSC) groupings reflected in the Federal Supply Catalog are used for this purpose. The Army further brings these categories of supply into one of four major classifications or groupings which directly relate broad categories of items to the source of funding for the procurement of the items concerned. These major classifications are—

(1) *Principal Items, PEMA Financed.* This grouping includes items which meet Department of the Army criteria which designate them as "principal items." These criteria are—essentiality to training or combat; high monetary value, difficulty of procurement or production, unduly short or excessive supply position; or the criticality of basic materials (e.g., nuclear materials). Aircraft to include helicopters, missiles, weapons, combat vehicles, and ammunition are representative of the type of items found in this classification. The procurement of these items is funded from the appropriation Procurement Equipment and Missiles, Army (PEMA). After Department of Defense and Headquarters, Department of the Army approval and release for procurement, items in this grouping are centrally managed at the AMC—commodity command — NICP levels. Specific and detailed management at-

tention is often afforded individual line items in this group at all levels of management.

(2) *Secondary Items, O&MA Financed.* This classification serves the purpose of accounting for a variety of items that are procured with funds from the appropriation Operations and Maintenance, Army (O&MA). They are normally centrally controlled at the AMC — commodity command — NICP levels. Generally the items found in this grouping are associated with PEMA or Army Stock Fund financing. They fall into the O&MA grouping when procured for special purposes such as operational projects; for the initial equiping of newly activated or reorganized TOE units; for Modification Work Orders; or the provision of PEMA-financed items to non-TOE organizations and activities; for example, furnishing a bulldozer to a Post Engineer.

(3) *Secondary Items, Stock Funded.* This grouping accounts for the largest number (approximately five hundred and ninety thousand) of line items in the Army supply system. It is composed of the common supplies and equipment used Army-wide. Repair parts and consumables, as well as many minor secondary items are included. Procurement costs are borne by the Army Stock Fund (ASF) which retains ownership until the items are sold to the users. The funds available to the consumer are used to reimburse the ASF at the time of issue of an item to that consumer.

(4) *Repair Parts, PEMA Financed.* This major classification is for the purpose of accounting for and reporting on those repair parts, to include major components of an end item, that are centrally managed at the AMC—commodity command—NICP levels. The procurement of these items is accomplished with funds from the appropriation Procurement of Equipment and Missiles, Army (PEMA).

e. Two principal types of reports stem from FIA. The first depicts the movement of inventory within each category, reflecting the opening balance at the beginning of the period and detailing the increases and decreases that occurred during the period to arrive at the closing balance as of the last day of the report period. The data presented are in sufficient detail to provide the managers concerned with a clear picture of the source, reasons and financing of inventory increases. Inventory decreases are reported in such a way to show sales, transfers, issues, losses and adjustments. Information is also provided to reflect the value of goods in transit, on order, and in the hands of producers as government-furnished material (GFM). The Department of the Army requires formal submission of this data on a quarterly basis in the form of the Statement of Inventory Transactions (SIT). Department of Defense Instruction 4140.18, Management and Transaction Reports for Appropriation-Financed Materiel, as implemented by Headquarters, Department of the Army, is the basis for these reports.

f. The second type of data provided under FIA relates requirements to materiel assets. A stratification of stocks has been developed in consonance with DOD requirements to provide a common, Army-wide language. Peacetime Force Materiel Requirements (PTFMR), Mobilization Reserve Materiel Requirements (MRMR), retention and contingency reserves, and undelivered military assistance orders, as well as excess and unstratified stocks are common terms throughout the DOD and the Army. Further stratification is provided for intra-Army use and these are defined in AR's of the 37– and 435– series. Within the Army, formal reporting, in the form of the Supply Management Report (SMR) is required on a quarterly basis. Department of Defense Instruction 4140.18 (*e* above) again is the primary directive governing these reports.

g. The data generated under FIA, and re-

flected in the reports, provide managers concerned with supply the detail required to support the basic concepts of supply management. FIA reports—

(1) *Identify ownership of inventories.* Identification of the controlling command or NICP responsible for managing a portion of the total Army inventory is provided, as is the individual point of management (NICP, station property account, etc.). In addition, the procuring, and thus owning, funds are reported whether they be appropriated (PEMA, O&M,A), stock or industrial funds. Stock and industrial funds have their own systems, however financial inventory data are recorded and reported under these systems.

(2) *Detail status of inventories.* Assets are classified as on-hand, on-order, in transit, on workorder, and in some cases as in the hands of using units or organizations. The on-hand assets are further classified as serviceable (available for issue) or as unserviceable (awaiting repair).

(3) *Depict activity of inventories.* The system pictures the periodic increases and decreases to the inventory as well as its static condition. Data are accumulated in the accounting records concerning all transactions affecting the inventories in great detail. Administrative movements of items from one segment or stratum to another are recorded in great detail as are such items as changes due to gain or loss of valuation as a result of price changes. All increases and decreases to the inventories are meticulously recorded, showing the source and reasons for those changes. Physical movement of inventories can thus be distinguished from purely administrative transactions. What is most important is that the source, purpose, and destination of inventory transactions can be presented in summary form in dollar equivalents.

h. Ratios and formulae have been developed for the use of FIA data that produce useful information for supply managers, a few of which are—

(1) *Current demand to average demand.* This ratio indicates whether demand for the current period is higher or lower than average experience.

(2) *Stock level to average demand.* This can indicate whether levels are set too high or too low in light of past demand experience.

(3) *Percent of mobilization or other reserve stocks accumulated.* This shows the actual position of these stocks as compared to programed requirements.

(4) *Percent of unserviceable to total inventory.* This shows how much stock in a category is unserviceable and provides important indicators concerning the degree of progress against the maintenance/rebuild programs.

(5) *Months of supply on hand.* This helps to determine whether stocks on hand represent a long or a short supply position.

i. Many other benefits can accrue to managers from data generated under FIA. The dollar value of stocks is an important consideration in the computation of costs to hold inventories. Holding costs, in turn, are essential to many supply management decisions such as—determining economic order quantities, setting economic retention levels, and whether to terminate contracts when the requirements for goods on order change. Financial inventory information is useful in planning warehouse space and personnel requirements. A comparison between the dollar volume of inventories handled in past periods and the facilities and personnel required to handle that volume in those periods provides a base for projecting needs for facilities and personnel in the future. In addition to providing a sound foundation for cost-based, or cost-of-per-

formance, budgets, FIA provides managers with an information system that, among other things, helps them do the following:

(1) Determine the adequacy of assets to requirements at a given point in time.
(2) Plan procurement and/or disposal of materiel.
(3) Determine the location and proper distribution of resources.
(4) Determine the rate at which materiel becomes unserviceable.
(5) Evaluate the requirements for repair and rebuild activities with respect to inventories.
(6) Determine the extent to which supplies are meeting customer demand.
(7) Evaluate the Army's ability to meet peacetime and wartime materiel objectives.
(8) Accumulate experienced cost data which is essentially a part of the Army's justification of its budgets for appropriations and funds.

j. FIA does many things for many managers. The Army is able to satisfy requests for supply information to the Department of Defense, the Bureau of the Budget, and to the President and the Congress. It provides a basic ingredient for meaningful cost-of-performance budgeting and permits effective review and analysis leading to better control of Army resources. Meanwhile, it remains true that its value varies to different echelons of supply management. An item manager in a NICP or in a station property office is rightfully more concerned with item accounting whereas the succeedingly higher echelons of management above the item manager could be deluged with reports concerning the status of individual line items of supply. However, it is at the level of item management that the source data for FIA is generated, therefore these persons must give wholehearted cooperation to the effort of properly coding the source documents in order that FIA remain a valid and meaningful system of control.

Section II. APPROPRIATIONS AS LOGISTICS CONTROL SYSTEMS

54. Appropriation Procedures

a. Budgets are formulated, justified, and executed on the basis of appropriations and their subdivisions, e.g., activities, programs, projects, and so forth. Under the constitution, the Congress must authorize the expenditure of all Federal funds. These authorizations not only specify the amounts but also the purposes for which the money may be spent. Even though the great majority of the managers in the Army Wholesale Logistics complex will never be afforded the opportunity of participating in these procedures at the Congressional level the appropriation procedures are discussed in some detail because of their importance to the accomplishment of the Army's objectives.

b. Once final decisions are made on the funds required to carry out the programs of the entire Federal Government, the budget is printed and forwarded to the Congress. This must be done, according to law, within the first fifteen days of each regular session of Congress. Congressional review of the budget takes approximately six months. In recent years it has not been unusual for the Department of Defense Appropriation Act to be enacted as late as the end of the first quarter of the fiscal year for which the funds have been budgeted to support. The Congress, however, strives to pass all appropriations acts by 1 July, the beginning of the fiscal year.

c. The Congressional review of the budget is to determine the funds required to carry out the authorized programs in the most efficient and economical manner. The review is thorough and comprehensive in nature and covers both the broad aspects of program requirements, relative priorities and program balance as well as the more detailed aspects of fund requirements. All appropriations traditionally originate in the House of Representatives. In

each of the Houses of Congress there is a committee on Appropriations which is composed of subcommittees. One of these subcommittees in each House is known as the Subcommittee on Department of Defense Appropriations. Review of the Federal budget usually begins with hearings held by the House of Representatives Committee on Appropriations. Top officials of the administration, such as the Director of the Bureau of the Budget and the Secretary of the Treasury, testify to such questions as the broad aspects of the national fiscal policy. Following this, the House Subcommittee on Department of Defense Appropriations starts its detailed hearings on the DOD budget. The Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and other Defense officials explain the total defense program and the funds required to support it. Usually at this time the Army, as well as each of the other services, is given the opportunity to set forth its overall program requirements and funding plans. Following this the subcommittee considers the individual appropriation requests by service. These reviews concerning the individual requests are in great detail and the Army representatives must be well prepared to answer an infinite variety of questions concerning not only the funds under consideration but also of the status and use of funds provided in current and past appropriations acts. Transcripts of these hearings are kept and published in printed form. They become a basic source of information for members of the Committee on Appropriations and for other members of the House to use in consideration of the appropriations bills.

d. After completion of the hearings, the subcommittee prepares a markup of the budget by military department and appropriation. For this, the members have a considerable quantity of information including: the entire DOD appropriations bill as outlined in the President's budget; financial data on budgets of prior years; tabular data covering programs of the DOD; detailed justification books submitted in support of the President's budget; audits and other reports of the General Accounting Office; and a variety of reports prepared by the subcommittee staff. The testimony of the witnesses appearing before the subcommittee is also available and is a primary source of information. A report is submitted to the Committee on Appropriations that explains in detail how the subcommittee arrived at the markup of the budget. The Committee, after consideration of the report and markup, "reports out" a proposed bill to the floor of the House for consideration of the House of Representatives. Here it is debated and passed with any amendments the full House may have made.

e. The subcommittee report is of particular interest to the Department of Defense and Headquarters, Department of the Army. It summarizes the action taken on each appropriation and gives the reasons for any changes made by the subcommittee to the amounts requested in the budget. The report often contains a number of specific suggestions and recommendations aimed at bringing about greater efficiency and economy in the defense effort, some of a general nature and others specific and detailed. Technically, the comments of the subcommittee report have no standing in law, but because of the influence of the subcommittee, and the merit of its many observations, it provides a useful basis for direction of actions taken by the Army. It also provides a basis for further discussion between Army officials and members of the staffs of Congressional committees.

f. The House of Representatives bill, reports on its hearings, and the President's budget, serve as the basis for the Senate review. Generally this review does not consider the budget on a detailed program basis. The Senate Subcommittee usually permits the Army, and the other services, to make reclama statements on all items in the House bill where there exists a disagreement by the military with the action taken by the House. The reclamas are in the nature of appeals for reconsideration of the service's budget submission and reinstatement of the amount, or program, reduced or deleted by the House. The House Subcommittee Report is of great value in these reclama actions. Upon completion of the subcommittee hearings, Senate actions closely parallel those of

the House. The subcommittee report is presented to the Committee on Appropriations; a bill is "reported out" to the floor of the Senate for consideration and debate; and a Senate bill is passed. The Senate bill shows both the wording of the House and that proposed by the Senate in each area or item in which the Senate has proposed an amendment to the House bill.

g. The next task of the Congress is to reconcile the differences between the versions of the bill as developed in each of the two Houses. This is done in a conference committee composed of members from each House. A conference report is drawn up which embodies the agreements arrived at by the committee and the report is submitted to the House and Senate for consideration. When both Houses reach agreement, the bill as modified by the conference report is passed and sent to the President for signature. When signed, the bill becomes an Act of Congress and is assigned a public law number. This public law then becomes the basis for the control and use of Federal funds to carry out the Army's missions and for the Army to accomplish its programed objectives.

55. Appropriation Structure

a. The amount of funds appropriated by the Congress constitutes a legal limitation on the total that can be obligated and expended for the purposes set forth in the applicable appropriations act. In some areas of obligation, the purposes are stated in general terms but in other areas both purposes and amounts are rigidly specified. The procedure of utilizing standardized subdivisions of the Appropriations Act has been practiced for a number of years. For example, sections of the Department of Defense Appropriations Act for a given year identify to the Army the amounts that may be obligated under the following headings and for the purposes stated—

(1) *Military Personnel, Army (MPA).* These are one-year appropriations for the pay and allowances of active duty officer and enlisted personnel and pay of cadets at the Military Academy. Included are—basic pay, incentive or hazardous duty pay, basic allowances for subsistence and quarters, uniform and clothing allowances, Social Security contributions of the employer (the U.S. Army), and re-enlistment bonuses.

(2) *Operations and Maintenance, Army (OM,A).* These are one-year funds which finance the costs of day-to-day operations. Included in the items chargeable to this appropriation are the costs of supply, storage, maintenance, distribution, transportation and medical activities. The costs of training and of the operation of the tactical forces are funded here. The pay of the majority of the civilian employees of the Army comes from this appropriation. In the eyes of Congress, the OM,A, along with the MPA, appropriations represent the "operating" costs of the Army with the other appropriations discussed below financing the "capital" costs. OM,A funds are the most widely distributed, being passed down to the post, camp, station, and separate activity levels. The commanders receiving these funds are responsible for their management and control and it is here that the control systems of apportionment—allocation—allotment come into full effect.

(3) *Research, Development, Test and Evaluation, Army (RDT&E).* This appropriation provides the funding for all research and development effort to include—basic research, theoretical studies, scientific experiments, feasibility studies, systems engineering, design studies, weapons system analysis, development engineering and fabrication of experimental models and prototypes, and field evaluation and testing. These are continuing, or no-year, appropriations; that

is, once they are appropriated they remain available for obligation and expenditure until the purpose for which they were appropriated has been achieved. These funds are generally budgeted for, and justified on, an individual project or task basis with the exception of those under the heading "Programwide Management and Support." Programwide management and support costs are those required for the operation and maintenance of research and development facilities and for the costs of RDT&E administration.

(4) *Procurement of Equipment and Missiles, Army (PEMA).* PEMA funds provide for the manufacture, remanufacture, conversion, and first destination transportation of major items of combat and supporting equipment; ammunition and missiles. These items are centrally procured and managed for operational issue or general service use and are added to the Army inventory upon delivery by the producer. PEMA also provides for the procurement of selected high-unit-cost reparable major assemblies and components of PEMA-procured end items, both for initial provisioning and replenishment purposes. Funds are also provided under PEMA for the establishment and continuance of production capabilities. Excluded from this appropriation are the costs of the procurement functions (e.g., contract execution and administration, and acceptance inspections) which are financed under the O&M,A appropriation. Also excluded are the types of supply and equipment procured with Army Stock Funds or with O&M,A funds. The budget for PEMA funds is prepared and justified in detail on a line-item basis in direct relationship with the Five-Year Force Structure and Financial Program and its Materiel Annex. The budget justifications are also suported by the line-item materiel studies drawn up under Army Materiel Plan. PEMA funds are provided on a continuing, or no-year, basis particularly to satisfy the normal long lead-time nature of obtaining the items financed by this appropriation.

(5) *Military Construction, Army (MCA).* MCA appropriations provide the financing to cover the costs to be incurred in the advance and construction planning, engineering studies and the construction or major modification of all facilities, whatever their purpose. The physical plants, or facilities, for operational training needs, maintenance and production, supply activities, hospital and medical purposes, and administration, are all financed from this appropriation. The acquisition and construction of real property facilities for research and development are also included under MCA. Utilities systems and grounds improvement, procurement or leasing of real estate, and construction for special projects are also financed under this appropriation. Funds are budgeted and justified in detail on a line-item or individual project basis. In addition, each major project or construction effort requires specific authorizing enabling legislation prior to being considered for financing by the committees on appropriations. These funds are normally provided on a continuing, or no-year, basis, i.e., once appropriated they remain available for obligation and expenditure until the project or construction effort for which the funds were made available is completed. For the most part MCA funds are allotted to the District Engineer who is responsible for real estate transactions and military construction within a specified geographical area. Funds for minor construction or for modification, how-

ever, are sometimes allotted direct to an installation commander.

(6) *Family Housing Defense (Family Housing Management Account) (Transfer to Army).* This is a comparatively new method of providing the financing for the expenses incurred in support of family housing in the military services, having been in effect only since 1962. This is a Department of Defense appropriation and the Army's needs are met through the normal fund distribution procedures. All costs of acquisition or construction, operation and maintenance of family housing units are accounted for under Family Housing. Non-dwelling units (community buildings) associated with family housing needs, and the roads, grounds, utilities systems, and sidewalks needed for support of the family housing area are financed from this appropriation. Although classified as a DOD program, Army commanders must plan, program, budget, and exercise management and control for this account the same as for Army appropriations.

(7) There are several other appropriation titles specified for Army which are specific in their intent and purpose. Three of these that sometimes have an effect on wholesale logistics are National Guard personnel, Army; Reserve Personnel, Army; and Operation and Maintenance, Army National Guard. The first two of these are similar to the intent and purposes of MPA except that they pertain to National Guard and Reserve personnel not on extended active duty. Operations and Maintenance, Army National Guard, among other things, is used for financing the supplies and and equipment requirements of the Army National Guard.

Note: Supplies and equipment for the Army Reserve are financed by O&M,A under a subdivision or budget program of that appropriation as are the costs of operation and maintenance of Reserve activities and facilities.

b. The intent of the Congress regarding the use of appropriated funds is expressed in the language of the individual appropriations acts which become law when passed. These acts, therefore, set forth not only the amounts which can be obligated but also establish the legal purposes for which they are to be spent. In addition, it is not unusual to find restrictions, limitations or prohibilitions concerning the use of these appropriated funds. Since these appropriation acts are in narrative, rather than some type of tabular form, the language of the acts is of primary importance. This is evidenced by the Bureau of the Budget's requirements that the current appropriation act be used as a starting point in setting forth the next budget estimate and that the Army, as well as the other services, recommend any changes to the language or structure when submitting a budget to the Congress. In this manner, the Army is able to present its case concerning changes to either structure or language to the Congress for consideration. It is interesting to note that in the period 1950 to date that the number of basic appropriations to support Army requirements has been reduced from twenty to eight, the results of continuing efforts by the Army to recommend, and have adopted, their concepts of appropriation structure and language.

c. As mentioned previously in paragraph 46, it would be virtually impossible to rely solely upon the appropriations acts themselves as the means of management and control throughout the Army establishment. A definite, standardized account structure concerning each appropriation is required to satisfy the needs of programing, budgeting, accounting, reporting and review and analysis. A simplified, direct language defining the purposes for which funds may be obligated and expended is provided in AR 37–100 for FY 1956. (For FY 1964 and prior years, AR 37–102, and AR 1–11 series apply.) Basically, AR 37–100 breaks out the appropriations into a series of account codes, providing account codes and narrative

ACMS

FISCAL CODE AND NARRATIVE

EXCERPTS FROM THE ARMY MANAGEMENT STRUCTURE (FISCAL CODE)

CHAPTER 9

OPERATION AND MAINTENANCE, ARMY 1965

SECTION I—APPROPRIATION DESCRIPTION AND INSTRUCTIONS

SYMBOL
2152020

DESCRIPTION
OPERATION AND MAINTENANCE, ARMY 1965

For the operation and maintenance of all organizational equipment and facilities of the Army, including USAR and ROTC, procurement of requisite equipment and supplies, production of training films and aids, operation of service-wide and establishment-wide activities; medical activities; operation of depots, schools, training (including cost of training civilian employees in the program from which the salaries are payable), recruiting and other programs related to the operation and maintenance of the Army. Also includes welfare and morale, information, education, and religious activities, and the expense of courts, boards and commisssions.

