FM 38-23

DEPARTMENT OF THE ARMY FIELD MANUAL

LOGISTICS MANAGEMENT SUPPLY OPERATIONS AT THE DEPOT

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1969

CHANGE
No. 1

Posted

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *30 December 1971*

LOGISTICS MANAGEMENT
SUPPLY OPERATIONS AT THE DEPOT

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5–3 through 5–9	5–3 through 5–10
6–7 and 6–8	6–7 and 6–8
7–1 and 7–2	7–1 and 7–2
9–1 and 9–2	9–1 and 9–2
12–1 through 12–5	12–1 through 12–6
13–1 and 13–2	13–1 and 13–2
14–3 and 14–4	14–3 and 14–4
16–3 through 16–6	16–3 through 16–7
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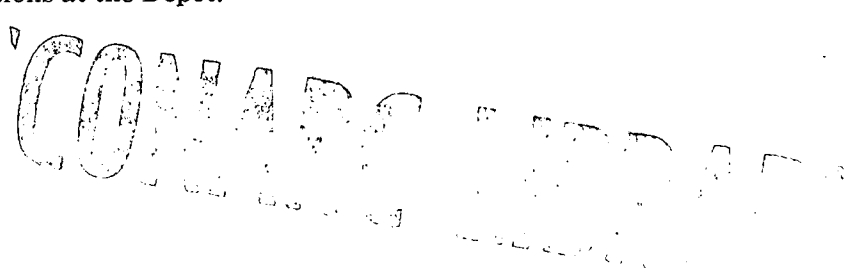

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No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *29 June 1973*

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★LOGISTICS MANAGEMENT
DEPOT OPERATIONS

FM 38–23, 19 June 1969, is changed as follows:

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5–7 and 5–8	5–7 and 5–8
6–5 through 6–11	6–5 through 6–16
11–3	11–3
12–1 through 12–6	12–1 through 12–5
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Distribution:
To be distributed in accordance with DA Form 12–11B requirements for Logistics Management—Supply Operations at the Depot.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973—714–592/834

CHANGE
No. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *8 July 1974*

LOGISTICS MANAGEMENT DEPOT OPERATIONS

Effective Upon Receipt

FM 38–23, 19 June 1969, is changed as follows:

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Distribution:
Active Army, ARNG, USAR: To be distributed in accordance with DA Form 12–11B requirements for Logistics Management — Supply Operations at the Depot (Qty rqr Block no. 342).

FIELD MANUAL
No. 38–23

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *19 June 1969*

LOGISTICS MANAGEMENT

SUPPLY OPERATIONS AT THE DEPOT

FM 38–23

FIELD MANUAL
No. 38–23

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *19 June 1969*

★LOGISTICS MANAGEMENT
DEPOT OPERATIONS

PART ONE
INTRODUCTION
CHAPTER 1
GENERAL

1-1. Purpose

a. This manual contains Army doctrine applicable to the management of supply operations at the CONUS depot. It is designed to provide guidance to commanders, staff officers and operating personnel who are concerned directly or indirectly with the receipt, storage, preservation and packaging, and shipment of supplies through depots or storage sites in the Army wholesale logistics system. The manual is also designed to provide a basis for appropriate courses of instruction in the Army school system. However, it is emphasized that the basic publication on depot operations is TM 743-200 and TM 743-200-1 which has been adopted by all services.

b. Users of this manual are encouraged to submit recommended changes and comments to improve the manual. Comments should be keyed to the specific page, paragraph, and line of the text in which the change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be prepared using DA Form 2028 (Recommended Changes to Publications) and forwarded to the Commandant, US Army Logistics Management Center, ATTN: AMXMC-AM, Fort Lee, Virginia 23801.

★1-2. Scope

a. This manual is concerned with the principles, doctrine and policies which govern supply operations primarily at the CONUS depot and with the management controls essential to efficient accomplishment of the supply mission. It will furnish a common basis for supply operations and be a source of guidance in selecting the technique or procedure best suited to a particular operation or mission. This publication attempts to present an integrated manual on supply operations at the Army Continental United States (CONUS) depots. The relationship between supply operations at the depot and other functions of materiel management will be delineated as necessary for clear understanding.

b. The subject is developed in six parts.

(1) *Part One: Introduction.* This portion of the manual discusses, in general, the functions performed by the depot.

(2) *Part Two: Mission, Functions and Organization for Logistics.* Describes the principal organizational elements in the Federal Government engaged in the management of supply operations which support the United States Army and its customers.

(3) *Part Three: Mission, Functions and Organization for Supply Operations.* Discusses the mission and functions of inventory control points (ICP), the ICP relationship to the depot, and the Defense Military Standard Data Systems. Describes the internal organization and functions of depots, types and location of depots, and the various commodities stocked.

(4) *Part Four: Supply Operations at the Depot.* Discusses supply operations to include receiving and shipping of supplies, storage operations, stock location, care and preservation of stocks, traffic management, depot reports, depot services, and central workloading.

(5) *Part Five: Functions Related to Supply.* Discusses the mission and functions of depot maintenance, property disposal, and their relationship to supply operations.

(6) *Part Six: Management Controls.* Discusses financial management and controls, inventories to include techniques and types, the use and potential of automatic data processing systems, Defense Integrated Management Engineering System (DIMES), and the depot comptroller.

1-3. The Depot

The depot is the basic facility for handling mate-

riel in the supply system, including receipt, inspection and classification, storage, care and preservation, assembly, maintenance, and issue. The minimum task of depot supply management is, simply stated, to physically receive, store, ai care for supplies; process applicable demands ai ship supplies against demands to meet requir dates.

PART TWO
MISSION, FUNCTIONS, AND ORGANIZATION FOR LOGISTICS

★CHAPTER 2
DEPARTMENT OF DEFENSE

2–1. Secretary of Defense

a. The Department of Defense (DOD) is an outgrowth of the National Security Act of 1947 and the amendments of 1949, with the Secretary of Defense as its head. It was created as a part of a comprehensive program designed to provide for the future security of the United States through the establishment of integrated policies and procedures for the departments, agencies, and functions of the Government relating to national security. All Department of Defense functions are performed under the direction, authority, and control of the Secretary. Policy guidance to all military departments is furnished by the President through the Secretary of Defense. The Secretary of Defense is responsible for establishing general policies and programs for the military departments and exercising general direction and control. He eliminates unnecessary duplication in procurement, supply, transportation, storage, and research. He also supervises and coordinates the preparation of budget estimates of the military departments and supervises the execution of budget programs under the appropriation acts.

b. The Department of Defense is organized to include a Secretary of Defense, a Deputy Secretary of Defense, Defense staff offices, the Joint Chiefs of Staff and Joint Staff, the Defense Supply Agency, military departments and military services within those departments, unified and specified commands, and other agencies as the Secretary of Defense may establish to meet specific requirements. Elements of DOD that have a major influence on Army logistics are the Assistant Secretary of Defense (Installations and Logistics), Assistant Secretary of Defense (International Security Affairs), Assistant Secretary of Defense (Comptroller), Director of Defense Research and Engineering, the Joint Chiefs of Staff, and the Defense Supply Agency. Figure 2–1 depicts the organization of DOD.

Figure 2–1. Department of Defense.
(Located in back of manual)

2–2. Installations and Logistics

The Assistant Secretary of Defense (Installations and Logistics) is the principal assistant and adviser to the Secretary of Defense on all supply and logistics matters. He is responsible for the development of logistics policy and furnishes guidance to the military departments governing planning and program development. He performs his functions by coordinating actions, as appropriate, with the military departments and other Department of Defense agencies having collateral or related functions. He maintains liaison with appropriate agencies outside the Department of Defense on installations and logistics matters. In exercising his staff functions he is authorized to issue instructions appropriate to carrying out policies approved by the Secretary of Defense. Instructions to military departments are issued through the department secretaries or designees. The Assistant Secretary of Defense (Installations and Logistics) is responsible for:

a. Materiel requirements.

b. Procurement and production.

c. Materiel management.

d. Logistic services.

e. Military Assistance Program (exclusive of financial management).

f. Industrial mobilization.

g. Installation planning and programing.

h. Facilities and real property management.

i. Construction.

j. Family housing.

k. Small business.

2–3. The Joint Chiefs of Staff

a. The Joint Chiefs of Staff are the principal military advisers to the President, the National Security Council, and the Secretary of Defense. They are the Secretary of Defense's immediate military staff and serve in the chain of command from the President to the Secretary, through the Joint Chiefs to the commanders of the unified and specified commands. Subject to the authority and direction of the President and the Secretary of Defense, the Joint Chiefs of Staff are responsible for the following:

(1) Preparing strategic plans and providing for the strategic direction of the Armed Forces, to include the direction of operations conducted by commanders of unified and specified commands.