* * * * * * *

SECTION IV—CENTRAL SUPPLY ACTIVITIES—CODES 2200.0000 2290.0000

ACTIVITIES AND PERFORMANCE FACTORS DEFINITIONS

CODE
2200.000

DEFINITION
CENTRAL SUPPLY ACTIVITIES

For operating and maintaining central supply facilities and providing certain transportation services. Includes procurement and related operations, supply depot operations, and certain activities for provision of reserve industrial capability. Includes provision of transportation services, operations of port terminals and related facilities and preparation and disposal of personal property.

2210.000 PROCUREMENT OPERATIONS

Operate the Army's control procurement offices and perform industrial preparedness planning, standardization and real estate administration, facilities mobilization planning, facilities investigations and studies, and applications engineering.

PF: None

(Note: (Added))
PF = Performance Factor

2210.1000 OPERATION OF PROCUREMENT OFFICES

* * * * * * *

Figure 4. Fiscal code and narrative.

PF: None

2210.1100 CONTRACT EXECUTION AND ADMINISTRATION

* * * * * * *

PF: (A) Dollar value of contracts executed

* * * * * * *

(B) Dollar value of contracts administered:

* * * * * * *

(1) Number of Contractual Documents Issued:

* * * * * * *

(2) Number of Contracts Administered: ***.

(Note: These are approximately fifty subaccounts established under code 2210.000 —procurement operations. Each has its narrative definition and PF. See AR 37–100 for complete structure.)

2220.000 OPERATION OF SUPPLY DEPOTS

Operate Army depots, and storage of mission stocks at Class II installations other than depots (arsenals). Includes receipt, storage and issue; packing and crating; care and preservation; identification and classification of returned materiel; inventory; inspection; rewarehousing; stock control and stock management of mission stocks when performed at depots. Consolidated stock control and stock management, when performed at, and as a function of, an inventory control point, will be charged to Project 2230. Does not include storage of industrial ammunition prior to first destination transportation delivery.

(Note: AR 37–100 establishes thirty-six subaccounts to 2200.000.)

2230.0000 SUPPLY MANAGEMENT OPERATIONS

Operate CONUS and oversea inventory control points other than those within individual depots; includes cataloging.

(Note: See AR–37–100 for detail of subaccounts, approximately thirty.)

2240.0000 RESERVE INDUSTRIAL FACILITIES

(Note: See AR 37–100 for detail.)

2250.0000 TRANSPORTATION SERVICES

(Note: See AR 37–100 for detail.)

2270.0000 OPERATION OF PORT TERMINALS AND FACILITIES

(Note: See AR 37–100 for detail.)

2280.0000 LOGISTICS CONTROL AND DIRECTION

Provides for operating and maintaining the headquarters at the midmanagement commands of the USAREUR, USARPAC, and the Army Materiel Command.

(Note: See AR 37–100 for detail.)

Figure 4—Continued.

descriptions by function, activity and purpose for which the funds made available under each appropriation can be obligated and expended. This combination of management and appropriation structures into a coordinated account coding system provides the basis for the Army Command Management System (ACMS), which is discussed in chapter 9. Figure 4 provides a representative sample of this coding system and excerpts from the narratives explaining the source and uses of the funds used to support the activities or functions represented by the account codes.

d. The appropriation structure, and its language, sets the pattern for management and control throughout the Army. Planning, programing, budgeting, accounting, reporting, review and analysis functions are all carried out within the framework and provisions of the appropriations acts. Congress, Bureau of the Budget, Department of Defense, Department of the Army and installation and activity commanders all exercise the functions of management and control under the terms and conditions of the appropriations acts. In essence, the funds appropriated must be obligated and expended for the purposes for which they were budgeted and appropriated. The appropriations structure, and its Army implementation of the management structure—fiscal code contained in AR 37–100, provides a positive tool of management for the purposes of controlling. They establish limits as to amounts of funds and purposes of use against which Army accomplishments are gauged.

Section III. WORKING CAPITAL FUNDS

56. Background and Concepts of Working Capital Funds

a. Working capital funds, as will be seen, are not appropriated funds as such although in their origin they were created from assets acquired with appropriated funds. The working capital funds in use by the Army today were originally authorized by Section 405, Public Law 216, 81st Congress (10 U.S.C. 2208(h)). This authorizes the Secretary of Defense to require the establishment of working capital funds for the purpose of—

> "(1) Financing inventories of such stores, supplies, materials, and equipment as he may designate; and
>
> (2) providing working capital for such industrial-type activities, and such commercial activities as provide common services within or among the departments and agencies of the Department of Defense as he may designate."

b. The need for working capital funds was brought to the fore during the investigations and hearings that led to the enactment of Public Law 216 by the 81st Congress in 1949 This has since been codified, with minor changes, in Title 10 of the U.S. Code. One of the primary reforms recommended and adopted was the establishment of the cost-of-performance concept in budgeting under which attention is centered on the function or activity—on the accomplishment of purpose—rather than on lists of employees or authorizations to procure. These hearings and investigations highlighted certain areas of cost that did not, at the time the obligations were incurred, lend themselves to the cast of performance concept. Bulk inventories of common-use, standard stocks, used or consumed Army-wide and the industrial-type or commercial-type activities producing goods or providing services fell into this category. As indicated in *a* above, the Congress authorized the establishment of working capital funds for the purpose of financing these items or areas of cost.

c. The concept of working capital funds is basically simple. A fund is established which is used to procure and hold inventories or to defray the costs of producing goods or services. Inventory items, or other goods or services are sold to the customers of the funds and the proceeds of the sale are deposited back

into the applicable working fund to buy more inventory or to finance further production of goods or services. This cycle continues for the life of the fund and due to its revolving nature gives rise to the name commonly used for this type of fund—revolving fund.

57. The Army Stock Fund

a. The most important revolving fund from the standpoint of its impact on supply and financial management is the Army Stock Fund. This fund is to procure, hold in inventory, and sell to its authorized customers readily consumable supplies or common-use standard stock items. These are supplies, material and equipment that can be considered as expended when they are withdrawn from bulk stocks for issue to, and use by, units and activities. Real estate, installed equipment, industrial equipment and machinery, aircraft, tanks, military-type vehicles, weapons and weapon-systems are representative types of items that do not meet these criteria and accordingly are not included in the ASF.

b. In operation, the stock fund pays for items procured and is reimbursed by the funds available to the customer when items are issued or transferred. Reimbursements received are deposited to the account of the fund and are available for further procurement of stock funded items without necessity for further fund appropriation, thus the revolving nature of the fund is maintained. When a stock fund is established, all inventories of supplies and equipment in the categories to be covered by the fund are given a dollar valuation and are capitalized into the fund as assets. Additional cash is provided the fund for initial working capital to permit uninterrupted procurement until reimbursements from sales are realized. Through the revolving fund aspects of operation, the stock fund is perpetuated as the process of purchases and sales continue.

c. An essential element of stock fund operations is the pricing of items included in the fund. Each item entered as a stock fund item is given a standard price. This normally consists of the current market (procurement) price of the item at the time the item is priced, a surcharge to compensate the stock fund for first destination transporation costs, and a reasonable surcharge to cover losses to the stock fund occasioned by pilferage, breakage, deterioration, etc. The objective of these inclusions in the standard pricing policy is to permit the stock fund to "break-even" over a period of time, i.e., to operate within the capitalized value of the fund without either profit or loss to the fund. The standard price for each item is contained in supply bulletins, catalogs, punched cards, etc., as appropriate, which are provided the customers of the fund. In accordance with sound business practices, prices are periodically adjusted to reflect current market conditions. Price revisions are furnished sufficiently in advance of the effective date to permit orderly dissemination and inventory reevaluation. Latest standard prices are used for stock fund inventory accounting and reporting, for billings of sales to customers and for forecasting and programing future inventory transactions.

d. Stock fund reports provide financial statement type information concerning inventory status and funding. They include summary data reflecting inventory on-hand and on-order, sales, purchases, stratification of inventories, capitalization value, accounts receivable, inventory in transit, government furnished property in the hands of contractors, material on loan, etc. From these data, it is possible to make analyses relating sales to inventory, sales to procurement, status of mobilization reserves, cash position to procurement forecasts, and so forth. The stock fund reports are used to provide valuable indicators to the supply managers to aid them in detecting unfavorable inventory balances from either an excess or deficit position. They also point out an unfavable cash position, leading to resolving procurement problems before they become critical and the many other problem areas that face supply managers.

e. The Secretary of Defense, under the provisions of Public Law 216, 81st Congress, has authorized the establishment of the Army Stock Fund. The management of the ASF is

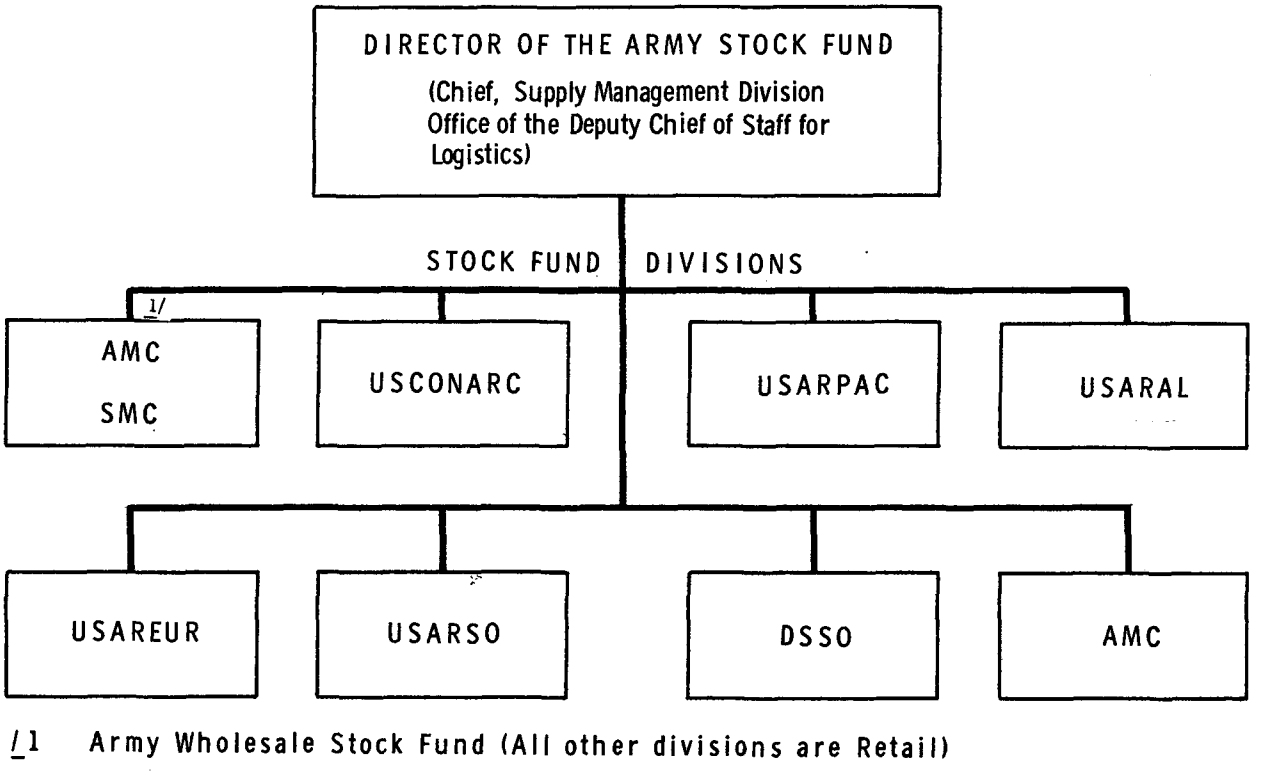

Figure 5. Organization—Army Stock Fund.

vested in the Secretary of the Army subject to the broad direction of the Assistant Secretary of Defense (Comptroller) with respect to financial management; and to the broad direction of the Assistant Secretary of Defense (Installations and Logistics) with respect to procurement and supply management. Within the Army, responsibility for the overall direction and supervision of the ASF is vested in the Director of the Army Stock Fund who is also the Chief of the Supply Management Division, Office of the Deputy Chief of Staff for Logistics, Headquarters, Department of the Army. The director, in turn, is subject to the policy and guidance of the Assistant Secretary of the Army (Financial Management) and the Comptroller of the Army in connection with financial management; and to the Assistant Secretary of the Army (Installations and Logistics) and the DCSLOG in connection with procurement and supply management. The ASF was organized 1 January 1965 into eight divisions as shown in figure 5. Each division of the ASF is organized under its own charter which has been approved at the DOD level by the Assistant Secretary of Defense (Comptroller). As a minimum each charter includes—the designation of the operating agency responsible for the management of the division; description of the categories of items of material, supplies, and equipment included in the fund; designation of the locations of the stocks included in the respective categories; and financial data concerning accounting, pricing, billing, and

collecting procedures employed. Each division of the ASF is, in effect, a separately chartered corporate entity, fixed as to — capitalization; material that it can buy, store, and sell; and, a specified manner of budgeting, accounting, and reporting of its transactions. Any changes that affect any element of the charter can only be accomplished under the terms of an approved revision of the charter.

f. Seven of the eight divisions of the ASF are considered to be the "retail" division. They are organized, through their respective branch offices, to provide support directly to the units and activities that comprise the customers of the fund. The other division, shown on the chart in figure 5 as the AMC–SMC Division, is the "wholesale" division and is used to support the wholesale ASF inventories of the Commodity Commands of the AMC. (Attention is invited to the second stock fund division under AMC. This is the "retail" division established to support the units and activities, or consumers, of the AMC in the performance of their functions.) The primary customers of the AMC–SMC "wholesale" division are the seven "retail" divisions.

g. The retail divisions of the ASF are organized below the "home" office level, i.e., the major command headquarters level, into "sub-home" and "branch office" subdivisions. This is shown on the chart in figure 6. This organization is operated under the Command Stock Fund concept, sometimes referred to as the "horizontal stock fund." Under this concept the retail divisions are designed to support the supply, equipment and material requirements of the command programs, thus providing the commanders concerned with control of the resources needed. Stock fund operations and funding then follow the same command channels as do command operating budgets and their allied resources of men, money, and materiel. This same concept applies to the wholesale division also since the stock fund channels follow the same lines as do wholesale supply management matters.

h. It is the purpose of each stock fund to—

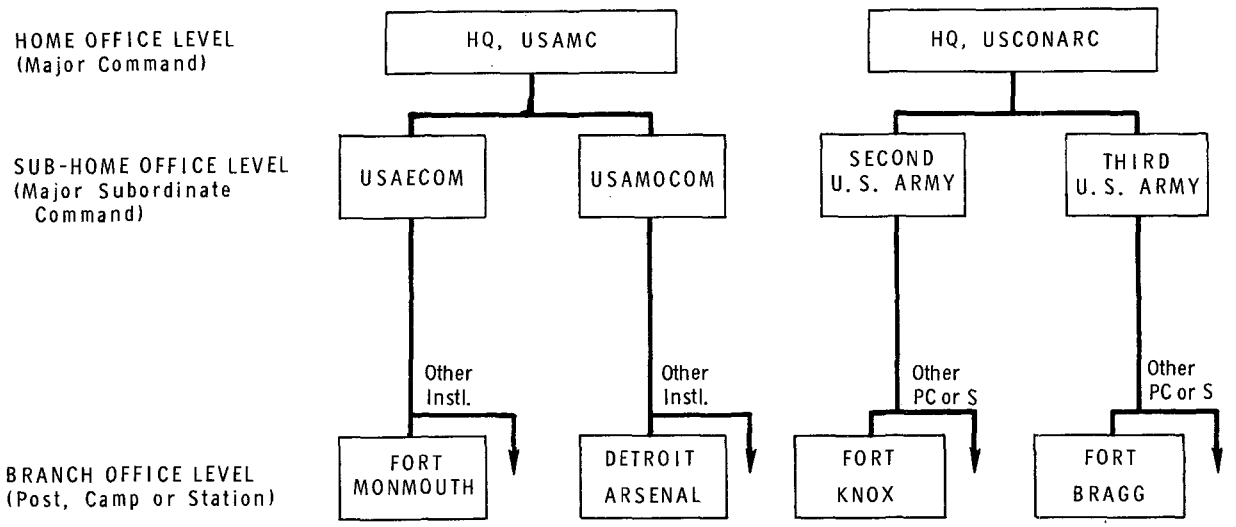

Figure 6. Organization of retail divisions of the AFS.

(1) Provide a simplified means for consolidated management, financing, control, and accounting for the procurement and inventories of those items of material, supplies, and equipment, the costs of which are chargeable, when issued for use, to a number of consuming activities.

(2) Facilitate improved financial control of consumption of materiel included in such stocks through budgeting, financing, and accounting for the use of such materiel at the station level.

(3) Provide a means for financing the acquisition and holding of stocks of those items of materials, supplies, and equipment which are distributed in part, through sale to personnel of that department or other agencies of the Department of Defense (other than those items financed through non-appropriated-fund activities such as exchanges), thus simplifying appropriation accounting and giving greater financial flexibility in these operations than is available by any other means.

i. The objectives of the use of stock funds under the purposes stated above, are summarized as follows:

(1) Funds will be provided automatically for replenishment of stock-funded items through reimbursement of the stock fund for materiel sold or consumed.

(2) There will be neither an incentive or deterrent to place orders for replenishment of stock-funded items on any other than an as-required basis since stock fund operations are not dependent upon the availability or non-availability of funds under the annual appropriations.

(3) Obligations for purchases of stock fund items may sometimes be timed to be placed to take advantage of favorable market conditions (avoiding speculation), when such timing would not be possible under the limitations of annual appropriations.

(4) To the extent otherwise deemed appropriate, single-service supply, or cross-serving between departments, is facilitated in the case of those items financed under stock funds because such stocks may be procured from, and "pooled" under, one fund under the management of the department responsible for the fund. This avoids the separate accounting for stocks procured for, and held under, the accounts of several owners. Since each customer of the fund must finance, or pay for, the items he wishes to draw from the fund, assurance is provided this his orders will be filled.

(5) The financing and accounting for materials, supplies, and equipment required by the reserve forces (civilian components), or other users of common items within the military departments is similarly simplified since they become paying customers of the fund in the same manner as the organizations of the active forces.

(6) The financing through the stock fund of mobilization reserve stocks of material, supplies, and equipment included in stock fund categories results in their protection for the use for which they were intended. They cannot be diverted to meet current needs except under proper authorization and with provision made for their replacement through reimbursement from current appropriations.

(7) The institution of the requirement for financial control over the cost of consumption of materiel procured from stock funds, as a normal part of the processes of budgeting and control over the expenditure of appropriated funds by the consumer, is a force for greater cost consciousness, economy and efficiency in the use of such ma-

teriel that does not exist when financial control over materiel is confined to procurement requirements and the materiel is issued "free" to the consumer.

(8) The use of a stock fund is a force for control over the stocks of the respective items of materiel carried in the fund through the control over financial resources (cash) in relation to supply requirements. This use of the fund provides an automatic incentive for limitation of inventory levels, better balanced inventories, and limitations of procurement requirements of peacetime operating stocks.

(9) The stock fund device provides a basis for the cost-of-performance type budget in that budget estimates and reports of costs of materiel obtained from the stock fund are stated in terms of consumption rather than of procurement. This provides a measure of performance costs of those units or activities that use this stock fund materiel. The use of accrual accounting for appropriations is thus provided in a relatively simple matter since the appropriated funds are relieved from the necessity of financing, and accounting for, the supply pipeline. This aids in financial control of the costs of operating all activities and provides valid cost-of-performance data, leading to effective review and analysis and thus control.

j. The ASF concept of operations provides a most effective tool of logistics management. As with FIA, however, it does not, nor is it intended to, supplant item management. Its value is to the managers of the item managers, or in other words, to those levels of management where it is impossible to become concerned with the thousands of line items that constitute Army supply.

(1) The ASF budget format and accounting system are designed to identify transactions by stock categories. ASF budgets detail: anticipated sales by customer; procurement requirements to support sales; requirements to procure to meet authorized reserve stocks; dollar valuations of inventory on-hand and on-order; cash assets of the fund and; schedules of cash income and expenditures. Budgets are prepared to show three years—the past year, the current year to date of the budget and forecast for the balance of the year, and the forecast for the budget year. Updating of each budget is provided through a formal mid-year review at which time necessary adjustments to current and budget year estimates are made.

(2) The stock fund accounting system is a form of financial inventory accounting. It produces information which is directly relatable to the budget structure, providing stock fund managers the information needed to permit them to control their operations to remain within the plan of action, the budget. Accounting records are summarized monthly, affording the managers the continuing opportunity to assure the integrity of that portion of the stock fund with which they have been entrusted.

(3) There are several key indicators that apply to all stock fund managers, both at wholesale and retail levels. A most important indicator is the ratio of the dollar value of sales to the dollar value of procurement as they apply to peacetime operating stocks. The ideal ratio is 1:1, that is procurement obligations for stock replenishment should equal exactly the dollar value of sales. There are many factors which influence the obtaining of this ratio. Economic Inventory Policy (EIP) application; buying under Economic Order Quantity (EOQ) principles; the ability of the customers to buy within certain time frames; changes in customer requirements;

and changes in customer demand patterns are examples of factors that make obtaining a 1:1 ratio difficult. If obligations continue to exceed sales, the cash position is placed in jeopardy and customer demands for items in short supply or normally not stocked cannot be satisfied. On the other hand, if sales exceed obligations to any significant degree, this is generally an indication of poor inventory position which can lead to delay in supply to the customers. Under this circumstance the stock fund manager can find himself in the position of needing to resort to piecemeal, fragmented emergency procurement actions solely to satisfy customer demand with a resultant loss to proper inventory management.

k. Major advantages of the ASF are—the freedom from the restraints associated with annual appropriations; and the ability to apply sound, businesslike, management practices to inventory management. This does not mean that ASF frees managers of all financial constraints. The wholesale stock fund operations of all the military departments and the DSA are subject to annual apportionment limitations from the Bureau of the Budget in the form of annual obligation authorities. For the Army wholesale ASF, these obligation limitations are imposed by commodity, and sometimes by category, of supply. These limitations are binding and are subject to the provisions of Revised Statute 3679 concerning the overobligation and/or overexpenditure of funds in the same respect as Revised Statute 3679 applies to appropriated funds. Under these annual obligation authorities, stock fund managers are denied the ability to transfer available funds from one commodity or category limitation to another. Thus a wholesale stock fund manager may find himself in the position of having sufficient cash in his fund but cannot use it due to the restrictions imposed by the annual obligation authority. Under these circumstances he must seek relief through rebudgeting to his next higher echelon and cannot proceed until his revised budget is approved and his annual obligation authority is adjusted. Army retail stock fund operations under the Command Stock Fund are not subject to Bureau of the Budget apportionment process, however they are subject to an annual acquisition authority initially established by the Director of the ASF. Again, this annual acquisition authority is binding and the provisions of Revised Statute 3679 apply. A major difference, that applies to Command Stock Fund operations, from that of wholesale operations is that the annual acquisition authority applies at the CSF level as opposed to the commodity/category levels for the wholesale fund. Retail stock fund managers are able to use their acquisition authority for any commodity or category of supply as the situation warrants.

l. The advantages offered by the ASF methods can be realized only if the supply managers take full and active interest in all the phases of the ASF operations. The supply managers must: participate in preparation of the ASF budgets; be informed of the approved acquisition or obligational authority granted; continuously control their procurement actions to conform to their approved budgets; and through review and analysis keep their procurement to sales ratios in balance and in conformance with their programs. In the past, unfortunately, there have been instances wherein supply managers have in fact abdicated their responsibilities for management and control of their dollar resources to either a Comptroller or Finance and Accounting Officer. In these circumstances, almost without exception, the supply personnel involved found themselves in the position of having exhausted their acquisition or obligational authority and therefore were unable to meet their customers' requirements. It must be borne in mind that the Comptroller, or Finance and Accounting Officers' primary responsibilities in this specific area rest only in keeping the necessary records and exercising administrative control over the available funds to preclude an overobligation. The management and control of an ap-

proved ASF program and budget is the responsibility of the supply manager.

58. The Army Industrial Fund

a. Working capital funds with their revolving features are also applied advantageously to the industrial and commercial type activities that produce and furnish goods, or render services, to other activities. The revolving fund aspect is achieved by requiring the activities needing goods or services to program and budget for them and, upon receipt, to pay for them. This concept of the use of working capital, or revolving, funds is referred to as the industrial fund. Industrial funds are intended to provide the same advantages and controls for industrial and commercial type activities that the Army Stock Fund provides to supply management and control.

b. Each installation or activity selected for industrial fund financing is provided a single revolving fund with which to buy the material, supplies, labor and other services required in manufacturing the product or rendering the service. Each such installation or activity operates as a separate business entity and is reimbursed on the basis of the cost of the goods produced or the services rendered. Manufacturing arsenals, depot maintenance activities, proving grounds, research laboratories, port terminals and printing plants are examples of the types of installations or activities operating under the industrial fund concept.

c. As with the ASF divisions, each Army Industrial Fund (AIF) entity is formally organized under a charter approved by the Assistant Secretary of Defense (Comptroller). To qualify for a charter, a feasibility study must be made to insure that the installation or activity can meet AIF qualifications. A tailor-made double-entry accounting system is designed to fill the needs of the establishment or group of establishments. A management control system to use the data made available is also developed. Capitalization of the proposed fund include inventories on-hand and on-order, work in process, accounts receiveable and accrued leave of civilian employees as well as a statement of the amount of allocated cash required to enter into operations. Military pay, plant and equipment costs are not included in the capitalized account. After approval of the charter and establishment of the cash account, the AIF enterprise is ready to start operations. Goods or services are sold to customers at cost and the proceeds of the sale are deposited to the cash account to provide the ability to produce more goods or render further services.

d. Army Industrial Funds are designed to—

(1) Provide a more effective means for controlling the costs of goods and services required to be produced or furnished by AIF activities and to provide a more effective and flexible means for financing, budgeting and accounting for those costs. Since AIF enterprises must operate within their chartered capitalizations, management and control of costs to produce goods or render services at the lowest possible costs is a necessity. Financing, budgeting and accounting are free from the limitations of annual appropriations, providing the managers of the AIF a flexible means of conducting their operations.

(2) Create a buyer-seller relationship between AIF activities and the customers who order and receive the goods or services offered by the AIF in order to provide management advantages and incentives for efficiency and economy. The buyer, who must program and budget for the goods or services required, is placed in the position of being a critic of the selling prices of the goods or services and has the option of ordering or of not ordering. The AIF manager must produce goods or render services at the lowest possible costs in order to satisfy his customers.

(3) Provide to managers of AIF entities the financial authority and flexibility required to produce and use manpower, materials and other resources

effectively. Although freed from the constraints of appropriation financing, AIF managers are subject to the civilian personnel regulations concerning hire, utilization and release of those personnel. Under these circumstances, AIF managers must of necessity utilize every means of management improvement in order to keep operating costs at a minimum. AIF provides the authority and flexibility in financial management to take advantage of these improvements.

(4) Encourage more cross-servicing among the military departments and among their operating agencies and Defense agencies with the aim of obtaining more economical use of facilities. The nature of AIF operations is such that any customer, regardless of the customer's funding source, can be accommodated. The AIF reporting system also reveals to agency and departmental levels the AIF installations that are operating in the most efficient and economical manner, thereby revealing the better source of goods or services.

(5) Support the cost-of-performance budgeting concept by facilitating budgeting and reporting the costs of end products. This is done by placing on the consumer, financed by appropriated funds, the requirement for programing, budgeting, and reporting on, the costs of goods or services ordered and received.

e. Specific objectives of industrial funds are to—

(1) Furnish AIF managers with modern management tools comparable to those used by efficient private enterprises engaged in similar types of activities.

(2) Provide an incentive to managers of AIF activities to improve cost estimating and cost control through the use of cost standards by requiring a contractual arrangement between the AIF and ordering agencies.

(3) Require alert, forward looking planning, programing and budgeting at AIF installations or activities by making them entirely dependent financially on reimbursements received from their customers for goods delivered, or services rendered, to those customers.

(4) Impel AIF managers to control costs in line with workloads actually generated by customer orders. This requires varying the labor force and inventories according to that workload and avoiding the tendency to maintain an inventory and a labor force without regard to workload level fluctuations. (This objective must be carefully weighed, however, in light of current contingency plans and the necessity to maintain a wartime or mobilization base in accordance with the plans.)

(5) Coordinate budgeting and cost control with the financial aspects of—detailed estimating and planning for job performance in terms of material requirements and labor operations; production scheduling and control; and, procurement and inventory control.

(6) Establish and use realistic cost standards as targets rather than using detailed cost limitations.

(7) Require ordering agencies to budget, control, pay for, and account for the cost of all goods and services ordered, rather than to allow them to obtain free goods and services. This requirement is intended to enhance the cost-of-performance budget concept, instilling in the officials of the ordering agencies a greater sense of responsibility and self-restraint in limiting their orders to their actual requirements. It also provides an incentive to balance the costs of specific goods

or services to be ordered against the benefits and advantages to be accrued from their procurement, especially in the light of alternative or competing demands.

(8) Place ordering agencies in the position of critics of purchase prices as well as of the quality and the speed of delivery of the goods and services to be ordered in consideration of the relative costs, quality and delivery of similar performing activities and outside agencies.

(9) Provide meaningful bills to ordering agencies, clearly relating the goods or services provided by an AIF activity to the charges rendered. This causes the ordering agency to evaluate their procurement practices and specifications in full awareness of the costs involved.

(10) Enable ordering agencies to program, budget and account on an "end-product" basis, the same as when buying from commercial contractors. This simplifies programing, budgeting and accounting for both the ordering agencies and the AIF activities.

(11) Establish, wherever feasible, predetermined prices through media such as tariff schedules, price lists and fixed-price schedules, for goods or services furnished by AIF activities. This sets standard prices on performance and enables ordering agencies to program and budget more explicitly.

(12) Encourage the management of ordering agencies to improve programing and budgeting to enable them to negotiate with the AIF producers for orders as far in advance as possible.

f. As a management device, the AIF provides its customers with a means for carefully planning, programing, budgeting and accounting for goods and services required to accomplish their missions. The AIF provides for its own managers an effective system of controlling the costs of goods produced and services rendered and requires the application of the best management controls available since the AIF installations and activities are, in effect, in competition with similar providers of goods or services both within and outside the government. This concept of management and control provides a means for assuring that the purchasers of the goods or services are getting the product or service needed at the lowest possible cost. AIF is "big business" as attested by the volume of business done within the Army Materiel Command alone—twenty-one AIF installations and activities within the AMC sell approximately eight hundred million dollars in goods and services per year with annual operating costs closely approximating that figure. This is done within a total AMC AIF capitalization value of about one hundred and seventeen million dollars which, of course, remains intact under AIF procedures and controls.

CHAPTER 9

ARMY COMMAND MANAGEMENT SYSTEM (ACMS) AS APPLIED TO WHOLESALE LOGISTICS

59. Background of ACMS

a. The roots of the Army Command Management System (ACMS) can be traced to the findings of the various commissions and committees that led to the enactment of Public Laws 216 and 784, 81st Congress, in 1950. Prior to the passage of these laws, Army management was predicated on a group of plans and budgets that were difficult, and at times, impossible, to correlate to each other. For example, the budgets for procurement of supplies and equipment were prepared by the then Chiefs of the Technical Services based upon procurement requirements forecasts without specific reference in many cases as to where the materiel would ultimately be used and for what purpose. Financial inventory accounting and cost accounting did not exist except in a few isolated areas. As a result, it was practically impossible to effectively measure the costs of performance or to determine the efficiency and economy of the many and varied functions the Army is required to perform. The recommendations made to Congress as a result of the findings included the adoption of a management system that would focus attention on the work to be done and the resources needed to do the work, rather than on the acquisition of materiel and services as was then the case. The recommendations further advocated holding persons responsible for the utilization of resources to support approved programs and to compare between activities, from one year to another, to measure performance and efficiency. The above referenced Public Laws reflect Congressional approval of those recommendations and provide for the measuring of the costs of programs and accounting for these costs by those who actually incur them and thus cause the expenditure of appropriated funds.

b. The ACMS is defined as "the methodology for directly and continuously relating program, budget, accounting, manpower and supply management system in administering nontactical operations of the Army." ACMS embodies the basic concept that the planning, programing and direction of missions must be integrated or interrelated with systems of resources management. The methodology and management concept is implemented through the mandatory use of a common management structure and through the use of specific applied procedures.

c. The Army Management Structure (Fiscal Code), contained in AR 37–100 of the same title, is the common management structure used throughout the Army. It must be reemphasized at this point that the ACMS is designed to carry out the decisions of the Congress in relation to the costing of functions and the use of a cost-of-performance budget. The appropriation structure prescribed by the Congress reflects this decision in that it is in itself a functional approach to financial management. Since the Army receives and is accountable for funds in accordance with the appropriation structure, the Army Management Structure is designed to implement and expand on that structure. The appropriation structure is described in paragraph 56, above. AR 37–100 further subdivides this structure into budget programs, project accounts within budget programs, and activity codes within the project accounts. The Army Management Structure (Fiscal Code) provides an accounting structure, or chart of accounts, that is used for both fiscal and cost-of-performance accounting. Obligations, expenditures, disbursements and collections are accounted for under the fiscal coding parts of the structure and costs and performance data are collected and recorded under

the activities structure. An example of form and structure is provided below.

(1) Appropriation, Operations and Maintenance, Army—"For the operation and maintenance of all organizational equipment and facilities of the Army, including USAR and ROTC, procurement of requisite equipment and supplies, production of training films and aids, operation of service-wide and establishment-wide activities; medical activities; operation of depots, schools, training (including costs of training civilian employees in the program from which the salaries are payable), recruiting and other programs related to the operation and maintenance of the Army. Also includes welfare and morale, information, education, and religious activities, and expenses of courts, boards and commissions." The appropriation O&M,A for FY 1965 is identified by the symbol *2152020*. This symbol also has meaning:

21 5 2020

Identifies Department of the Army————

Identifies the Fiscal Year, in this case 1965————

Identifies the Apprn O&M,A————

(Appropriation O&M,A, FY 1966 symbol would be 2162020—note that DA identifier (21) and O&M,A identifier (2020) remain constant with only the FY identifier changing.)

(2) Budget programs are established under each appropriation. These represent significant functions and activities in accordance with the Performance Budget Structure. Budget programs 2000 through 2900 are assigned to the appropriate O&M,A, as follows:

2000—Operating Forces
2100—Training Activities
2200—Central Supply Activities
2300—Major Overhaul and Maintenance of Materiel
2400—Medical Activities
2500—Army-Wide Activities
2600—Army Reserve and ROTC
2700—(Not in use at present)
2800—Intelligence Activities
2900—Army-Wide Communication and Pictorial Services. (See AR 37–100 for detailed description of each of the budget programs.)

(3) Budget project accounts represent the first major subdivision of a budget program, e.g., 2210 — Procurement Operations. This applies under Budget Program 2200 — Central Supply Activities.

(4) Activity accounts are further subdivisions of budget project accounts. Continuing the example in (3) above, 2210.1100 is the account for Contract Execution and Administration, Operation of Procurement Offices, Procurement Operations, Central Supply Activities.

d. The Army Management Structure (Fiscal Code), very briefly summarized above, provides much greater detail than it is possible, or desirable, to show here. It provides the basic chart of accounts for recording all fiscal transactions (obligations, disbursements, collections, adjustments, etc.) as well as providing the cost structure used in programing, budgeting, accounting and reporting against program and budget execution. It is not only an account structure identified by account code numbers and titles, but is also the basis for a common language identifying and defining the many activities and functions of the Army to include performance standards.

e. (1) Not shown in *c* above, but vital to the Army Management Structure, is the series of accounts used to define and provide a basis for programing, budgeting, and cost accounting of those common functions carried on at any installation, whether it be a depot, a training post or post serving a variety of major functions. This

series is identified under the 9000 series and is titled Operation and Maintenance of Facilities (O&M of F). The major divisions of the O&M–F 9000 series of accounts are—

(*a*) 9010—Local Headquarter's Command Administration (Accounts for the installation commander and his staff).

(*b*) 9020 — Local Welfare Services (Chaplain activities, special services and troop information activities, special services and troop information activities).

(*c*) 9030—Local Maintenance and Management of Facilities (The activities of the Post Engineer are accounted for under this series of subsidiary expense accounts).

(*d*) 9040 — Field Maintenance (The field maintenance activities authorized the installation are provided for here).

(*e*) 9050 — Local Logistics Services (Installation supply activities, communications, laundries, commissaries, motor pools (administrative), operation of messes, and local transportation services are all included in this series of accounts).

(2) The 9000 series of accounts is the means for separating the common installation support (overhead) services, and their costs, from the mission activities identified by the budget programs of the appropriation O&M, A. Again, the O&M of F structure provides an Army-wide common language, with its descriptors and definitions.