(2) Preparing integrated plans for military mobilization and integrated logistics plans.

(3) Recommending to the Secretary of Defense the establishment and force structure of unified and specified commands and the assignment to the military departments of responsibility for providing support to such commands.

(4) Reviewing the plans and programs of commanders of unified and specified commands.

(5) Reviewing the major personnel, material, and logistics requirements of the Armed Forces in relation to strategic and logistics plans.

(6) Establishing doctrine for unified operations and training and coordinating the military education of members of the Armed Forces.

(7) Providing the Secretary of Defense with statements of military requirements and strategic guidance for use in the development of budgets, foreign military aid programs, industrial mobilization plans, and programs of scientific research and development.

(8) Recommending the assignment of primary responsibility for any function of the Armed Forces requiring such determination, and the transfer, reassignment, abolition, or consolidation of such functions.

(9) Providing the United States representation on the Military Staff Committee of the United Nations, and when authorized, on other military staffs, boards, councils, and missions.

b. The Joint Staff consists of the Chairman of the Joint Chiefs of Staff; the Chief of Staff, United States Army; the Chief of Naval Operations; and the Chief of Staff, United States Air Force. The Commandant of the Marine Corps attends meetings regularly and sits as a coequal with the other staff members when they are considering matters of direct concern to the Marine Corps. The Joint Staff is headed by a director and is composed of not more than 400 officers selected in approximately equal numbers from the Army, Navy, (including the Marine Corps), and Air Force.

2–4. National Security Agency (NSA)

a. The National Security Agency was established by Presidential directive in 1952 as a separately organized agency within the Department of Defense under the direction, authority, and control of the Secretary of Defense who was designated Executive Agent for the performance of highly specialized technical functions in support of the intelligence activities of the United States.

b. The National Security Agency has two primary missions—a security mission and an intelligence information mission. To accomplish these missions, the Director, National Security Agency, has been assigned responsibilities as follows: prescribing certain security principles, doctrines, and procedures for the US Government; organizing, operating, and managing certain activities and facilities for the production of intelligence information; organizing and coordinating the research and engineering activities of the US Government which are in support of the agency's assigned functions; and regulating certain communications in support of agency missions.

2–5. Defense Contract Audit Agency

The Defense Contract Audit Agency is responsible for performing all necessary contract audits for DOD and providing accounting and financial advisory services regarding contracts and subcontracts to all components of DOD who are responsible for procurement and contract administration. These services are provided in connection with the negotiation, administration, and settlement of contracts and subcontracts.

2–6. Defense Nuclear Agency

The Defense Nuclear Agency, which is composed of representatives from each of the military services, is responsible for consolidated management

PART TWO

MISSION, FUNCTIONS AND ORGANIZATION FOR LOGISTICS

★CHAPTER 2

DEPARTMENT OF DEFENSE

2–1. Secretary of Defense

a. The Department of Defense (DOD) is an outgrowth of the National Security Act of 1947 and the amendments of 1949, with the Secretary of Defense as its head. It was created as a part of a comprehensive program designed to provide for the future security of the United States through the establishment of integrated policies and procedures for the departments, agencies, and functions of the Government relating to national security. All Department of Defense functions are performed under the direction, authority, and control of the Secretary. Policy guidance to all military departments is furnished by the President through the Secretary of Defense. The Secretary of Defense is responsible for establishing general policies and programs for the Military Departments and exercising general direction and control. He eliminates unnecessary duplication in procurement, supply, transportation, storage, and research. He also supervises and coordinates the preparation of budget estimates of the Military Departments and supervises the execution of budget programs under the appropriation acts.

b. The Department of Defense is organized to include a Secretary of Defense, a Deputy Secretary of Defense, Defense Staff Offices, the Joint Chiefs of Staff and Joint Staff, the Defense Supply Agency, Military Departments and Military Services within those departments, unified and specified Commands, and other agencies as the Secretary of Defense may establish to meet specific requirements. Elements of DOD that have a major influence on Army logistics are the Assistant Secretary of Defense (Installation and Logistics), Assistant Secretary of Defense (International Security Affairs), Assistant Secretary of Defense (Comptroller), Assistant Secretary of Defense (Systems Analysis), Assistant Secretary of Defense (Atomic Energy), Director of Defense Research and Engineering, the Joint Chiefs of Staff, and the Defense Supply Agency. Figure 2–1 depicts the organization of DOD.