60. Objectives of ACMS

a. The preceding chapter 6, presents a broad view of the planning, programing, budgeting, program and budget execution, and review and analysis functions of management and control. The major objective of the ACMS is to provide the methodology to carry out these management and control functions through a standard comprehensive system.

b. Programing, budgeting, accounting, manpower control and supply management have existed in the Army for some time. As individual systems of control they are not new and even though modified to some degree by ACMS, they are continued in most respects as before. The ACMS, in meeting its objective, relates these separate systems into a single management process designed to work directly for managers of operating organizations at all echelons. This is accomplished by utilizing a single series of reports, schedules, analyses and other records which combine data from the subordinate systems into a comprehensive entity. This combination, or marrying, of data is accomplished through the use of the Army Management Structure (Fiscal Code) described in paragraph 59.

c. The management structure, as pointed out in paragraph 59, is a direct outgrowth of the fiscal code. The activity accounts are used for the purpose of forecasting, accounting and reporting of costs and performance. The fiscal code is used for budgeting, accounting and reporting for funds and the obligations and expenditures incurred against them. Through this device, commanders and managers are furnished the means to correlate and analyze the costs of performance with fund usage. Means are also provided to accumulate and report on data concerning resources which are obtained and used without the use of funds available to the manager concerned. These are "unfunded" costs to this manager and the resources in this category are under central management. Examples are military pay and allowances, centrally-procured PEMA-financed items of equipment, and major construction financed under the appropriation Military Construction, Army (MCA). MCA projects are normally accomplished under the direction of the District Engineer who is also funded for this construction through Corps of Engineers channels. (It is pointed out that these human, physical and materiel resources made available to a commander on an unfunded basis normally

must be supported to some degree from the funds made available to the commander. For example, military personnel must be housed, administered, trained, etc., from the appropriated funds included in the installation commander's allotment, therefore the workload generated must be programed for, the resources required budgeted for, and so on.)

d. Each level of command and each echelon of management participates in the program and budget formulation and execution cycles. This is accomplished through the common framework and procedures of ACMS. Program and budget guidance flows from Headquarters, DA to the major commands, subordinate commands, installations and activities to the activity and/or subactivity managers. Resource guidance, expected performance, qualitative and quantitative objectives are included and are related to the applicable appropriations, budget programs, budget project accounts and activity accounts. Command Budget Estimates and Command Operating Budgets are prepared from the activity and subactivity forecasts and schedules. Consolidations are made at each higher echelon as the CBE's and COB's are submitted back up through the command echelons. When COB's are approved and resources provided, program and budget execution are accomplished and reports of performance and resource utilization are made. From these reports, review and analysis functions are performed and the necessary corrective actions are taken to keep programs, budgets and performance in balance. Since each of the steps in the cycles are taken within the ACMS concept and procedures, managers are provided a single, comparatively simple tool of control with which to discharge their functions of management.

61. Use of ACMS by Wholesale Logistics Managers

a. Management and control to assure program accomplishment within the wholesale logistics complex are faced with peculiar and complicated problems not normally encountered in other areas of Army endeavor. The organization of the Army Materiel Command and the assignment of missions and functions in the organization, as outlined in paragraph 14 is clear-cut. What is not shown in this presentation, however, are the crosslines of interdependence between the organizations and activities. Basically, the Army Materiel Command can be considered as a single entity and the actions taken by one segment of this entity necessarily have an effect on one or more of the other segments of the whole. For example, the most common action is the filling of a customer's requisition. This is first acted upon by the NICP which results in picking, packing, and transportation actions by an element of another major subordinate command, the Supply and Maintenance Command. To carry this example further, the filling of the requisition reduces inventory which eventually leads to procurement. The process of bringing items into inventory through procurement involves the NICP of the commodity command, a procurement office, a procurement district which is a separate activity of the AMC, and the Supply and Maintenance Command. This same concept of interdependence applies to every action taken to fulfill the logistics functions for which the AMC is responsible to perform. The Project Manager System employed by the AMC is another facet which points up the need for management controls. Basically, a Project Manager is a program director and as such is given the financial resources with which to accomplish his program. Other than his immediate staff, he has no personnel or materiel resources but must "buy" required services and materiel from or through the other commands and agencies of the AMC. This is accomplished through the placement of funded orders with those commands or agencies, calling upon them to provide goods or services. These orders are a change to the program of the recipient and must be accommodated.

b. The AMC Command Management System is laid within the guidance and on the framework of the ACMS. The device of the Army Management Structure, expanded to meet the peculiar and specific needs of the AMC, provides a standard language for communication of program, budget, accounting and reporting data. This serves not only vertically within

command channels but also facilitates the processing of work orders between and among the subcommands and separate agencies and activities. Coupled with other methods of coding and procedures, management information is provided each level on a continuous basis through ACMS routines and practices.

c. ACMS is designed to be applicable to the following appropriations or funds: Operation and Maintenance, Army; National Board for Promotion of Rifle Practice; Reserve Personnel, Army; Operation and Maintenance, Army National Guard; Family Housing Management Account. The funds used for procurement of the materiel which comprise the wholesale inventories of the Army, PEMA and ASF, are excluded from ACMS as is the appropriation Research, Development, Test and Evaluation, Army (RDT&E). The Army Management Structure (Fiscal Code) does, however, include specific charts of accounts for both the PEMA and RDT&E appropriations and, to a degree, ACMS procedures are applied to the functional and activity programing, budgeting, performance and reporting associated with these appropriations.

d. ACMS is directly related to the Army Program System described in paragraph 30. The current, updated Major Command/Agency Five Year Program is the base upon which the Command Budget Estimate, Command Operating Budget and Budget Execution Reviews required by ACMS are formulated. The course of action that is followed within the Army Wholesale Logistics complex for a given fiscal year commences with receipt of program and budget guidance from Headquarters, DA, by Headquarters, AMC. The Comptroller and Director of Programs analyzes the guidance and compares it to the budget year of the Five Year Program. This is normally presented to the Program-Budget Advisory Committee who develop recommendations for the guidance to be presented to the individual program directors of the headquarters for preparation of program and budget guidance for the major subordinate commands and the separate activities reporting direct to Headquarters, AMC. During the time that program and budget guidance is being disseminated to the field, the CBE is being prepared in the headquarters. Basically the same procedure is followed at each of the major subordinate command headquarters except that their program and budget guidance is directed to the commanders of the installations and activities reporting to each of the major subordinate commands. This same procedure is followed at the installation/separate activity level. At each level, workload and resources are weighed and balanced within the priorities and limitations established by the next higher echelon and the operating budget and its prescribed supporting schedules and narratives are prepared in consonance with the ACMS methodology. After the CBE's have been submitted, the next step in the sequence is to prepare the Command Operating Budget (COB) within the guidance issued from the next higher echelon of command. The same procedural pattern is followed in the preparation of COB's as for the CBE's. Approved COB's become the operating programs for the budget year and are executed upon receipt of the resources authorizations (e.g., annual funding programs, allocation-suballocation-allotment of funds, manpower authorizations).

e. Each of the steps in the programing, budgeting, and execution phases summarized above are decision-demanding processes. Commanders, their staff members, Program-Budget Advisory Committees and Program Directors need information upon which to make recommendations and/or decisions as the case may be. ACMS, with its procedures and management structure, provides the basic management tool for providing this required information. Although ACMS is predicated on the pyramidal concept of providing information, detail can be obtained at any level desired or needed at any management echelon.

CHAPTER 10

MANPOWER MANAGEMENT AS A CONTROL SYSTEM

Section I. GENERAL

62. Purpose and Principles of Manpower Management

Manpower is undoubtedly the most necessary and important resource available to any organization in any walk of life. This is equally true in our military establishment which obviously could not exist without the manpower needed to sustain our present day force structure. Manpower as a human resource requires distinctive management. To insure accomplishment of the Army's mission and economical use of manpower available to the Army, objectives are established for the strength, structure, and employment of personnel both military and civilian. To meet these established objectives it is mandatory that our manpower be managed effectively. To this end manpower must be programed, allocated, and controlled.

a. To program for and allocate manpower to using commands and agencies, requirements must be determined and regularly reviewed and adjusted. Based upon these requirements, equitable allocations must be made within established priorities.

b. Manpower required for the support activities of the Army is allocated in bulk to successive echelons of command. Each allocation considers past utilization and projected requirements to insure that priorities among all activities are recognized and that an equitable, economical distribution of available manpower resources is accomplished.

c. Adequate controls must be established to insure that the most effective utilization of minimum numbers of personnel is made, while permitting sufficient flexibility to make adjustments in manpower as missions, workload, and facilities are changed or modified.

63. Responsibility for Manpower Management

a. Within the Office of the Secretary of Defense, which is the focal point for the management of manpower in the Department of Defense, is the Office of the Assistant Secretary of Defense (Manpower). As principal staff assistant to the Secretary of Defense in the functional fields of manpower and personnel and related matters he recommends overall policy and guidance governing planning and programing and coordinates actions with the military departments.

b. Within the Department of the Army the Deputy Chief of Staff for Personnel, in coordination with appropriate staff agencies, is responsible to the Chief of Staff for the planning, coordination, formulation of policy, supervision and execution of manpower management to include the planning and distribution of military personnel and civilian spaces.

c. The Assistant Chief of Staff for Force Development, Department of the Army, is responsible for the development of policies in connection with, and review and approval of, tables of organization and equipment. He is also responsible for establishing the allocation of military personnel spaces to major commands, agencies, and other specific segments of the active Army and distribution of spaces, both military and civilian, to program elements of the Five-Year Force Structure and Financial Program.

d. The Adjutant General, under the general staff supervision of the Deputy Chief of Staff

for Personnel, has Army staff responsibility for personnel statistical and accounting systems as well as personnel data processing systems and procedures to insure that manpower data can be made readily and accurately available to manpower management officials.

e. Responsibility for implementation and control of manpower management, including manpower programing, utilization, appraisal of requirements, and subauthorization of personnel authorizations, in their respective areas of jurisdiction, has been delegated by the Chief of Staff to the major commands and agencies. This does not preclude, however, the responsibility for commanders and managers at all levels for the performance of applicable manpower management functions and for the accomplishment of manpower management objectives.

Section II. MANPOWER CONTROLS

64. Manpower Management and Control

a. It can readily be stated that manpower management is in essence manpower control. Because of the relationship between funds and manpower, the fundamental manpower control is national policy as reflected in the budget, and the appropriations for the military departments. Other basic tools are available to manpower management officials that have been established or designed as specific control measures. These are regulatory in nature as prescribed by public law or are controls utilized to insure compliance with the established manpower ceilings and yet retain a flexibility to insure the objective of providing efficient management of manpower resources thus maintaining—

(1) Maximum combat effectiveness within available manpower resources.

(2) The optimum ratio between operating forces and the support establishment.

b. For purposes of subsequent discussion of the controls inherent in manpower management within the Department of the Army, the following tools will be discussed:

(1) Program guidance for major commands.

(2) Manpower vouchers.

(3) Manpower utilization surveys.

(4) Staffing guides.

(5) Tables of distribution.

(6) Performance standards. (Not treated as a separate subject but inherent in each of the other listed manpower mangement tools.)

(7) Reports.

65. Program Guidance for Major Commands and Agencies

Objectives and guidance for the strength and structure of the Active Army are contained in the Program and Budget Guidance for Major Commands and Agencies. This program and budget guidance specifies objectives, policies, standards, support services, budget estimates, activitations, reorganizations, authorized space ceilings covering military and civilian personnel, deployments, and broad goals to meet requirements generated by the Army Strategic Objectives Plan and plans for limited combat. Military strengths are programed within the totals authorized the Army for officers and enlisted personnel as well as civilian strengths which are programed within the overall limitations prescribed for the Army.

66. Manpower Vouchers

a. The programing of manpower authorizations is the process by which available manpower is adjusted and distributed to meet the worldwide personnel requirements of the Army. The process begins with the manpower guidelines issued by the Office of the Secretary of Defense and the Program and Budget Directives issued by the Office of the Army Chief of Staff. Allocations of manpower are made to major commands and agencies in order of priority of requirements for personnel. Suballocations of manpower for support activities of the Army are then made to successive echelons of command. Sufficient flexibility is allowed to accomplish the mission, and coordination is effected at all levels of command to insure that

fund availability is aligned with civilian manpower allocations.

b. The Manpower Annex (para 30) is the document which contains the Army's plan for using its total military and civilian work force. To put this plan into effect manpower vouchers are prepared by the Deputy Chief of Staff for Personnel. These vouchers are the means for implementing the planned manpower authorizations in the Program and Budget Guidance for Major Commands and Agencies. They are issued quarterly and revised to change the plan as missions, workloads and priorities are modified. They inform commanders of their authorized military strengths and civilian employment limitations for the beginning and end of the quarter, with explanation of any changes. A similar voucher system is used at the major command, major subordinate command, and the installation and activity level, which are reflected in the Tables of Distribution as authorized strengths which are within the limits of the manpower vouchers. Thus through the voucher system there is an effective built-in manpower control tool, which if properly executed and supervised can be a great aid to the manpower manager at all levels.

67. Manpower Utilization Surveys

a. Knowledge of requirements and knowledge of utilization are indispensable to effective manpower management. The manpower annex, tables of distribution, manpower reports, and other communications are sources of information. Manpower utilization surveys provide the means of obtaining additional information not otherwise available. Their purpose is to make an on-site appraisal of the military and civilian manpower requirements to determine the minimum manpower required to accomplish the mission.

b. The responsibility for making manpower surveys has been delegated to the following commanders, chiefs of agencies and division chiefs. It should be pointed out that, except for USAMC, this authority has not been delegated to major subordinate commands or other chiefs of agencies.

(1) Chief, Management Office, Office Secretary of the Army.

(2) Chief, Staff Management Division, Office Chief of Staff.

(3) Deputy Chiefs of Staff, Chief of Research and Development, Assistant Chiefs of Staff, and the Comptroller of the Army for major commands directly subordinate to Headquarters, Department of the Army.

(4) Heads of Army staff agencies for their class II installations and activities.

(5) The Commanding Generals, USCONARC, ARADCOM, USAMC, USACDC, USASA, and major oversea commands.

(6) Commanders of the major subordinate commands of the USAMC.

c. Surveys of each TD activity are normally conducted once every two years. The commanders or chiefs of agencies, with the delegated authority as stated in *b* above, are authorized to defer the survey of activities under their jurisdiction which, because of stability of missions, workloads, and effective manpower utilization do not warrant biennial surveys. Activities which undergo major changes in assigned missions or workloads or which give indications of significant manpower problems should be surveyed more often than once every two years. In any event activities subject to survey are required to be surveyed at least once every four years, with a goal of attaining annually, the survey of 40 percent of the manpower subject to manpower vouchers.

d. In addition to being an effective tool utilized in manpower management, surveys have many specific uses, some of which are—

(1) The survey report is a useful reference when spaces are being adjusted to meet new Manpower Annex objectives. Resources are seldom equal to the total spaces required. The comparison of available spaces, with requirements developed by surveys, helps the manpower control officer

prepare an equitable distribution. The survey report may be used in a similar manner when it becomes necessary to adjust civilian spaces because of increases or decrease in funds.

(2) A survey will provide information upon which adjustments to the structure of the command, agency or activity may be based; for example, recommendations as to assignment, transfer, realignment, activation, reduction, or elimination can result from the survey.

(3) Review and analysis of the manpower program are enhanced by the use of survey information. At all command, staff, and managerial levels the information should be used to evaluate performance under the program, to highlight those areas where imbalances occur, and to indicate progress and achievements.

(4) A manpower survey provides a basis for determining the changes in requirements resulting from changed missions or workloads. If a firm requirement has been established as a result of a survey, the effect of an increase or decrease in mission or workload may be computed. Although an increased authorization cannot always be issued when there is an increase in requirements, the changed requirement should always be recognized and completely documented for subsequent justification.

(5) In activating or reactivating an installation, a study of previous surveys of the installation or comparable installations will provide the basis for a reasonably sound estimate of requirements.

(6) Manpower surveys provide a means for evaluating missions. The results of the evaluation should result in recommendations concerning the elimination, curtailment, decentralization or transfer of missions not considered essential to the operation of the activity, installation or command being surveyed.

(7) Commanders and managers can, and should, use the latest manpower surveys to aid in the preparation and evaluation of tables of distribution.

e. A manpower utilization survey cannot be considered complete until action has been taken as a result of it. The survey should be staffed, analyzed, recorded, and implemented. Resources made available should be redistributed. Recognized requirement should be kept up to date for a manpower survey to have lasting effect. Even after the recommendations resulting from a survey have been implemented, missions and workloads may change to the extent that the subordinate commander or manager cannot adjust his work force within his current allocation of personnel. If this occurs between schedules surveys, he should apply to the major commander for recognition of his needs and augmentation of his work force. Appropriate adjustments made in authorization are then subject to future manpower surveys.

68. Staffing Guides

a. In determining how to make the best possible utilization of his manpower resources, the commander or manager is governed primarily by the number of manpower spaces—officer, enlisted, civilian—authorized for his activity in his manpower voucher. Within the total authorization, he is further guided and controlled in distributing available manpower by Department of the Army manpower utilization publications, including staffing guides, regulations and policy statements pertaining to use of manpower in specific functions and activities.

b. Department of the Army staffing guides, published as DA Pamphlets, 20–500 series, provide guidance concerning the number and kinds of personnel required for performing specific functions in major TD activities. These guides are developed for use by manpower survey teams in determining manpower requirements and appraising utilization in TD units. They

are also used by TD unit commanders in evaluating their own manpower utilization and in preparing tables of distribution. In addition to providing manpower yardsticks which indicate numerical manpower requirements based on workload in various unit functions, staffing guides provide information on appropriate organization structure; MOS, duty position title, and grade of military positions; numerical distribution of positions by type at each workload level; Civil Service classifications for positions in which civilians may be utilized; and other information pertinent to organizing and staffing TD units and developing TD's.

c. Staffing guides are a point of departure and are designed to cover normal operating conditions. They neither prescribe nor authorize personnel or positions and should not be applied arbitrarily. Attention must be paid to unusual conditions such as special jobs or missions, special functions required by the missions, unusual physical layout, and abnormal operating conditions. Although they are designed for CONUS operations they can be applied to oversea operations as well. These guides, which are revised on a programed cycle and include improvements resulting from evaluation of survey reports and other studies, if utilized properly can be extremely beneficial to the commander or manager in exercising his manpower managerial responsibilities.

69. Tables of Distribution (TD)

a. The table of distribution provides the commander or manager a means of recording the specific numbers and kinds of manpower he requires and how he intends to use the manpower resources made available to him. The TD is designed to serve multiple purposes as a management tool. The "personnel management" or qualitative data in the TD indicates the category of personnel required in terms of MOS or civilian classification codes, grades of military and civilian personnel, and branch of service of officer positions. The "manpower management" or quantitative data indicates the number of personnel authorized and required by identity categories and Army Management Structure Classification. The TD format provides for entries of these detailed items for both current operating and programed period, thus making it possible to combine formerly separate active Army TD into a single document. The structure and design of the TD are intended to provide flexibility for realistic Army-wide use of TD and for their adoption to changing Army requirements.

b. As a tool of manpower mangement the table of distribution is applicable at all levels of command and is a basis and means of insuring proper distribution and utilization of personnel as well as provisions for many other manpower control features. This application in the Army includes the following:

(1) *Activities or installations.*

(*a*) States the mission and capability of the unit.

(*b*) Indicates the distribution of functions and/or organizational elements within the organization.

(*c*) Indicates military personnel authorization and prescribes category or branch (for officers), MOS, grade, and number of positions. (The manpower voucher is the basic authorization document.) Basis for military personnel requisitions. (Authorizations may be modified by a manning level for requisitioning purposes.)

(*d*) Indicates distribution of civilian employee positions.

(*e*) Basis for assignment of military and civilian personnel to positions.

(*f*) Means for relating the numbers and kinds of personnel required to those authorized. Basis for making projections for programing and mobilization plans by numbers, skills, and grades.