★*Figure 2–1. Department of Defense.*

(Located in back of manual)

2–2. Installations and Logistics

The Assistant Secretary of Defense (Installations and Logistics) is the principal assistant and advisor to the Secretary of Defense on all supply and logistics matters. He is responsible for the development of logistics policy and furnishes guidance to the Military Departments governing planning and program development. He performs his functions by coordinating actions, as appropriate, with the Military Departments and other Department of Defense agencies having collateral or related functions. He maintains liaison with appropriate agencies outside the Department of Defense on installations and logistics matters. In exercising his staff functions he is authorized to issue instructions appropriate to carrying out policies approved by the Secretary of Defense. Instructions to Military Departments are issued through the department secretaries or designees. Some of the key functional areas that he supervises are:

a. Production planning and scheduling.

b. Acquisition, inventory management, storage, maintenance, distribution, movement, and disposal of materiel, supplies, tools and equipment.

c. Small business matters.

d. Transportation, telecommunications, petroleum, and other logistic services.

e. Supply cataloging, standardization, and quality control.

f. Commercial and industrial activities including reserve force facilities, family housing, real estate and real property.

g. Industrial relations.

2–3. The Joint Chiefs of Staff

a. The Joint Chiefs of Staff, consisting of the Chairman; the Chief of Staff, US Army; the Chief of Naval Operations; and the Chief of Staff, US Air Force, and supported by the Organization of the Joint Chiefs of Staff, constitute the immediate military staff of the Secretary of Defense. The Joint Chiefs of Staff are the principal military advisors to the President, the National Security Council, and the Secretary of Defense. The Commandant of the US Marine Corps has coequal status with the members of the Joint Chiefs of Staff on matters which directly concern the Marine Corps. In performance of their functions of advising and assisting the Secretary of Defense, and subject to the authority and direction of the President and the Secretary of Defense, it is the duty of the Joint Chiefs of Staff:

(1) To serve as advisors and as military staff in the chain of operational command with respect to unified and specified commands, to provide a channel of communications from the President and Secretary of Defense to unified and specified commands, and to coordinate all communications in matters of joint interest addressed to the commands of the unified or specified commands by other authority.

(2) To prepare strategic plans and provides for the strategic direction of the armed forces, including the direction of operations conducted by commanders of unified and specified commands and the discharge of any other function of command for such commands directed by the Secretary of Defense.

(3) To prepare joint logistic plans and assign logistic responsibilities to the Military Services and the Defense Supply Agency in accordance with those plans; ascertain the logistic support available to execute the general war and contingency plans of the commanders of the unified and specified commands; review and recommend to the Secretary of Defense appropriate logistics guidance for the Military Services which, if implemented, will result in logistics readiness consistent with the approved strategic plans.

(4) To prepare integrated plans for military mobilization.

(5) To provide adequate, timely, and reliable joint intelligence for use within the Department of Defense.

(6) To review major personnel, materiel, and logistics requirements of the armed forces in relation to strategic and logistics plans.

(7) To review the plans and programs of commanders of unified and specified commands to determine their adequacy, feasibility and suitability for the performance of assigned missions.

(8) To provide military guidance for use by the Military Departments, the armed forces, and the defense agencies as needed in the preparation of their respective detailed plans.

(9) To participate, as directed, in the preparation of combined plans for military action in conjunction with the armed forces of other nations.

(10) To recommend to the Secretary of Defense the establishment and force structure of unified and specified commands in strategic areas.

(11) To determine the headquarters support, such as facilities, personnel, and communications, required by commanders of unified and specified commands and to recommend the assignment to the Military Departments of the responsibilities for providing such support.

(12) To establish doctrines for unified operations and training and for coordination of the military education of members of the armed forces.

(13) To recommend to the Secretary of Defense the assignment of primary responsibility for any function of the armed forces requiring such determination and the transfer, reassignment, abolition, or consolidation of such functions.

(14) To prepare and submit to the Secretary of Defense, for information and consideration in connection with the preparation of budgets, statements of military requirements based upon United States strategic considerations, current national security policy, and strategic war plans. These statements of requirements shall include tasks, priority of tasks, force requirements, and general strategic guidance for the development of military installations and bases and for equipping and maintaining military forces.

(15) To advise and assist the Secretary of Defense in research and engineering matters by preparing: statements of broad strategic guidance to be used in the preparation of an integrated Department of Defense program; statements of overall military requirements; statements of the relative military importance of development activities to meet the needs of the unified and specified

and direction for Department of Defense nuclear weapons, weapons effects, and nuclear weapons test programs. It also provides direction, coordination, advice, or assistance on storage of nuclear weapons. The agency assists the Office of the Secretary of Defense, the Joint Chiefs of Staff, the military departments, and the unified and specified commands by providing technical, logistic, and training advice and services in the field of nuclear weapons.

2–7. Defense Communications Agency

a. The Defense Communications Agency (DCA) was established on 12 May 1960 as an agency of the Department of Defense under the direction, authority, and control of the Secretary of Defense. The Director, DCA, is responsible to the Secretary of Defense through the Joint Chiefs of Staff.

b. The mission of the DCA is to:

(1) Insure that the Defense Communications System (DCS) will be so planned, engineered, established, improved, and operated as to effectively, efficiently, and economically meet the long-haul, point-to-point telecommunications requirements of the Department of Defense to provide communications from the President to and from the Secretary of Defense, the Joint Chiefs of Staff, and other governmental agencies; from the Secretary of Defense and the Joint Chiefs of Staff to and between the military departments and the unified and specified commands; from the military departments to and between their major commanders and subordinate fixed headquarters; and from the unified and specified commands to and between their component and subordinate commands.

(2) Obtain the maximum economy and efficiency in the allocation and management of Department of Defense communications resources.

(3) Provide for systems engineering and technical supervision of technical support for the National Military Command System and of assigned related systems.

c. DCA is organized into a headquarters with field activities acting for the Director in assigned geographical areas of responsibilities. The field organization also includes the White House Communications Agency, the Defense Commercial Communications Office, the Defense Communications Engineering Office, the National Communications Systems/Defense Communications System Operating Center, the System Engineering Facility, and the National Military Command System Support Center.

2–8. Defense Intelligence Agency

a. The Defense Intelligence Agency (DIA) was established as an agency of the Department of Defense by DOD Directive on 1 August 1961, under provisions of the National Security Act of 1947, as amended, to operate under the direction, authority, and control of the Secretary of Defense. The chain of command runs from the Secretary of Defense, through the Joint Chiefs of Staff, to the Director.

b. Under the Director, the Defense Intelligence Agency:

(1) Organizes, directs, manages, and controls Department of Defense intelligence resources assigned to or included within the DIA, and reviews and coordinates those Department of Defense intelligence functions retained by or assigned to the military departments.

(2) Satisfies the intelligence requirements of the major components of the Department of Defense.

(3) Supervises the execution of all approved plans, programs, and policies for intelligence functions not assigned to DIA.

(4) Obtains the maximum economy and efficiency in the allocation and management of the Department of Defense intelligence resources.

2–9. Defense Supply Agency

The Defense Supply Agency is an agency under the staff supervision of the Office of Secretary of Defense. Because of the significance of its logistics mission and its relationships with supply depots, the Defense Supply Agency will be discussed separately in chapter 3.

★CHAPTER 3

DSA AND GSA SUPPORT TO ARMY

Section I. DEFENSE SUPPLY AGENCY

3–1. General

a. The Defense Supply Agency (DSA) is a defense agency under the direction, authority, and control of the Secretary of Defense. The Defense Supply Agency, which became operational on 1 January 1962, is the result of an evolutionary process by which the Department of Defense has applied the concept of integrated management in the area of common support.

b. Prior to the establishment of DSA, many supplies and services which were common to the Army, Navy, and Air Force were placed under a "Single Managership." Responsibility for single managership of common major commodities and services was assigned to the Secretary of one of the military departments by the Secretary of Defense. Assignments were normally based on the criteria of who was the dominant user. When the Defense Supply Agency was established, the Secretary of Defense assigned to the agency supply management responsibility for all the then existing single manager supply activities within the military departments. However, provisions still exist for the establishment of single managers within the military departments if needed. The purpose of single manager agencies is to reduce supply inventories and operating costs while maintaining effective support of the military departments.

c. DSA is a consolidated wholesaler for assigned items of supplies. It distributes supplies from continental United States (CONUS) depots to Air Force, Navy, Marine Corps, and Army installations worldwide. The military services determine their gross requirements and together with the Joint Chiefs of Staff establish priorities. DSA computes net requirements, procures supplies from commercial sources, and sells to the services at cost plus surcharge for transportation and foreseeable losses. Reimbursements from customers replenish the DSA Stock Fund, thus providing the working capital for DSA procurement actions.