(2) *Major command.*

(*a*) Basis for review of mission, capabilities, and functions of subordinate commands.

(*b*) Basis for processing military personnel requisitions within and by the commands.

(*c*) Provides information on distribution of civilian employee positions within the subordinate commands.

(*d*) Basis for assignment of military personnel within the command.

(*e*) Basis for review and analysis for proper classification and grading of military positions within the command.

(*f*) Means of relating the numbers and kinds of personnel required to those authorized within and by the command.

(*g*) Means for relating the utilization of total manpower in operating forces and supporting forces within the command.

(*h*) Means for relating civilian manpower and personnel data to budget, cost, and all other data maintained under the Army Management Structure.

(*i*) General use as a reference document for special functional studies and as a basis for developing equipment authorizations.

(*j*) A basis for the preparation and reconciliation of reports currently required by Headquarters, Department of the Army.

(*k*) Basis for making projections for mobilization planning and programing by numbers, skills, and grades.

(3) *Headquarters, Department of the Army.*

(*a*) Source document for selective review and analysis of military positions in the Army for proper classification, grading, etc.

(*b*) Means for providing the Army staff a summary of personnel statistics for use in recommending decisions relevant to manpower, personnel, troop strength, and related financial management functions. *Examples:* Basis for distribution of personnel to Army commands, general use as a reference document, relating military manpower and personnel data to budget and cost data, and determining requirements for school training by MOS.

(*c*) Basis for preparing Army-wide studies by grade and MOS.

(*d*) Overall review and analysis, special studies, and review of general staffing patterns for compliance with established policies.

(*e*) Basis for making projections for mobilization plans and programs by numbers, skills, and grades.

(*f*) For personnel of the field activities of the Department of the Army staff, in agencies determined to be applicable, the same uses as indicated in (2) above.

c. Table of distribution (TD) approval and review channels parallel manpower survey channels. Direct responsibility for review and approval of TD rests with the commander exercising manpower survey responsibility. Changes in TD, which are made on a continuing basis to update the details of the military portion of the TD, and the totals required and authorized for the civilian portion of the TD, are also approved by the headquarters exercising TD approval and authority. Additionally, Headquarters, Department of the Army conducts detailed review of selected TD on an Army-wide basis. These reviews provide for consistent use of personnel grades and skills throughout the Army. They also identify and correct deviations from policies governing the management and control of manpower.

70. Reports

Proper utilization of reports incurred through the implementation of the manpower management program within the Army is one of the most important means of insuring that the policies and regulations governing the programing, allocation, distribution and controlling of manpower resources are being effectively implemented at all levels of command. Reports required for manpower management are limited to the minimum required for effec-

tive utilization of manpower resources, however, they are subject to close scrutiny and evaluation at each higher level of command. Consequently, the proper utilization of the reports, coupled with other control features previously discussed contribute collectively towards fulfilling the objectives of the manpower management program.

CHAPTER 11

MANAGEMENT ENGINEERING AND ANALYSIS TECHNIQUES

Section I. INTERNAL CONTROLS

71. General

a. Management engineering in the Army can be defined as a staff function undertaken to help a commander or manager find and install better, faster, or cheaper ways to carry out his mission. It consists of the application of scientific principles and techniques to solving management and working relationships problems. Management engineering is also referred to as "organization and methods analysis," "management analysis," or "scientific management." The management engineer must have specialized aptitudes, abilities and experience. He obtains results by eliciting cooperation of the personnel or managers responsible to the commander or manager to solve management problems through an effective combination of their first hand knowledge of management problems with his special analytical skills, experience and objectivity.

b. Management engineering assignments usually consist of the following processes:

(1) Determining the nature of the problem.

(2) Planning the assignment.

(3) Collecting such facts as are necessary to determine what may be wrong or what areas are susceptible to improvement.

(4) Analyzing the facts, devising tentative solutions, and checking these solutions.

(5) Presenting findings and proposals for approval.

(6) Helping in the installation of approved proposals where called for.

(7) Keeping in touch with developments after the installation of approved proposals to determine their value and to assist operating personnel in making any modification that may be required.

c. Management engineers also develop products and provide special services useful in improving management of an enterprise. Important among these are the following:

(1) Designing systems for programing, planning, scheduling, coordinating, and progress reporting; developing administrative reporting systems and reporting systems and reports control procedures; developing systems for simplifying and standardizing forms; and developing ways to measure performance of labor, equipment, and materials.

(2) Assisting the commander in establishing and administering the agency's management improvement program; developing the annual management improvement plan; providing staff assistance to the employee Incentive Awards Systems; conducting a Work Simplification Program; devising a Cost Consciousness Program; and preparing the management improvement reports that are used as feeder data to the Cost Reduction Reports.

(3) Ascertaining the degree of understanding within an agency about policies and requirements imposed by higher authority.

(4) Developing plans, for the exchange between supervisors of the agency, of management techniques and new developments which will improve the effectiveness of management.

(5) Developing new activities to increase management effectiveness and turning them over to other elements to conduct.

(6) Preparing special reports and undertaking a variety of jobs requested by the commander, which work does not come within the responsibility of other staff elements.

(7) Developing feasibility studies involving the mechanization of manual operations and the conversion of EAM to ADPS.

(8) Evaluating organization, structure and procedures, and recommending necessary improvements.

72. The Management Engineering Activity

a. Management engineers or engineering staffs may exist in any of the agencies of the Army establishment and at different levels within the agencies wherever there is a need for such service. In an organization with a Comptroller it has not been unusual that a management engineer became part of the Comptroller's Office due primarily to the close relation to, and need for support of, the other functions assigned to the Comptroller such as budgeting, financial accounting and review and analysis. There is, however, no set requirement to place this responsibility under the Comptroller and the most recent trend has been establishment of a separate office to handle management matters. A commander may place this responsibility in, or closely attached to, his office. He may place management engineers or analysts in the office of his Chief of Staff, or in a management office, under varying titles, reporting to the Chief of Staff. Regardless of its location the activity should be completely independent of regularly constituted staffs yet of sufficient stature to insure the cooperation and support of the staffs needed to accomplish their purposes. Although used in a staff capacity, management engineers do not substitute for other staffs or relieve them of their inherent management responsibilities. The advice and recommendations which management engineers provide for specific problem areas are, when adopted, carried out by the appropriate staff and operating agencies, with such assistance from management engineers as the agencies desire. The management engineer should be in a neutral position to be objective and should be command and mission oriented with the attitude that he is an assistant to the responsible commander or manager.

b. The size and structure of the management engineering activity with an organization is dependent on many factors. The mission and size of the parent organization would dictate the size and specialties of the management engineering staff. Requirements of the commander or manager and their operating staffs as well as a centralized or decentralized type of management engineering organization have bearing on the staffing of the activity as well as their location. Other important factors are the degree of responsibility to be given the management engineering activity and the scope and types of jobs to be assigned. In the final analysis this highly specialized organization should, as a minimum, possess an objective approach to any problem; the time to perform the job; the necessary skills and experience to show the required results; the ability to obtain joint action through cooperation; and the proper perspective of the role to be played in providing successful management assistance to the commander and managers.

73. Management Engineering Techniques

a. Various techniques or tools are used by management engineers in gathering and analyzing facts and in developing solutions to problems. Common among these tools are various types of surveys and analyses of programs, systems and standards. Some or all of these techniques can be used by the management engineer or analyst depending on the responsibilities assigned to his office.

b. Management surveys are usually the center around which the management engineering program is built. Through such surveys a commander or manager learns specifically how his organization is performing. Management problems are located, defined, and solutions for im-

provement developed. A management survey involves the thorough examination of missions, programs, operating methods, practices, organization, and policies. Such surveys are designed to find out how the job can be done better by on-the-spot observations, study, research, and testing. As derivatives of management surveys there are three special types of surveys commonly utilized as management tools—

(1) *Organization surveys.* The purpose of an organization (or function) survey is the appraisal, and where necessary, the development of proposed improvements in the division of work and relationships among individuals and organizational elements carrying out related objectives or missions. Organization surveys can develop proposed improvements in the organization plan that will increase the effectiveness of individual efforts; insure better communication among all levels of personnel; eliminate the likelihood of important activities being overlooked or neglected; determine firm and final responsibilities for given jobs at any level; instill greater initiative in all personnel; and reduce friction and improve morale among employees.

(2) *Procedure surveys.* A procedure survey, sometimes describes as a process or method survey, is a critical review of the way a job is being done, the tools being used, and the physical establishment in which specific activities are carried on, with a view towards eliminating nonessential activities; improving the manner in which essential activities are conducted; improving where possible the physical establishment where the work is performed; and determining the personnel staffing required. In addition to surveying existing procedures, the management engineering staff may be called upon to design new procedures to handle newly assigned missions and to help install new procedures in connection with the application of an Army-wide system.

(3) *Management audits.* Recently, a great deal of emphasis has been placed on Management Systems from a total organizational environment point of view, due to growth in organizational size and complexity. This concept concerns itself with the dynamics of the total administrative process when organization surveys and systems/procedures surveys are combined to determine the effectiveness of specific operating functions. This becomes known as a *management audit.*

c. Manpower surveys are made to determine requirements for all categories of personnel without lowering the efficiency of operations. They provide a direct and quick means of determining overall manpower requirements of organizations, activities, or commands. They vary widely in scope and can encompass an entire command or installation or may be confined to selected segments. They should not be restricted to determining only the minimum personnel to do a given job but should also be concerned with the need for more personnel when justified and how well the personnel are being utilized. Although manpower surveys can be made independent of other management studies, close relationship with other types of management engineering tools will assure the best results.

d. Space and layout surveys are important yet sometimes neglected devices for procedural improvement. Space utilization vitally affects the efficiency of work procedures. A poor layout impedes the flow of work just as a good layout reduces unnecessary steps and minimizes processing time. Space surveys generally are concerned with placement of activities within an organization and the location of personnel and equipment. They are designed to conserve the use of space, related energy, time, and transportation.

e. Work simplification is a descriptive term applied to improvement of operating methods and procedures through maximum participation of both civilian and military personnel. The principal difference between this and other management engineering techniques is that the

management engineer, through orientation of commanders and managers and training of operating officials and supervisors, places in their hands the easily understood and applied techniques of management engineering that they themselves can apply to their own assigned tasks. These include such techniques as layout studies, work distribution, process charting and analysis, work count, and motion economy. The management engineering staff then follows up, evaluates, and reports on the progress of the work simplification program.

f. Performance standards are a means of measuring performance. By using these measurements to analyze and improve the effectiveness of his operation, a commander can better control his operations. Standards are fundamental to successful management. Units of measurement which are identifiable and objective are essential for the cost-of-performance programing, budgeting, execution, and review and analysis required under the ACMS. Standards may be based upon either man-hours or dollars and are generally established in two broad categories, engineered standards and statistical standards.

(1) Engineered standards are the most precise performance-time standards achievable, and therefore, the most useful for management. They are defined as the time that it should take to perform a unit of work according to a specified method as determined by a detailed study of a job. Due to their precise nature they are expensive to establish and require a high degree of technical skill in the personnel used to set the standards. Consequently they should be developed only where results to be obtained offset the cost of installing the standard and only by personnel fully qualified by training and experience in developing and applying such standards.

(2) Statistical standards involve the use of historical experience which has been corrected for known factors of influence. In its simplest form, the statistical standard is derived from experience gathered in a chosen period which is corrected for such observed factors as the percentage of efficiency at which the workers are operating, losses of productive time due to insufficient work in process, poor material handling, and the known effect of new equipment. Although much more subjective than the engineered standard and easier to collect and prepare, it is still a most useful and most commonly used unit of measure.

g. Command performance standards may be used by command agencies, but only for comparable measured work areas common to more than one installation or activity in the command. Commands and agencies determine the work areas which are common to more than one installation or activity and which lend themselves to the establishment of a command performance standard. When commands have determined that a command standard is appropriate to two or more installations, it can be used in lieu of the installation standard for the purpose of determining performance effectiveness. This is providing the work conditions, facilities, layout, and other factors are comparable. Although not as applicable to the wholesale logistics systems as other standards the principle of command performance standards can readily be applied to large organizations wherein its subordinate activities are engaged in operations generally similar in nature.

h. Quality control is that function of management relative to all procedures, methods, examinations and tests required during procurement, receipt, storage, and issue that are necessary to provide the user with an item of required quality. It is not enough to determine management effectiveness by analyzing only the quantity of work produced. Performance analysis data may indicate that many more work units are being processed, yet customer satisfaction may have diminished. This condition points up the need to have both quantity and quality measurement systems to appraise performance realistically. A quality control system is a technique that can be applied by management engineers wherein they can provide

standards to be met to insure quality of performance. This need is particularly evident in the Army's industrial installations where quality control must be an important part of the production planning and control process.

i. Production planning and control involve many of the management techniques that have already been discussed. It is a systematic approach to management analysis of all the fundamental aspects of a given activity. It involves organization, procedures, and method analysis; space and manpower utilization; performance or work measurement analysis; and quality control. It can be applied to large complex office operations as well as to industrial production type operations. Application of production planning and control techniques must be broad enough to take in all procedures, methods and activities that are related, regardless of the organization units or locations in which the work is performed. Although production planning and production control are in themselves separate entities the two functions are necessarily synonomous when applying management engineering techniques. Production planning involves designing all of the procedures and methods for handling a given flow of work while production control insures that the flow of work proceeds according to the plan.

74. Relationship of Management Engineering to Army Management Improvement

a. The management improvement effort in the Army Establishment is an organized and systematic means by which all personnel continually search for ways to improve the performance of their missions. One of the basic elements of the management improvement program is self-improvement. Everyone has the responsibility to search continually for ways to reduce the costs, improve the quality, and increase the effectiveness of his activities.

b. Commanders and supervisors, in carrying out their Management Improvement Programs in their agency or element, generally need a management improvement officer to assist them. This is particularly true in large, complex organizations. The management engineer serves his commander or supervisor as the management improvement officer. In so doing he does the necessary staff work to assure a vigorous and successful program.

c. The Management Improvement Program also draws on many other activities and sources of data, for example: Inspector General inspections, review and analysis of program progress, budgetary analysis and review, tests and exercises, field visits, internal audits, manpower surveys, productivity data, daily supervision, reports of employee turnover, absenteeism, accidents and grievances, employee suggestions, and comments from external sources. Thus, management improvement programs use management engineers but management engineering activities do not, by themselves, either constitute a program or provide an integrated management improvement program.

75. Management Engineers and Comptrollers Functions

a. As previously mentioned the management engineering staff can beneficially support those budgeting, accounting and review and analysis functions which are normally the comptroller's responsibility. These are areas where a management engineering staff is needed to assist the commander or manager and their staffs as well as the operating elements.

b. Budgeting involves the evaluation of work plans and the determination of the resources, money, manpower, materials and facilities needed to carry out these plans. Management engineering through its persistent surveying of the functioning of organizational units should provide invaluable data for the making of budgetary judgments and the balancing of plans and resources.

c. The system of fiscal accounting for operations and expenditures and the financial reports that extract significant data out of the various accounting systems offer useful sources of information for the management engineer. In these sources, financial data can be found that will provide the means for a solution to management trouble spots resulting in more effective accounting.

d. Where cost accounting systems exist, the

data they yield are especially useful. High costs show where trouble is but not always what it is. The management engineering staff can use the cost accounting data as a point of departure and to seek out the trouble. Cost accountants can utilize the services of the management engineering staff in revising standards to improve the cost system and to assist in establishing new standards for individual operations against which performance can be appraised.

e. Effective review and analysis at all echelons throughout the Department of the Army depend upon the quality of reporting, analysis, and summarization at successive levels of command. Practical techniques applied by the management engineering staff in utilization of the vast volume of available data in performing the review and analysis function can greatly assist the commander or manager in making sound, timely, and studied decisions as well as providing him with an objective appraisal of the effectiveness of his command or agency in accomplishing its programed activities and in utilizing available resources in support of those activities. The review and analysis of programs will reveal indications as to where manpower, material, and facilities can be used more effectively. By professional and thorough analysis of the results of review and analysis the causes for delays or failures can be determined. Although the exact cause of deficient performance is not always identifiable in a review, or cannot always be readily corrected, the management engineer can, through careful study and analysis, provide an objective service to the commander in developing corrective measures and in determining more economical and effective ways of using available resources.

76. Successful Management Engineering

Management engineering can be a most important and effective tool of management. However, the mere existence of these specialists on a staff cannot produce the desired results. Careful planning and skillful performance of management engineering tasks will not in themselves insure successful operations. An atmosphere of mutual confidence and understanding must be achieved and continually maintained. Other staffs and heads of operating elements as well as others throughout the command or agency must be able to understand the need of outside and impartial analysis of their operation no matter how large or small. They must be able to realize unselfishly that the management engineer also has a job to perform and that in applying his skills and techniques in areas needing assistance he is in fact accruing measurable benefits to the command or agency as a whole. Care should be exercised, however, to insure that the management engineering staff does not become excessively burdened with the attempt to apply the tools of his skill in areas wherein actual and meaningful benefits cannot be derived. Care in selection of areas to be serviced, an atmosphere of mutual understanding, technically sound approaches to the problem areas, appropriate recommendations and thorough and forceful follow-up action, when applied together, can contribute to the successful use of the management engineering staff and result in measureable value and direct benefits to any command or agency.

CHAPTER 12

INTERNAL CONTROLS, AUDITS, AND INSPECTIONS

Section I. INTERNAL CONTROLS

77. Principles of Internal Control

a. Internal control encompasses the assignment of responsibilities and functions with accompanying internal checks and organizational features built into a system to insure integrity, accuracy, reliability, efficiency and to safeguard assets. These responsibilities are assigned to minimize the possibility of malpractices except through collusion. Accounting and operating procedures are organized to that timely detection of errors can be facilitated.

b. To insure preservation and proper use of resources, managers at all levels within the Army Logistics System should institute and continually review internal controls, not only those financial controls inherent in accounting systems but operational controls as well.

c. Controls are generally classified as two types— administrative and accounting. Administrative controls include the designation of the segments of an organization and the establishment of clear lines of authority together with the fixing of responsibility. Accounting controls include the internal checks built into a system based on established accounting and record keeping principles and techniques. In combination, those provide independent checks by, or between, two or more segments or persons in an organization and help to reduce costly errors.

78. Elements of Internal Control

a. Assignment of Responsibility. This serves to define and separate functions and duties and is normally accomplished through administrative techniques such as the organizational pattern. In this manner responsibility is fixed for specific tasks and delegation of authority is also accomplished. Thus, duties are separated in a manner that minimizes opportunity for concealment through improper accounting and facilitates automatic and timely detection of errors. Good internal control provides that no single individual has exclusive control over physical assets, their custody and operations, and at the same time be given control over the record keeping for those assets. An accounting and reporting system could appear adequate even though the opportunity for malpractice and error might exist because of improper division of responsibility. Therefore, use of organization and its definitive assignment of responsibility and delegation of authority constitutes the basic administrative control.

b. Standing Operating Procedures.

(1) Written procedures prescribing practices for functions within each activity should be established encompassing both administrative and financial or accounting controls. Through written procedures for each defined and delegated function, responsibility can be pinpointed and authority of individuals can be delineated and limited if necessary. Knowledge of exact responsibility and authority by the members of an organization promotes better supervision and provides a valuable aid to better administration and control.