3–2. Mission and Functions

a. The Defense Supply Agency is responsible for providing the most effective and economical support of common supplies and common services to the military services, other Department of Defense components, and certain government civil agencies (Coast Guard, National Aeronautics and Space Agency (NASA), Veterans Administration (VA), etc.) as well as operating a wholesale distribution system for supplies. Common services (cataloging, procurement, contract administration, and others) are those services directly associated with the supply management function. DSA functions include the responsibility for administration and supervision of the Department of Defense Coordinated Procurement Program; the Federal Catalog Program; the Defense Materiel Utilization Program; the Defense Excess, Surplus, and Foreign Excess Personal Property Disposal Program; the DOD Industrial Security Program; the DOD Industrial Plant Equipment Program; the DOD-Wide Program for Redistribution/Reutilization of Excess Government-owned and Rented Automatic Data Processing Equipment; and operating functions of the Defense Contracts Compliance Program.

b. In order to perform the mission and functions listed in *a* above, the Defense Supply Agency is organized to include a Director, Deputy Director, Deputy Director for Contract Administration Services, three Executive Directorates (Supply Operations, Procurement and Production, Technical and Logistics Services), Headquarters elements, and 25 major field activities. The major field activities are made up of supply centers, service centers, depots, and Defense Contract Administration Services Regions. The supply and service centers, and the contract administration services regions are discussed in para-

graph 3–3 and 3–4. DSA depots are discussed in paragraph 3–6. Figure 3–1 depicts the organization of the Defense Supply Agency.

Figure 3–1. Defense Supply Agency.
(Located in back of manual)

3–3. Supply Centers

The supply centers are responsible for requirements, procurement, and the distribution of subsistence, medical, clothing and textiles, chemical, petroleum, construction, industrial, electronics, and general items of supplies. Responsibility for these commodities is assigned to the following six supply centers:

a. Defense Personnel Support Center. The Defense Personnel Support Center (DPSC) came into being as a result of merging the Defense Subsistence Supply Center and the Defense Medical Supply Center with the Defense Clothing and Textile Supply Center in Philadelphia, Pennsylvania. The DPSC is the wholesale supplier of food, clothing, and medical supplies to the Armed Forces worldwide and to agencies of the Federal Government. Additionally the Center buys decentralized noncataloged DSA-type food items for the Army and certain Navy oversea installations; and supplies clothing and textiles, and equipage for the Military Assistance Program. DPSC buys, inspects, and distributes food supplies for consumption worldwide by the Army, Navy, Air Force, Marine Corps, Coast Guard, and other authorized requisitioners. Actually, the Center, in its subsistence function, is the chief link between the military consumer and the food industry of the United States. The Center also supplies clothing and textile requirements for the Mutual Military Assistance Program. The wholesale medical mission includes procuring and distributing medical and dental supplies to the Armed Forces and providing limited supply support to the Civil Defense Program; Department of Health, Education, and Welfare; Veterans Administration; and other Federal civil agencies.

b. Defense Electronics Supply Center. The Defense Electronics Supply Center (DESC) provides integrated management for assigned electronic and electrical material for the Armed Forces and other Federal Government agencies. Electronic and electrical materiel stocked at the DESC consist of electron tubes, filters, networks, fuses, circuit breakers, connectors, relays, contactors, capacitors, coils, transformers, and resistors. DESC and the defense depot at Ogden, Utah, are the prime distribution points for DESC managed material. However, the Navy supply centers at Norfolk, Virginia, and Oakland, California, form part of the distribution system that furnishes supplies directly to certain naval activities. DESC computers record all requisitions, release shipments to customers, compute requirements, maintain stock records, and compute inventory levels for these distribution points.

c. Defense Industrial Supply Center. The Defense Industrial Supply Center (DISC) is responsible for wholesale support of the military services with industrial type items. These include bearings, block and tackle, rigging and slings, rope, cable and fittings, hardware, metal bars, sheets and shapes, and electrical wire and cable. The principal depots that furnish supply support to the military services for industrial type material are Mechanicsburg, Pennsylvania; Memphis, Tennessee; Columbus, Ohio; Ogden, Utah; and Tracy, California. Specialized support depots that provide decentralized support to the fleet and Navy oversea activities are located at Norfolk, Virginia, and Oakland, California. The Center's responsibility for wholesale supply operations includes computation of replenishment requirements, provisioning, budgeting, standardization, central accountability, maintenance of a distribution system, inspection and quality control, and mobilization planning.

d. Defense Construction Supply Center. The Defense Construction Supply Center (DCSC) is the principal source of construction materials, automotive and construction equipment components, and repair parts used by the military services. The wide variety of supplies that are provided to the Armed Forces ranges from such items as lumber, gardening implements, and plumbing accessories to complex repair parts for mechanical, construction and automotive equipment; repair parts for military aircraft, ships, submarines, and combat vehicles; and certain missile systems and components. In addition, the Center has another mission as one of of the seven principal storage depots in the DSA system. The storage mission is similar to a commercial warehouse operation in that large tonnages of stocks are received, stored, and issued for many different owners. The Center's inventory lists parts and equipment ranging in size from a tiny gasket to a large derrick. The cost of items stocked by DCSC range in price from less than a penny to many thousands of dollars.

e. Defense Fuel Supply Center. The Defense Fuel Supply Center (DFSC) is responsible for procuring petroleum products and coal for the military services. Most of DFSC's procurement is for jet fuels and aviation gasoline. Another primary function of the Center is the coordinated scheduling of bulk petroleum cargo movements by the Military Sea Transportation Service. DFSC also controls the DOD petroleum procurement inspection program worldwide. DSA has recently been assigned integrated management responsibility for bulk fuels worldwide.

f. Defense General Supply Center. The Defense General Supply Center (DGSC) provides a variety of item categories of a general nature to the Armed Forces rather than commodity type. These categories include materials handling equipment, service and trade equipment, rubber fabricated materials, photographic supplies, cleaning equipment and supplies, packaging materials, plastic fabricated materials, electrical hardware and supplies, and packaged petroleum products and chemicals. In addition, the Center has a major procurement and supply responsibility for the Civil Defense Program. DGSC is responsible for supply management of assigned items, worldwide for all services. These functions include cataloging, requirements computation, procurement, inspection and quality control, industrial mobilization planning, item management classification, and the maintenance, modification, conversion, and rehabilitation of materiel. The Center is one of the principal DSA distribution depots in the integrated warehouse and distribution system.

3–4. Other Activities

a. Defense Logistics Services Center. The Defense Logistics Services Center (DLSC) provides a variety of logistics and supply management services for the military services, Federal Government agencies, and friendly foreign governments. The Center is charged with the operational responsibility for the Federal Catalog System, the Department of Defense Materiel Utilization Program, and the Defense Disposal Program. These three programs require extensive use of high speed automatic data processing equipment and constitute the most comprehensive supply item intelligence data bank in the Government.

b. Defense Documentation Center. The Defense Documentation Center (DDC) is the central facility for scientific and technical documentation of the Department of Defense. The Center's primary function is to acquire, store, announce, retrieve, and provide secondary distribution of all types of formally recorded research, development, test, and evaluation results from the Army, Navy, Air Force, and all other DOD components.

c. Defense Industrial Plant Equipment Center. The Defense Industrial Plant Equipment Center (DIPEC) is responsible for the development and maintenance of central records of the Defense Department's inventory of industrial plant equipment, and the management of idle equipment. Industrial plant equipment consists of those items such as metalworking machinery, welding equipment, electrical and electronic testing equipment, and other general purpose equipment used for research, development, production, testing, and maintenance of weapons systems and other materials utilized in the defense effort. The purpose of establishing DIPEC was to achieve greater economy through centralized control of defense-owned inventory of idle industrial plant equipment. The primary function of the Center is to insure that one military department does not procure a new item of equipment while another department has a similar item which is not being used. This is accomplished by screening requisitions that are submitted by the military departments for industrial plant equipment. In addition to DIPEC's primary function, as stated above, the Center is responsible for determining the composition of, and maintaining and controlling, a balanced reserve of equipment to meet national emergencies; developing technical maintenance standards for depot maintenance; and providing for storage, movement, preservation, repair, and rebuilding of idle equipment.

d. Defense Contract Administration Services Regions. The Defense Contract Administration Services Regions provide responsive contract administration services in support of the Army, Navy, Air Force, Defense Supply Agency, National Aeronautics and Space Administration, and other Government agencies. This support includes contract administration, quality assurance, industrial security, production progress surveillance, government property administration, payment of invoices and claims, and other related functions as assigned. Over one-third of the total DSA personnel are assigned in the Defense Contract Administration Service.