(2) Procedures should be developed to provide uniformity and consistency in handling and recording routine and repetitive transactions with minimum

of supervision and to identify those transactions that require special handling. The test of a good procedure is that it quickly identifies situations that do not fit the routine process but require special handling, judgment, and decisions without affecting the efficient and expeditious handling of routine transactions or matters. Written procedures should be kept current, properly disseminated and be thoroughly understood, otherwise they tend to lose their effectiveness as a managerial tool of control.

c. Built-in Checks and Balances. A third element of internal control is the use of systems of checks and balances which provide for cross-checking and reconciliation of independently developed data. Such techniques are not new to the Army, in fact many of them have been used for a number of years. A most common example is in the area of accounting for and safeguarding physical inventories of supplies and equipment. Physical custody of the supplies, supply accounting, and financial (FIA or ASF) accounting are each entrusted to separate individuals or activities. Each of these activities or individuals uses copies of the same source documents that are the basis for inventory transactions. Changes in inventory are recorded independently in the financial and supply accounts. Periodically, the financial and supply accounts are compared and if differences are found they must be reconciled by a transaction analysis. Physical inventories are also compared with stock record balances and where differences occur they must be reconciled. Through this utilization of checks and balances, commanders can effect the necessary internal control to assure the proper management of his inventories. This example is illustrative of built-in checks and balances that are applied to provide internal control to assure that programs and budgets are being executed as approved. These systems of check and balance processes normally are accomplished by regular personnel on a systematic and recuring basis.

d. Internal Review and Systems Improvement. The logistics manager must have a system of reviewing his internal operations to identify weaknesses and to effect corrections and improvements when the need is indicated. Although the manager is inherently responsible for the overall surveillance of his operations, he must rely heavily on his supervisors to review and take appropriate action to improve internal operations and controls within their areas of responsibility on a day-to-day basis. Normally however, depending on the size of the activity and the magnitude of the operation, the manager requires a separate entity within his organization with the specific mission of conducting internal reviews and ascertaining and recommending systems improvement and whose personnel are trained to observe, review, analyze, assist, and advise. This important activity is normally under supervision of the comptroller if the organization structure so provides, or could be manned by other personnel within the organization preferably with accounting background. In any event, the use of this supplementary assistance as a tool of management in no way relieves supervisors of their normal review and improvement responsibility, nor the overall responsibility of the logistics manager for the maintenance of adequate internal review over his operations.

79. Internal Review Guidance

a. Internal review is a function which provides assurance of the effectiveness of the other elements of internal control (assignment of responsibility; written procedures; and built in checks and balances) that are associated with the procedural aspects of financial administration and operational policy. It consists of two elements; first, the review of procedures and operations to determine the existence and adequacy of required controls; and second, the evaluation of the action taken to improve the procedures and practices in which inadequacies were detected. A well executed program will reveal the manner in which a logistics manager is discharging his responsibility in the area of operational procedures as well as financial administration. More impor-

tant than the disclosure of deficiences will be the action taken by management to eliminate them by improvement of procedures. Programs of internal review should be developed around the needs of the logistics manager and the conditions existing or anticipated within his area of responsibility. To be effective the programs must be dynamic and responsive to changing conditions. The effectiveness of a program would be negated if it were allowed to become stereotyped as a fixed routine that would result in usurption of the normal day-to-day responsibilities of operating personnel.

b. The following are but a few specific actions that may be taken by the commander or logistics manager to assist him in insuring an adequate internal review for more effective, efficient and economical internal operations:

(1) The internal review organization should be adequately staffed and properly balanced in relation to the requirements programed for review.

(2) The internal review function should be divorced from responsibility for development and implementation of new systems and procedures to assure the establishment and maintenance of the independent status of the function.

(3) The internal review staff should be independent of those who are directly responsible for the activities subject to review yet it should maintain effective working relations with those management elements.

(4) Advance planning should be initiated to identify the broad areas to be covered during the fiscal year and to permit systematic scheduling of available manpower. Planning should be sufficiently flexible to permit adjustment as required to enable unscheduled reviews, directed or approved by the commander, to meet current or anticipated developments and any changes of emphasis of the review effort.

(5) The commander or logistics manager should fully support his internal review program. This can be accomplished by insuring direct lines of communication with the internal review staff; careful review of reports; cognizance of shortfalls in programed objectives; and aggressive follow-up action as indicated.

Section II. AUDITS

80. Army Audit Agency

a. Internal audit is the independent appraisal activity within the Army for the review of financial accounting and related operations as a basis for protective and constructive service to command and management at all levels. It is internal control only from the viewpoint of the Army establishment as a whole and is the responsibility of the Army Audit Agency. The mission of the agency is to assist Army management at all levels to achieve efficient and economical administration of the vast funds and resources of the Army by conducting independent appraisals and providing professional audit advisory service in all significant areas of financial management.

b. The audit services performed by the agency include audits of Army installations and activities of all types, and in the field of procurement includes audits of contracts between the Army and industrial, commercial, research, and educational firms and institutions. These two general types of audit services are classified by the agency, for purposes of administrative control, as "internal audit' (audit within the Army) and "contract audit" (audit for the Army). In practice, the two audit missions are integrated into a single audit approach in order to insure comprehensive and meaningful disclosure to management of the financial activities of a logistics activity and of contractors involved in related transactions.

(1) Internal audit includes the comprehensive audits of individual installations, depots, and activities; audits of major commands or programs termed "vertical" audits; and examination of a major Army-wide function having financial implication and usually crossing command service lines, called "lateral audits."

(*a*) Installation audit is a simultaneous and coordinated examination of all an installation's activities having financial significance, culminating in a single audit report on the effectiveness of its financial management operations. Each of the Army's approximately 500 Class I and II installations and activities are subject to this type of examination at intervals of from eighteen to thirty months.

(*b*) Vertical audit is an audit of a group of installations each of which is a participant in a major program of the Army, which is examined as an entity engaged in a specific mission. The vertical audit report is concerned with the effectiveness of financial management operations pertinent to the program or command, and less specifically to the operation of its components. This type audit permits a complete development of conditions disclosing sources of problem areas; reveals similar problems at different installations requiring correction by higher authority; renders opinions on the reliability of financial statements generated under the Army Stock Fund System; and makes determination as to whether the Army is obtaining the maximum use of its funds under a specific program.

(*c*) Lateral audits cover such functions as military pay, Army outleasing, military assistance programs, and administration and control of subcontracting. This type of audit as applied to the field of wholesale logistics could entail examination of practically all of the logistics functions, from requirements determination to disposal of surplus property in order to properly evaluate the effectiveness of the economy of the Army. Such an audit would necessarily cross many command or service lines, thus qualifying as a "lateral audit."

(2) Contract audit is the review and analysis of contractor's and subcontractors' systems, procedures and controls; the examination and verification of their books, accounts, basic records and other evidence which support, or will support, the accuracy and propriety of contract cost representations. Since management decisions are significant factors influencing contract costs audit emphasis is placed on such management actions as make-or-buy decisions, bid estimating procedures, plans and programs for the utilization of various kinds of labor and technical services, and management controls over the use of funds. The agency's primary responsibility is to provide technical advice and assistance to Army procurement officials to help insure that defense contractors' expenditures do not exceed reasonable cost levels.

c. Although logistics managers do not have audit responsibilities they do have full responsibility for proper protection and use of assets of the organization; for compliance with policies, procedures and objectives; and for the accuracy, propriety, legality, and reliability of their actions. In discharging this responsibility, logsitics managers should rely on appropriate internal controls and internal review as illustrated in the preceding section I. Audits and resulting reports of conditions and recommendations as submitted by the Army Audit Agency can be a most important tool to be utilized by the logistics manager in assur-

ing that his implemented procedures, policies and controls are in fact effective, and that his mission is being accomplished in an efficient manner. Prompt attention to findings and recommendations in audit reports; appropriate corrective action of deficient conditions; strengthening of internal control weaknesses and vigorous supervision and follow through will assist the logistics manager in gaining full benefit of the services of the Army Audit Agency.

81. General Accounting Office

a. The General Accounting Office is an agency in the legislative branch, which assists the Congress in providing legislative control over the receipt, disbursement, and application of public funds. Its principal functions are in the fields of auditing, accounting, claims settlement, debt colection, legal decisions, special assistance to the Congress, and records management and services. In providing assistance to the Congress, the General Accounting Office examines every aspect of management in the Department of the Army. This includes requirements determination, supply management, procurement, maintenance, repair and overhaul, research and development, construction, transportation, personnel management, automatic data processing, the Military Assistance Program, and other functions.

b. The primary purpose of audits by the General Accounting Office is to make, for the Congress, independent examinations of the manner in which the Department of Defense and the military departments are discharging their financial responsibilities. These are construed as including the administration of funds and the utilization of property and personnel only for authorized programs, activities, or purposes, and the conduct of programs or activities in an effective, efficient, and economical manner.

c. Two general types of audit are performed by the General Accounting Office — Contract audits and comprehensive audits.

(1) A contract audit is the audit of an individual contract or contracting activity. The primary objective of a contract audit is to determine how well the contractor and contracting agency have discharged their responsibility to the Government.

(2) A comprehensive audit, as the term implies, is an analytical and critical examination of a command or agency and its component activities or of a specific functional area. Its scope may extend into all aspects of operations.

d. The logistics manager can realize many direct benefits from the results of an audit performed by the General Accounting Office. The success of the audit can depend greatly on the cooperation and assistance rendered by the activity being audited. This factor alone will permit professional or technical assistance from higher authority to participate in resolving the usually difficult problems, and to consider problems beyond the logistics managers' jurisdiction while the audit is still in progress. Such an audit can provide for early detection of problem areas. Taking prompt, positive and responsive actions on reports and recommendations resulting from the audit will accrue maximum advantages of the work of the General Accounting Office. Additional benefits can be realized indirectly by the logistics manager by analyzing and acting upon publicized results of audits of other activities and operations that, although not being in his specific realm of responsibility, are similar in nature. Close perusal of these reports, careful evaluation, and aggressive correction action, if applicable, could assist in before the fact, rather than after the fact, solution to problem areas not previously recognized by the logistics manager.

82. Inspections

a. Many types of inspections are conducted throughout the Department of the Army. There are informal or formal inspections conducted by local commanders or managers; inspections and visits by higher headquarters; technical inspections; Command Maintenance Management Inspections; and various types of inspections conducted by inspectors general, to name

ferent, yet the objectives and principles remain only a few. The mission of each may be dif- the same. Each has its place within the over- all inspection system. A common denominator can be applied, however, which is—if properly utilized in the manner intended, an inspection, regardless of the type, can be a useful and important tool in the hands of the commander or logistics manager.

b. Inspections are one of the means by which the logistics manager can ascertain whether his plans are good, his organization sound, his coordination effective, and his directives clear. Without comprehensive inspections the manager probably would be unable to detect costly deviations and time consuming defects in his plan. He would be unable to properly gauge the performance of his manpower or insure maximum utilization of his other resources. Regardless of what is to be inspected or by whom, the inspection should be constructive as well as critical. It should be objective in nature, based on realistic and measurable inspection standards. Most important in the inspection process is the use the manager makes of the results of the inspection. First, he must possess the realization of the constructive and helpful intent of the inspection even though the resulting report can sometimes be painful. Next, he should be able to analyze and evaluate the findings for indicators or possible trends that could adversely affect his mission accomplishment. Then he should initiate aggressive remedial action to correct the deficiencies, discrepancies or irregularities revealed by the inspections. Finally, he should implement an adequate follow-up program under continuing supervision to insure timely correction and to preclude similar occurrences in the future.

c. To emphasize the importance of inspection as a tool in the hands of the manager, inspections conducted by the Inspector General of the Army and inspectors general throughout the Department of the Army present an excellent example. Their mission of "inquiring into and reporting upon matters which pertain to the performance of mission and the state of discipline, efficiency, and economy throughout the Department of the Army," lends itself appropriately to the inspection needs of the manager. In essence this affords him the opportunity of obtaining an impartial and professional appraisal of his activity annually. Here is his opportunity to really see how efficiently his activity is being operated. The manager knows that his people will be "up" to the inspection and out of pride and loyalty they will do their utmost to make a good showing at all levels and in every department or area. This factor alone can reap the manager many benefits. During the preparation for inspection phase, many things will happen. Known deficiencies or discrepancies for which corrective effort had been deferred will suddenly be taken care of. Plans, programs, orders, directives, and standing operating procedures will be updated or revised as necessary. Machinery, vehicles, office equipment, walls, floors, and outside areas will either work better or look better. In this instance many material benefits have been accrued even prior to the inspection. Ideally, of course, these actions should be well planned and executed on a continuing basis throughout the year to preclude undue impact or burden at any one specific period. The point to be made, however, is that the commander or manager can make good use of every phase of an inspection if he possesses the understanding and foresight necessary to capitalize on the inspection process as a useful tool of management.

CHAPTER 13

SPECIALIZED LOGISTICS, MANAGEMENT CONTROL SYSTEMS

Section I. PROJECT MANAGER SYSTEM

83. Project Manager Concept

a. In systems and equipment acquisition in today's Army, management has become probably the most crucial factor. The rapid growth of weapons systems and the need for more complex equipment in the defense arsenal, coupled with the urgent need to bring these into the supply system on a timely basis yet without waste or duplication poses tremendous managerial problems. Where attention was formerly focused on the technical field, the need for better management of total projects has become increasingly important. The increase in scientific and engineering knowledge and competence can not be fully realized unless the management of the resources of men, money and material remains abreast, or a step ahead, of technical and scientific ability.

b. Upon reorganization of the Army the Commanding General, U.S. Army Materiel Command, assumed the responsibility for supplying the Army with its weapons systems and most of its equipment through his major subordinate or commodity commands. This organization did not, however, answer the many questions concerning the aspects of materiel development. Many of today's weapons and equipment systems involve more than one of the commodity commands and often require support from agencies outside the Army. Based on many studies, it was decided to implement a vertical form of management within the Army Materiel Command for fulfilling materiel development functions for selected systems or items. This system was restricted to the more heavily funded programs and in lesser funded programs which were considered crucial to the defense of the nation. This technique of management control has been referred to under various names and circumstances, as program management, systems management, projectization, project management or the project manager concept. Regardless of the title used, the intent of the concept is to bring together the available resources of money, technical capability, material and facilities under single direction having full authority to take all actions necessary to achieve program objectives. This concept is not particularly new to the military establishment, as modified versions of this form of management have been used by the Navy in the development of the Polaris Missile; the Air Force in placing many of their weapons systems into operation and the Army for the Nike-Zeus. The Project Manager concept as now employed by the Army Materiel Command is a purified method of vertical management best suited to the Army of today. Its success in meeting program objectives has undoubtedly insured it a prominent place in the Army of tomorrow.

c. In analyzing Army expenditures by programs or specific items of equipment we find that a relatively small number of programs account for nearly 50 percent of research and development expenditures and more than 50 percent of its production expenditures. Examples are the Nike-X Program which absorbs large amounts of Research, Development, Test and Evaluation (RDT&E) funds and the M60A1 Tank Program which utilizes substantial Procurement of Equipment and Missile, Army, (PEMA) funds. Still other programs, while not heavily funded, are of sufficient importance to the present or future Army to warrant rigid control over the program. Naturally all equipment utilized by the

Army cannot feasibly be "projectized." Yet to insure proper evaluation and determination of which items of equipment or systems should be considered for "projectization" the following criteria can be applied:

(1) Mission and criticality of the weapon (equipment) system to the defense of the United States.

(2) Urgency of getting the weapon (equipment) into the hands of the using units on an expedited basis.

(3) Interest in the particular weapon (equipment) system evidenced by Congress, Secretary of Defense, Secretary of the Army, or Chief of Staff, U.S. Army.

(4) Complexity of the weapon (equipment) system requiring participation to an unusual degree of two or more commodity commands.

(5) High dollar cost of the weapon (equipment systems). Those programs which meet one or more of these evaluation criteria are then afforded special management attention within the Army under the project manager concept.

84. The Project Manager Organization

a. Under the vertical management concept the project manager not only is vested with the sole line authority and responsibility for accomplishing the objectives of a program but the attention and effort of him, his group or organization, are focused exclusively on the objective without diversion towards other tasks or programs. Additionally, he has the advantage of reporting only to the Commanding General, AMC, or in some instances to the commanding generals of major subordinate commands of AMC. This direct line of command is predicated upon the importance of the program, equal interests of more than one commodity command, or primary interests of one specific command. In either event his project has been authorized by the Commanding General, AMC. He carries full authority and he can work directly with other commanders as necessary to accomplish his mission.

b. Inherent in the project manager concept of management are three distinct advantages.

(1) The project manager has a considerable project staff assigned to his immediate office responsive directly to him. This staff consists in part of highly qualified technical personnel who formulate the technical development plan and who initiate proposals for solving technical problems, whether in development or in production, for approval of the project manager. He also has a management or administrative staff immediately responsive to the needs of the project in such areas as programing, budgeting and financial management.

(2) The project manager controls the dollar resources allotted to his project. In the Army Materiel Command, funds for all project managed programs, regardless of whether they are for research and development, test and evaluation, or procurement, are specifically "earmarked" for the project. They cannot be used for any other purposes without a program change, in which event the project manager has an active voice. These funds, plus his authority over a specific project, means that the project manager can "buy" a substantial amount of support and assistance, both from in-house laboratories and installations and from outside contractors as well.

(3) The project managers are appointed under a special letter of instructions by the Commanding General, AMC, either on his initiative or at the recommendation of the commander of one of the commodity commands. This procedure in itself firmly fixes the responsibility for the program and authorizes the project manager a direct line of communications to the Commanding General, AMC, in event of emergencies and for the purpose of bringing to the attention of the Com-

manding General, AMC, any problems or conflicting priorities which could slow down or impede the program. Although usurping the normal chain of command through employment of this direct line of communications it is naturally expected that the project manager will keep his immediate commander informed. This form of communication not only keeps the Commanding General, AMC, fully aware of the program progress, but affords him first-hand information upon which to act promptly in making the necessary decisions to maintain the impetus of all his programs and to eliminate stalemates. If the Commanding General, AMC wants to know the latest status of a program, one individual, the project manager, is his sole contact. Similarly if the Chief of Staff, Secretary of the Army, the Secretary of Defense, or even members of Congress are in need of an up-to-date briefing on the program the project manager is the one who is to be responsive to their needs.

c. There is no single method or ideal organization pertinent to all project management offices or ironclad rules as to how the project manager will blend and control his resources. Management techniques and organization are dictated by the type and technical characteristices of the projected system; state of development or phase of the acquisition cycle; external influence such as degree of participation in procurement and production functions to include relationship with contractors; availability of support activities; the competitive market for recruitment and retention of highly qualified and talented scientific and technical personnel; and the caliber and capabilities of the project manager himself. Each of these factors have immeasurable influence on the effectiveness and efficiencey of the management of a highly complex, high dollar value program.

d. The establishment of a project manager's office begins with the appointment of the project manager at a time deemed most feasible during the weapons (equipment) system acquisition cycle. Ideally this should be prior to the time that a firm requirement has been established, but after the concept has been subjected to an exhaustive technical feasibility study and a cost-benefit or cost-effectiveness analysis to determine whether the military value is greater than its cost. Undeniably the type of individual selected for such an assignment must be many things to many people, for his responsibilities are great and success or failure depends extensively upon his capabilities. His performance must show, among other things, leadership, drive, thorough planning, persuasive justification of his project, competent direction, timely performance against approved schedules, intimate cognizance of the project status, projection of performance and costs, cooperation with industry and analytical review of past performance.

e. The project manager normally should have the authority to determine the staffing pattern of his office which could feasibly be organized basically as follows:

(1) Initially his office would be small but with the capability of developing a plan for the development and production of the weapon (equipment) system and a detailed resource estimate of men, money, and facilities that would be needed to carry out the plan.

(2) If the project manager is not located in Washington, he may establish a Project Manager Staff Office in the Washington area to effect necessary coordination there. If the project manager himself is located in Washington, his staff officer would be at the major subordinate command which has primary interest in his particular item of equipment.

(3) Under the program director would be budget, financial management, contract administration, data and reports, and plans and reviews.

(4) A field office or field offices would be established, depending upon the type of equipment that is to be produced. Normally, there should be at least

one field office with the major contractor. If there are a number of subcontractors having substantial significance to the final product, other field offices may be necessary.

(5) Under the technical director are the functions of cost estimates, research and development, production and support. Depending on the type project, the technical director would have need for a strong staff with research and development, production, and engineering backgrounds. It could be either a small or large staff depending on the complexity of the project and the amount of work to be performed by the contractor.

(6) Project managers are not normally contracting officers, nor do the AMC project managers generally have contracting officers on their own staffs. Procurement which they direct is accomplished by functional procurement organizations. For the protection of the Government and himself, it is essential that project managers and their staffs conduct all relationships with contractors through contracting officers.

85. The Project Manager and Control

Through the project manager concept, top management is insured better control over high priority crucial projects than is afforded under the strictly functional type organization. As applied under vertical management, the top manager exercises his control by exception. The project manager concept is in reality control by exception. By virtue of his appointment, letter of instructions and charter, the project manager is given full authority to use all means at his disposal and all available resources to meet his objective. He must strive to avoid imbalances in effort that, if not corrected, lead to slippage in the overall program, thereby creating problems involving time, cost and performance. If the project manager has not initiated his own controls whereby he can identify prospective critical areas prior to his being caught off balance, the top echelon must, through the media of control by exception, step in and attempt to bring the situation back into focus. This managerial control tool can in itself insure early identification of problem areas, rapid dissemination of pertinent information and timely decisive action.

Section II. PERT SYSTEM

86. Purpose

a. The complexity of directing and controlling modern weapons, equipment, and construction programs has challenged the more conventional management techniques. The result has been the establishment of a number of highly sensitive and complicated progress evaluation systems for identifying major or urgent problems evolving from these programs. The most widely used of these systems within the Department of Defense is the Program Evaluation and Review Technique (PERT), which has proven to be the most comprehensive control system yet devised for research or development projects and construction programs. Basically it is not new; it is, however, an improved technique for a more orderly approach to the management job. It provides a sound basis for planning, scheduling, and the ensuing continuous monitoring by successive levels of responsible management. PERT as a management device or technique is only a tool and can never be a substitute for effective management. As a tool or technique it must be an integral part of the entire management process as it will do nothing by itself. The returns are commensurate with what is put into it and its benefits are related to its understanding and use.

b. This section will present only a brief summary of two PERT techniques—PERT/Time (usually referred to as PERT) and PERT/Cost, which includes both time and cost considerations. Detailed explanations of the

system are beyond the scope of this manual but are included in other official publications such as the PERT Guide published by the Department of Defense and PERT Costs Systems Design, a DOD and NASA Guide.

87. PERT or PERT/Time

a. PERT is a highly developed program control technique representing a significant step towards an integrated management system encompassing the variables of time, resources and technical performance. It applies modern statistical mathematical methods to the detailed planning and subsequent evaluation and control of research and development programs. The improved planning produced by PERT offers a sound basis for scheduling as a means by which status may be measured and current and potential problems detected in time to take corrective action. It provides the integrative discipline for government and corporate managers at all levels necessary for the definition, communication and successful attainment of the prime and supporting objectives of the plan. It was developed for the Polaris Fleet Ballistic Missile weapon system and has since found application in all three of the military departments, in special agencies of the Government, and in private industry.

b. PERT provides, first, a detailed, integrated view of all segments of a research and development program. Second, it provides a periodic review of the total program. This review is based on a comparison of results actually achieved with the scheduled objectives in the original plan. The technique is used by the contractor and the Government to monitor complex system, subsystem, and component development programs. It is usually updated on a biweekly basis. Specifically, PERT provides—

(1) A systematic approach to the detailed planning and scheduling of a program.

(2) Frequent, accurate communications relating actual and planned achievement.

(3) Continuous, timely progress reports that identify potential problem areas where action can be taken at once to avoid more serious problems later.

(4) A basis for simulating the effects of alternative decisions under consideration and an opportunity to study their impact on the program deadlines before implementation.

c. One of the major advantages of PERT is that it makes use of what is called "time network analysis" as a foundation for fixing resource requirements—manpower, material and facilities. Several elements are involved in a PERT control system. Program events or milestones are one basic element. These are points in time at which specific tasks in the program start or end. The tasks themselves are referred to as activities—a second basic element. These represent work—physical or mental—required between two consecutive events. Leadtime estimates are a third basic element. An estimate of time needed to complete each activity is required for the PERT network. The network is simply a graphic portrayal of the events, activities and leadtime estimates for the program.

d. PERT is usually applied to a program as follows:

(1) First, events and activities are defined in detail in the form of a "Work Breakdown." The project manager's staff is afforded to him for the purpose of assisting him to manage, in detail, the program which has been assigned to him. The daily work of bringing a weapon system into being, the design, testing, procurement, production, computation of requirements, acquisition of technical data, acquisition of publications, stock storage and issue are performed by functional agencies and contractors. The purpose of the work breakdown is to inform the project manager as to whom (or what agency) he can look to accomplish each action to achieve each event. The work breakdown enables the project manager to issue pin-pointed directives to accomplish

his program, and to communicate accurately and directly with individuals who cause slippages in programs or who can correct slippages when they occur.

(2) The PERT network is then established and diagrammed. The network portrays the flow plan for the program. It shows how the events and activities relate to each other. Events appear as points in the network; activities appear as arrows between points. Then the individual responsible for each activity is asked to estimate the time that will be required to complete it. Sometimes three estimates are recorded for each activity—the optimistic, most likely, and pessimistic completion dates. When three estimates are used, an expected time is computed for each event in the network (taking into consideration risk and probability of delay).

e. The expected times for completing events are then applied to the network. This determines the expected completion time of the total program. Expected times are compared with the latest allowable times for completion. These are derived by going backward through the network—from the scheduled date for the end objective. The comparison brings to light—

(1) Potential schedule slippages (negative slack).

(2) The longest probable (critical) path and other relatively time-limited paths in the flow plan.

(3) Areas of effort where there is time to spare in achieving program goals (positive slack).

f. When the PERT process is complete, the Government has information to make any trade-off decisions that are necessary. A trade-off is a transfer of resources or altering of objectives to optimize the program goals. The PERT system thus permits the Government to maintain close and continuous control over the program schedule.

88. PERT/Cost

a. PERT carefully displays the interrelationships of all the critical elements of a development program. Thus, it is a vast improvement over earlier control systems. But, initially it was concerned only with the program schedule. Cost control was still being maintained on a functional basis (manpower, facilities, material) rather than be elements of work (design, develop prototype, test). Therefore it was still not possible to find the cost of each *element* in the program. To resolve this problem, DOD and the NASA jointly developed a PERT/Cost system—a system to integrate cost and schedule information.

b. By displaying both the schedule and cost factors on the same network, PERT/Cost helps provide answers to the following questions:

(1) Are the current estimates of time and cost for completing the entire project realistic?

(2) Is the project meeting the committed schedule and cost estimate? If not, what is the extent of the difference?

(3) Have requirements for manpower and other resources been planned realistically to minimize premium costs and idle time?

(4) How can manpower and other resources be shifted to expedite critical activities?

(5) What is the best way to use manpower and other resources made available by changes in the project tasks.

c. The PERT/Cost procedure differs somewhat from PERT. The basic PERT/Time network schedule is prepared first. Cost estimates are then developed for each activity—or for groups of related activities and milestones (called program or work packages). These estimates are based on the amounts of manpower, material, and other resources that must be assigned to each activity in order to perform the project on schedule. Monthly manpower requirements are totaled by skills. Then they are analyzed for unnecessary overtime

and unnecessary hiring (as shown by manpower peaks followed by lay-offs). Next comes a reallocation process known as "smoothing." Here, management reschedules slack activities to periods when critical activities do not need scarce skills. This rescheduling of slack activities can also eliminate—or at least reduce—premium payments for materials and services.

d. In addition to the initial estimates or cost, manpower, and resources, the PERT/Cost technique also requires periodic management reports on schedule and cost progress. These reports enable both Government and contractor to identify present and projected trouble spots —areas that need immediate management analysis and action.

e. There are two optional supplements to the PERT/Cost system. The Time-Cost Option Supplement is a procedure for developing and evaluating alternative time and cost plans for performing a project. The Resources Allocation Supplement is a procedure for allocating resources among project tasks. This is done to secure completion at the lowest cost within the time allowed.

f. The PERT/Cost system uses eight basic management reports, both graphic and written. Each one emphasizes a different aspect of project management: overall management, cost, manpower, and milestones. These reports, usually prepared monthly, summarize current information from all subordinate levels. The Government combines these reports with information on concurrent projects. It is then able to determine those areas from which it can safely withdraw resources to assist the more critical phases.

89. PERT and Line of Balance (LOB)

a. Line of Balance. The Line-of-Balance control techniques, often referred to as Production Analysis, has long been used by government and industry as a management control over the production of end items. Basically, it is a systematic method for assembling, selecting, interpreting, summarizing and presenting production planning and progress information for evaluation. Based on the "management by exception" principle which draws attention to departures from the plan, Line of Balance graphically portrays in three diagrams the following data, as of given dates:

(1) The plan of production, expressed in leadtimes for selected controlling elements and resulting in an end item delivery at a scheduled date.

(2) The schedule of planned end item production which is the time phased production process against which end item deliveries are plotted.

(3) Cumulative progress for each selected element or checkpoint in the production plan.

The resulting line of balance on the diagrams (from which the method derives its name) indicates the planned performance level for each controlling element at the reporting date. Actual performance levels are also shown. In this way, the LOB charts uncover two areas of information: elements where the rate of production progress is insufficient to meet scheduled deliveries, or elements that are in over supply or ahead of the plan for the particular time. Management attention is thus focused on factors requiring corrective action, or in other words, the exception to the production plan. It also permits evaluation of actions resulting from previous production analysis studies.

b. PERT/LOB. Although PERT and LOB are basically two techniques distinct from each other they are not in conflict and they do complement each other. Whereas PERT/Cost applies to one-time activities, the PERT/LOB technique provides the input for effective management of repetitive activities during the development and production activities of the project. It is a result of integration of the PERT/Cost and Line-of-Balance techniques so that a single set of techniques for schedules and cost management can be employed continually through the acquisition phase of the project. Its objectives and advantages are as follows:

(1) The objectives of PERT/LOB are to provide the project manager with—

(*a*) Necessary visibility to recognize actual and potential problems,

(*b*) The means to assure timely delivery of end items, and

(*c*) Accurate production cost data for control purposes.

(2) The advantages of the PERT/LOB technique are that it shows the present status of the repetitive activity effort in terms of inventory and cost in relation to planned status and predicts the status at any point in the future. In addition, PERT/LOB accommodates systematic scheduling of multiple output requirements including concurrent spares production. PERT type analyses can be made of critical and slack paths as an aid in establishing schedules. PERT/LOB permits a systematic introduction of the economic consideration of inventories, batch sizes, and learning curves in the establishment of schedules. Finally, standard data may be collected in terms of unit cost and unit production time.

CHAPTER 14

AUTOMATIC DATA PROCESSING SYSTEMS AND LOGISTICS MANAGEMENT CONTROLS

Section I. GENERAL

90. The Need for Automatic Data Processing Systems

a. Thermonuclear age military operations, with greatly increased speeds of maneuver, wide dispersal of units, ever-increasing complexities of weapons systems and equipment, and the need for rapid response on the part of logisticians to meet the requirements of the Army-in-the-Field have resulted in tremendous increases in the volume of data that must be assembled and processed in order that prompt and effective logistics support can be provided

b. Data processing, as with any other function or activity, requires a resource input to provide a product output. Manpower, money, materiel, facilities and time are required to gather information, record it and to produce meaningful and timely reports for managers' decision-making functions or to perform the function of controlling. The great increase in the number of basic items of information to be processed and the need or time-compression to make use of the data gathered has far outstripped the ability to cope with the job to be done using either manual or mechanical processing systems. Fortunately, the advances in science and technology that have produced modern weaponry and equipment have also provided the means of automating to a high degree the data processing function or in other words have produced automatic data processing systems.

91. Characteristics of ADPS

a. Automatic data processing systems (ADPS) normally consist of a combination of units including input, storage, processing and output devices. These are designed to process business and scientific data at electronic speeds with self-checking accuracy. The key element of these systems is the processing unit, a high speed electronic computer. The most significant aspect of computers is their capability to perform arithmetic computations and logic on large volumes of data at an extremely low time consumption rate. The time required for a computer to search out information, perform a programed computation with the data, and to produce an answer is measured in fractions of a second. Computers are capable of performing one-hundred thousand additions in a single second while some special computers now available can execute additions or subtractions in a matter of a few nanoseconds. (There are one billion nanoseconds in one second, or about as many as there are seconds in thirty years.)

b. A large storage, or "memory", capacity and extreme accuracy are two other significant characteristics of the equipment that comprise an ADPS. All data and all program instructions concerning the use of the data must pass through or be stored in the "memory" unit of the computer. Modern equipment has internal storage capacities of from four thousand to two hundred thousand characters representing basic elements of information made up of either the data to be processed or the processing instructions or both. Computers with an internal memory capacity of one million items are fast approaching reality. External storage may also be used which greatly increases the total capability of the computer since it need not be dependent solely on its internal "memory" capacity to function. Coupled with its speed and capacity, an electronic computer is virtually completely accurate, most equipment hav-

ing an error rate of less than one error per one million computations.

c. Modern methods of communication, although not included in the dictionary definition of ADPS, are being combined with ADPS to provide a far-reaching system. It is now possible to connect output and input devices, wherever they may be located, by radio, telegraph, teletypewriter, or telephone circuits in such a way that the "machines can talk to each other." As a result, information can be transmitted from the point of original input to any other point in interconnected systems at the speed of an electric current passing through a wire or of a radio signal passing between a transmitter and receiver. Considering the innate accuracy of ADPS, it is now possible to transmit the same data throughout the system with virtually no possibility of error or deviation from the information originally put into the system.

d. The nature of the equipment and its method of operation dictates the requirement for personnel trained specifically for maintenance, operation, and programing. For all their great abilities to perform work, ADPS are complex machines that can do only what they are told. Man must program in detail each step that the computers and their peripheral equipment must take. In fact, ADPS has been described as an extremely fast, accurate moron with a fabulous memory. The use of its capabilities is limited only by the ability of the programer to tell it what to do. Therefore, its application increases rather than decreases the need for human intelligence and initiative.

92. Limitations and Problem Areas

a. Even with their great capabilities to provide managers with information, ADPS still has not reached its full use potential. This is so because of certain inherent limiting factors. High costs of acquisition, lack of trained personnel and incompatibility of various makes and models have all tended to slow the pace of ADPS installations and use.

b. Computer size is conventionally expressed in terms of cost: small scale computers cost less than $450,000, medium scale computers cost between $450,000 and $1,500,000, and large scale computers cost more than $1,500,000. From this it can be seen that the decision to automate data processing operations must be carefully analyzed from a viewpoint of a cost-to-benefit ratio. The high acquisition costs must be offset by concrete advantages such as reductions in clerical positions, a significant time-compression in obtaining processed data, a major space saving or a combination of these factors.

c. Computers and their supporting devices are extremely complex electronic machines. Maintenance and operating personnel must be highly trained, skillful individuals. ADPS has brought to the fore the need for specialists in the area of programing instructions for the computers. As mentioned previously, these machines do only what they are told. Unfortunately, they must be told each and every step for each of the functions they perform and it is not unusual to find from two to five-thousand steps required to absorb data, process it and produce a usable answer. It is often said that automatic data processing produces results measured in thousandths of a second but programing a set of instructions must be measured in several man-months of effort at a cost stated in thousands of dollars. Obtaining personnel with the necessary skills and training is difficult since the virtual ADPS "explosion" in industry, science, schools, business, and government has created a demand for these personnel far in excess of the current supply.

d. The Army has at present many makes and models of ADPS equipment. Within the wholesale logistics complex, this problem was created prior to the 1962 reorganization of the Army when each of the then technical services organizations procured equipment to satisfy its own particular needs. Some equipment will accept data and programs only in punched card format while other will only accept punched paper tape or magnetic tape. The positioning of data on the input media differs. Storage or "memory" structures vary between different manufacturers' models. These all lead to problems of communication of data between systems and create the need for data conversion activ-

ities and negate to a significant degree the capability for speed. The possibility of errors entering the system is increased by the need for human intervention in transposing data so that it may be used by varying ADPS. A far-reaching program is underway to overcome most of these problems in the form of the Army Materiel Command Management Information Program which is discussed in section II.

Section II. ADPS AND MANAGEMENT INFORMATION SYSTEMS

93. The Concept of ADPS as a Source of Management Information

a. ADPS and communications have made it possible to design and develop management information systems that, in effect, will be worldwide in scope using to the maximum extent data input from the original sources and then extracting these data from the system at any point of need throughout the entire management structure. This is a very ambitious concept but is fast approaching reality. While it it true, and will remain so, that the detail of management information required will vary in most instances with the echelon of management concerned, it is also true that the data elements entered into the systems at the original source of input will be available to any echelon. This aspect is solved by the establishment of "data banks" at the various echelons of management which are programed to process only the data required in the form needed at that echelon. "Data banks" are highly sophisticated computers with their input/output devices and with the addition of communications systems become "data bank complexes." Their use can have the effect of reducing requirements for this very expensive equipment since their capacity for receiving data and performing programed data processing operations is so great that it will be possible to serve several installations and/or activities by the placing of remote input/output devices at the installations and activities served, rather than having to provide each with computer capability, and perform all data processing at the "data bank" center of operations.

b. The design and development of such ADPS-supported management information system is a task of great magnitude, requiring participation of commanders and managers at all levels as well as the help of those skilled in the management services and in the field of ADPS. First and foremost, an inventory of management's need for information must be made, the sources of the data identified and common data used by more than one manager must be isolated. Data flow, consolidations, summarizations, array, frequency of need, who uses it and in what form, relationships and a myriad of other questions must be answered during this initial phase. From this is developed the system concept and the hardware on hand has to be evaluated as to adaptability to the concept. Additional equipment requirements are developed, the funding requirements prepared and approval obtained. The actual installation of an ADPS management information system is completed only after the equipment is installed, personnel are trained in the revised procedures, and the system is tested and "debugged."

c. Training is the key to successful use of ADPS-based management information systems. The users of the systems must have an appreciation of the capabilities and limitations of the ADPS. Several key points must be stressed, among them such items as: the need for accuracy of input data; the need for preplanning information output; the acceptance of information in machine format; and the placing of trust and confidence in the ADPS itself. Upon adoption of ADPS, a decided difference in the methods of doing business occurs from those previously carried on under manual and machine-assisted modes. The data that had been carried in readily available manual files are placed into the computer's storage or "memory" unit and can be recalled only in response to a computer program. This facet alone is sufficient justification to the training outlined above since all managers must fully appreciate the capabilities and limitations of the computers in order to plan and control

their own information requirements sufficiently in advance to permit maximum use of the equipment and to prevent unnecessary expenditures in computer programing on a crash basis to retrieve information that "hadn't been thought of beforehand."

94. The Army Materiel Command Management Information System (AMC-MIS)

a. The Commanding General, U.S. Army Materiel Command has initiated a far-reaching program which establishes requirements for design and implementation of standard operational and management systems to support an integrated and automated command-wide Management Information System (MIS). This program is presented as an example of a ADPS because of the importance of the USAMC to Army Wholesale Logistics. The systems are being designed not only for the purpose of providing better and more rapid responsiveness within the command but also to meet the information requirements of the Department of Defense, the Department of the Army, and other Army major commands while at the same time providing a more effective means of satisfying the requirements of the Army-in-the-field.

b. The Management information system concept envisions a total MIS which is intended to improve the control and flow of data; minimize the competitive demands for data, utilize ADP and EAM equipment to the maximum extent, provide for maximum use of common data, and achieve flexibility of design to accommodate to continuing adjustments.

c. Both operational management and material management information are considered under the MIS concept and plan with priorities of information processing as follows:

(1) PEMA and major items management.
(2) Project management.
(3) Supply and maintenance.
(4) Command management.
  (*a*) Program management.
  (*b*) Financial management.
  (*c*) Installations management.
  (*d*) Other areas as specified.

d. This new MIS is concerned with the control of a complex of one-hundred and sixty-five thousand people; two-hundred and fifty installations placed throughout the continental United States; and a materiel inventory of twenty-three billion dollars. It is designed to provide management information in the fields of dollar resources; research and development; procurement of approximately eight billion dollars of materiel a year; stock control and inventory control; distribution of materiel; disposal; transportation; manufacturing maintenance; depot operations; and other functions such as housekeeping, housing, utilities, and so forth. The accomplishment of this undertaking is laid out in the form of a five-year program which commenced in FY 64. FY 68 is the target year for the conversion of existing systems to standard AMC-wide operational and management systems with subsequent fiscal years being designated as target years for review, improvement and refinement.

95. ADPS and Future Management Control Concepts

a. A soundly developed management information system must produce the information the manager needs to control his operations and activities, reduce the flow of data to that which is actually needed, make data available to all managers, and produce the data rapidly. To accomplish this all managers and operators throughout a system must use a common language of management information, standardize the basic data put into the system, standardize organizations where necessary, and demand rapid and accurate input of data.

b. As the above criteria are met, the question of decentralization of authority versus centralization arises. As more valid data are made available to each succeedingly higher echelon of management approaching real-time availability at each of these echelons, serious consideration must be given the delegation of decision-making authority, particularly in organizations that are as interlocking and interdependent as the Army wholesale logistics complex. The levels of program preparation, financial management, planning, review and

analysis, performance appraisal, personnel management, to name but a few of the elements controlled are opened to careful study and analysis as ADPS support management information systems are developed and established. It is entirely within the realm of possibility that the future will see a completely automated supply system for many secondary items and repair parts. Under the procedures for this system, requisitions would be submitted electricrically or electronically direct to the NICP computer which will perform all the necessary transactions to direct shipment from a depot. Financial and item inventory transactions will be recorded, billings to customers prepared if the items are stock-funded and, dependent upon inventory status, procurement directives prepared for inventory replenishment. Materiel release orders to depots and procurement requests to the procuring activity will be tranmitted by the NICP ADPS. Command Automated Procurement System (CAPS) provides for the complete automation of the procurement cycle, starting with the initiation of the supply procurement requirements and extending through preparation by the computer of the purchase order or contract. CAPS, in turn, would automatically provide for data input to such other functions as finance and accounting, comptroller, and materiel management and distribution. Human intervention, or management and control, unedr such fully automated systems is reduced drastically from current standards and decidedly requires detailed study relative to the points of decision making authority. Such study can conceivably lead to review and redesign of organizations for more effective command control.

PART FOUR

SPECIAL CONSIDERATIONS RELATIVE TO LOGISTICS MANAGEMENT CONTROLS

CHAPTER 15
DESIGN OF SYSTEMS

Section I. BASIC FACTORS TO BE CONSIDERED

96. Fulfillment of the Needs of Management

a. In the final analysis any control system or device is designed and put into use for one purpose, to provide commanders and other managers with information upon which they may make decisions. This means then that the means and methods of control must be designed to provide the information the manager needs on a timely basis and in a format that makes the information readily usable.

b. Since the method or system of data gathering and reporting is developed and installed to satisfy a manager's requirement, it is evident that the manager concerned is the primary designer of a control device. This is not to say that each manager must be fully acquainted with all the aspects that go into the makeup of a control system, but each must be able to determine the information needed, the format it should be presented in and the time it is required to be available.

c. An important consideration is the amount, or degree of detail, of data to be furnished a manager. In the past when manual systems were preponderantly used, the problem was in the area of too little information furnished too late. ADPS, on the other hand, has the capability of inundating managers with data on a daily basis. Under these circumstances managers must manage the flow of information to assure they get only what they need and protect themselves from becoming enmeshed in mountainous volumes of irrelevant, uncoordinated data.

d. ADPS use brings to the fore another consideration in the planning and designing of control systems. Although computers can process data and furnish the results of this processing at almost instantaneous speeds, the programing of the computers to perform these functions is both time consuming and expensive. Therefore, managers must review their information requirements carefully and make their needs known with sufficient advance time to permit the ADPS technicians to prepare the complex computer programs necessary to process the data into the format desired.

e. While guarding against receiving too much information, the manager must assure getting all the information he needs in order to do his job. Every manager is concerned with the direction of use of the resources of men, money and materiel and he must therefore be aware of the availability and use of these resources. He cannot abdicate his responsibilities for the control of them to another organizational element. For example inventory managers must know at all times the status of the funds made available for the procurement of the supplies and equipment under their cognizance. This is true whether the procurement is funded from PEMA, O&MA, or Army stock funds. This same approach is true for managers of any activity and for all the resources programed to them for performance of their missions and functions and their control systems must be designed to provide the pertinent information.

97. Compatibility With Existing Systems

As the occasion arises when new or modified systems of control are considered to be necessary, the most logical first step is an inventory of the systems already in being. This inventory should consider primarily the product, or information, currently available; the means used to obtain the information; the source and degree of detail of the data concerned; and last, but not least, the reason for existence of the current system. In most cases it will be found that the source data required for the new system is already being accounted for and reported on to satisfy other management needs. This then makes the design of the new system comparatively simple since the problem only relates to the identification of the data elements to be extracted and the manner in which information is to be presented. By developing new systems in close agreement, and maximum consistency, with existing systems, the accounting and reporting workload necessary to accommodate the new systems is held to the minimum.

98. Adaptability to Mobilization

Basic to the design of any system of logistics management control is the necessity for these systems to accommodate support of orderly and rapid expansion of the Army under mobilization plans and programs. To insure effective continuity in the management of operations and resources, the peacetime systems and procedures must remain in effect. Thus systems should all be designed or redesigned to assure maximum support to the Army-in-the-field under the trying conditions of mobilization without disruption to install new or different systems.

Section II. OTHER FACTORS

99. Cost of System Versus Benefits Derived

a. Cost-to-benefit ratios must be developed and considered when designing management control systems just as they must be when undertaking any endeavor that is going to use resources to furnish a product. In the case of a control system, the product furnished is information, which tends to make the measurement of benefits gained a difficult problem.

b. The increasing use of ADPS further complicates weighing the costs of a system against the value of benefits to be gained but in an obverse way. Quite often, ADPS-supported systems make possible the gathering, recording, processing and reporting of many items of data that were inconceivable under mechanical or manual systems. Thus detailed research during design and development phases of control systems, particularly into possible areas other than the one(s) immediately under consideration, can have a valuable pay off.

100. Overcontrol and Overmanagement

a. There is another aspect of management that is sometimes difficult to recognize. This is that control over some things must be relinquished as successively higher echelons of management are reached. Managers of the first or lowest echelon require certain information as their basis of controlling their operations which is normally very detailed. But in the next higher echelon the character of needed information changes; some information is added, some is dropped and other data are summarized. This process of adding in, dropping out, and summarization continues as information moves upward through the management pyramid.

b. The tendency to attempt to keep track of all the details concerning an area of responsibility and accountability is a basic human trait that must be recognized and overcome in order to manage successfully. First, it is impossible except at the first line of supervision for any manager to be familiar with all the detailed data that is developed in his operations. Secondly, managers should not allow themselves to do so since it is in violation of all the accepted principles of management and is a deviation from Army management policies stated in AR 1–24. Overcontrol and overmanagement

can easily lead to two adverse conditions. Overcontrol develops to the point where the mere following of accounting and reporting procedures becomes more important than the striving toward attainment of stated mission objectives. Also, overcontrol and overmanagement tend to stifle initiative, interest and enthusiasm in subordinates, leading to the creation of serious morale problems.

c. Each manager must determine the facts and figures needed for him to control his operations and to exercise his responsibilities. Detailed data which do not meet this criteria fall into the category of information only; it is expensive to produce and having it on hand can easily lead to overcontrol and overmanagement.

CHAPTER 16

RELATIONSHIPS WITH NON-ARMY ORGANIZATIONS AND ACTIVITIES

Section I. DEGREE AND TYPES OF SUPPORT FURNISHED BY ARMY WHOLESALE LOGISTICS

101. The Scope of Support to Non-Army Agencies and Activities

a. In paragraph 4*a* the Army Wholesale Logistics mission was summarized as having the responsibility of providing the Army and other designated customers with the implements of war. This chapter deals with "other designated customers." These customers are the Navy, Marine Corps, Air Force, and other agencies of the Department of Defense; government agencies outside the DOD; foreign nations; and non-governmental agencies or activities.

b. The logistics support concerned takes any one of a number of forms. For example, the Army is the "single manager" for the Department of Defense for such items as tactical/combat vehicles, certain individual weapons and ammunition, and for the repair parts to support these items. From this type of full logistics responsibilities, Army Wholesale Logistics provides varying degrees of support to a variety of customers. There is support to friendly foreign nations in accordance with international treaties and agreements; support to DOD agencies, activities, and other military services on an "as-required" basis; and loans of equipment to non-government agencies such as the American Red Cross and the Boy Scouts of America. The Army is also called upon to provide assistance in disaster relief to aid the civilian populace.

102. United States Organizations and Activities

a. Some categories of logistics support to non-Army customers are provided entirely from the resources budgeted for and controlled by the Army. In these cases, there is no earmarking of the resources to support this type of customer. The anticipated workload to accomplish the requirements is computed in the programing and budgeting cycles and becomes part of the accompanying justification for men, money and materiel to support the total workload.

b. Providing logistics support on an as-required basis leads to problems that require definite control. Normally such support is provided on a reimbursable basis under inter-service or inter-departmental agreements which specify in detail the logistics support to be rendered and the methods of reimbursement to be followed.

c. In keeping with the interests of economy and efficiency, a further program is in being concerning the provision of logistics services at the post, camp and station level to the separate activities of the Army and the other military services. This program calls for the satelliting of minor activities on a single installation designated to serve a geographic area. Under this program, commanders of Army Wholesale Logistics installations find themselves in the position of supporting activities of other major Army commands and of the other military services. AR 1–38 and AR 10–50, provide guidance in the area of installation level interservicing.

103. Military Assistance Programs

a. Supply support to other nations of the

free world that qualify under the terms of the Foreign Assistance Act of 1961, as amended, is a vital and integral part of the missions and responsibilities of Army Wholesale Logistics. In FY 64 alone, the Army provided approximately one and one-tenth billions of dollars of supplies and equipment under the Military Assistance Programs established under the above act. Supply support under the Military Assistance Programs is subject to the same problems that face logistics managers in providing support to the United States forces. In addition, these programs are influenced by the constant changes in international political economic forces that are so prevalent in the world today.

b. Determining the degree of support and the method of providing it is a complex process that involves, as a minimum, the President, the Congress, the Departments of State, Treasury and Defense as well as the foreign nations concerned. The degree ranges from virtually total support to countries involved in combat, such as South Vietnam, to the seeking out of markets in which U.S. military supplies and equipment can be sold through the Military Assistance Program. Basically, the provision of supplies and equipment to foreign countries follows one of two methods:

(1) *Grant Aid.* Military assistance rendered under the Act for which the United States receives no reimbursement.

(2) *Military Assistance Sales.* Sales of defense articles or services to eligible foreign countries and international organizations. Under the provisions of the Act, the United States is reimbursed for the goods or services provided.

c. The policy of the United States is to reduce or terminate military assistance under grant aid procedures when a country attains a position of sufficient wealth to equip and maintain its own forces at adequate strength without placing an undue burden on its economy. Consistent with overall security objectives, maximum efforts are made to promote the program of selling U.S.-produced military equipment and services to friendly foreign governments. These policies, good in themselves, further add to the logisticians problems of management and control since the decisions made by the political and economic advisors necessarily have an impact on the supply system.

d. The DOD and the Army, as well as the other military services, have developed organizations to deal specifically with military assistance matters. Systems of control have also been established to insure an orderly flow of transactions, and their information, through the supply systems.

(1) A major step has been taken in reducing problems in connection with the Military Assistance Sales Program. This is the Cooperative Logistics Program wherein a customer country, by formal agreement, becomes a regular customer of the U.S. supply systems, much in the same manner as a U.S. military organization. The customer country agrees to procure items of military supplies from the regular supply systems of the U.S. military services. Upon determination of the depth and range of items concerned, the customer country finances that portion of the supply pipeline attributable to its requirements. After this initial step, the country then requisitions its requirements for supplies and equipment in the same manner as a U.S. military organization, reimbursing the supplier for the items received. Under this procedure the wholesale logistics functions of requirements determination, procurement and distribution are simplified since the customer country's requirements are merged in with those for support of U.S. forces.

(2) Grant aid support continues to be faced with two definite problems. First, in many instances, the recipient countries are equipped with materiel which is no longer in use by U.S. forces. Furnishing items to maintain

this materiel is difficult, particularly since some of the items are no longer carried in Army inventories and quite often they have been phased out of production by the manufacturers. This problem area is further aggravated by the second, the difficulty in obtaining sufficient funds on a timely basis. Grant aid is supported by specific annual appropriations made by the Congress. Section 504(B) of the Foreign Assistance Act of 1961, as amended, states, "In order to make sure that a dollar spent on military assistance to foreign countries is as necessary as a dollar spent for the United States military establishment, the President shall establish procedures for programing and budgeting so that the programs of military assistance come into direct competition for financial support with other activities and programs of the Department of Defense." Compliance with the spirit and intent of this Act creates detailed programing and budgeting procedures with supporting justification. This leads to careful and complete scrutiny of the grant aid programs and budgets at all levels. As a result appropriations in this area are often not established until as late as the second quarter of the fiscal year to which they pertain. This in turn presents logistics managers with many problems in effectively carrying out their grant aid support missions. Controls become increasingly significant when recomputations of requirements, changes in planned procurement schedules, and changes to distribution programs have to be accommodated without jeopardizing the mission of support to the U.S. Armed Forces.

Section II. CONTROLS IN RELATION TO NON-ARMY SERVICING

104. Common-Servicing and Cross-Servicing

a. The controls required in connection with wholesale logistics support provided to non-Army organizations and activities are dependent upon the manner and method under which the support is rendered. Previously it was mentioned that in those instances wherein the Army is designated as the single manager for furnishing wholesale logistics support to the other military departments, the Army programs and budgets for the resources with which to carry out these responsibilities. This is common-servicing, defined as those functions performed by one military service in support of another military service for which reimbursement is not required from the service receiving the support. It is also referred to as non-reimbursable support.

b. Almost without exception, wholesale logistics support is provided to non-U.S. military customers on a reimbursable or cross-servicing, basis. The scope of reimbursement obtained from the recipients varies in accordance with the provisions of the agreements or directives under which the support is provided. In many instances, particularly under foreign aid programs, reimbursement is obtained not only for the costs of the materiel provided but also for the administrative and operating costs incurred in providing the support. At the other extreme are the donations of excess or surplus materiel to authorized donees wherein only the packing, crating and transportation costs are recovered by the Army.

105. Financing Non-Army Support

a. Support to non-Army customers is not accomplished on a haphazard, when-it-occurs basis. The planning, programing and budgeting procedures make definite provision for forecasting the support to be provided, both on reimbursable and non-reimbursable basis. The basic concept of cost-of-performance budgets is that they relate by fiscal periods accomplishments and future work programed to the costs in terms of resources applied. They

identify available resources for application to the programs and total obligations required to finance the program to include reimbursable work to be performed. Sources and types of reimbursements and the workload are included in "Analyses of Reimbursements" that are integral components of the Command Operating Budgets. Non-reimbursable support is also programed and is justified in "Analyses of Non-Reimbursable Support."

b. Approved Command Operating Budgets and their supporting Annual Funding Programs and allotments identify the workload and supporting resources to accomplish programed reimbursable and non-reimbursable support. Information relating to these programs must be recorded, reported on, and subjected to review and analysis procedures. The Army management structure and the fiscal and financial charts of accounts are constructed to accommodate this control system.

c. Reimbursable support is financed by one of two methods—

(1) *Funded reimbursements.* Under this method, funding is provided the performing installation or activity through the appropriations and budget programs that support their normal operations and workload. The amount included is identified in the narrative, or "Remarks," section of the Annual Funding Programs and allotments. Strict control is required since the amount identified as funded reimbursement can only be used to support reimbursable workload actually accomplished. It cannot be used to support the normal mission workload of the installation or activity concerned. Excess funding must be reported to higher authority as available for withdrawal. Detailed reports are required to be submitted to higher authority concerning the status of the funded reimbursement programs.

(2) *Automatic reimbursements.* Under this method, the performing installation is provided funding support by means of orders calling for goods or services. Advance funding is not provided in the Annual Funding Programs and allotments as is the case with funded reimbursements described in (1) above. Upon receipt of an order, the customer's funds are transferred to the installation's allotment in order to finance the workload necessary to provide the goods or services called for. Upon completion of the order, a final adjustment is made between the customer's account and the performing installation's funds. These transactions are also reported in detail to higher authority.

106. Summary

The Army Wholesale Logistics System is called upon and is required to support a variety of non-Army organizations and activities. The basis for this support may be an international agreement, an inter-departmental agreement, or an agreement arrived at between installation or activity commanders at the local level. This support may be considered as a part of the normal workload of Army Wholesale Logistics installations or activities and as such must be included in the planning, programing and budgeting cycle, or it may be at the other extreme of a one-time order under which the customer is required to pay for all costs. In any event, the management control systems must be used to assure first and foremost that the primary missions of the Army logistics complex are being accomplished, and that the managers' resources are not diverted for accomplishing other purposes. The areas of interservice and international logistics, and support to other non-Army agencies are complex, but a basic premise applies to all transactions of this nature—management systems of control provide the managers concerned with the means of assuring that the various programs are being carried out as intended.

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By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
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Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

DCSLOG (25)
DCSPER (25)
DCSOPS (25)
ACSI (25)
ACSFOR (25)
CORC (25)
CRD (25)
TAG (25)
CofEngrs (25)
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Joint Sch (5)
Specialist Sch (5)
Army Dep (5)
Arsenals (5)
PG (5)
LOGCOMD (5)

NG: State AG (3).
USAR: None.
For explanation of abbreviations used, see AR 320–50.

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