3–5. Distribution System

a. In the continental United States users of DSA managed items submit requisitions for initial issue or replacement items of materiel to the accountable property officer at the activity responsible for furnishing the support. If materiel is available, the requisition is filled. In the event materiel is not available, the installation submits a requisition to the appropriate Defense Supply Center (DSC) over normal communication lines, or by utilizing the Defense Automatic Addressing System (DAAS). DAAS is a DSA-administered worldwide system for utilizing computer techniques for routing requisitions and related supply transactions to supply centers of the military services and DSA. Upon receipt, the requisition is processed, a status card, if requested, is returned to the requisitioner, and a Materiel Release Order is prepared and forwarded to the storage site closest to the installation directing shipment of the materiel requested. After completion of the shipment, a confirmation is forwarded by the storage site to the DSC which directed release of the materiel so that accountable records can be debited. When CONUS storage depots require replenishment of stocks, procurement action is initiated by the appropriate DSC and upon completion of production, materiel is shipped to the depot or direct to the customer.

b. Oversea theater requisitioners submit their requirements to the oversea installation or direct support unit (DSU) for initial issue or replacement items of material. As in the case of CONUS requisitions, if the materiel is available the requisition is filled. If, however, stock is not available, installations or DSU's requisition on the appropriate Inventory Control Center (ICC) which, like the Defense Supply Center in CONUS, process the requisition and directs shipment from an oversea depot to the customer, installation, or DSU with a confirmation of shipment from the depot to the ICP. Requisitions for replenishment of oversea theater depot stocks are placed by the theater ICP on the appropriate CONUS Defense Supply Center. The requisition is processed upon receipt, a status card is forwarded to the oversea ICP, and a Materiel Release Order is placed on the appropriate storage site directing shipment of the requirement to the oversea depot. After completion of the shipment a confirmation is forwarded to the appropriate commodity manager.

3–6. Depot Installations

The Defense Supply Agency's depot installations are composed of seven principal distribution depots, three specialized support depots, and a number of direct support supply points. Principal depots stock a wide range of DSA commodities while specialized support depots and direct support supply points stock the types and quantities of items that relate to their individual missions. DSA's storage pattern, figure 3–2, is based on the concept of positioning stock close to the concentrations of military customers and ports of embarkation in the United States. DSA installations include:

a. Principal Depots.

(1) The Defense Construction Supply Center, located in Columbus, Ohio, is responsible for the receipt, storage, and issue of such items as diesel engines, crane and shovel attachments, mining equipment, truck and tractor attachments, firefighting equipment, pumps, lumber and roofing, tile, brick, and gardening tools.

(2) The Defense General Supply Center, located in Richmond, Virginia, is responsible for the receipt, storage, and issue of such items as paper and paper products, food service equipment, photographic supplies, electrical hardware, and other items.

(3) The Defense Depot, Mechanicsburg, Pennsylvania, receives, stores, and ships medical clothing and textiles, nonperishable subsistence, packaged petroleum products, and industrial supplies. It also handles industrial plant equipment. The depot receives, stores, and issues Defense Supply Agency supplies in support of all military activities. In addition, shipments are made to military activities in the Atlantic oversea areas, including such locations as the Distant Early Warning (DEW) line stations. Also, direct shipments of resale items, in container vehicles, are made to 35 commissaries and one Army depot in Europe. Inventory control and maintenance of related records are performed by the Defense Supply Centers.

(4) The Defense Depot, Memphis, Tennessee, is responsible for receiving, storing, and issuing DSA supplies to all military services. These supplies include subsistence, construction, industrial, petroleum, clothing and textile, general supplies, and medical. In addition to DSA storage, the depot provides storage for a substantial tonnage of Army-owned equipment which is maintained for the Army on a customer-service basis.

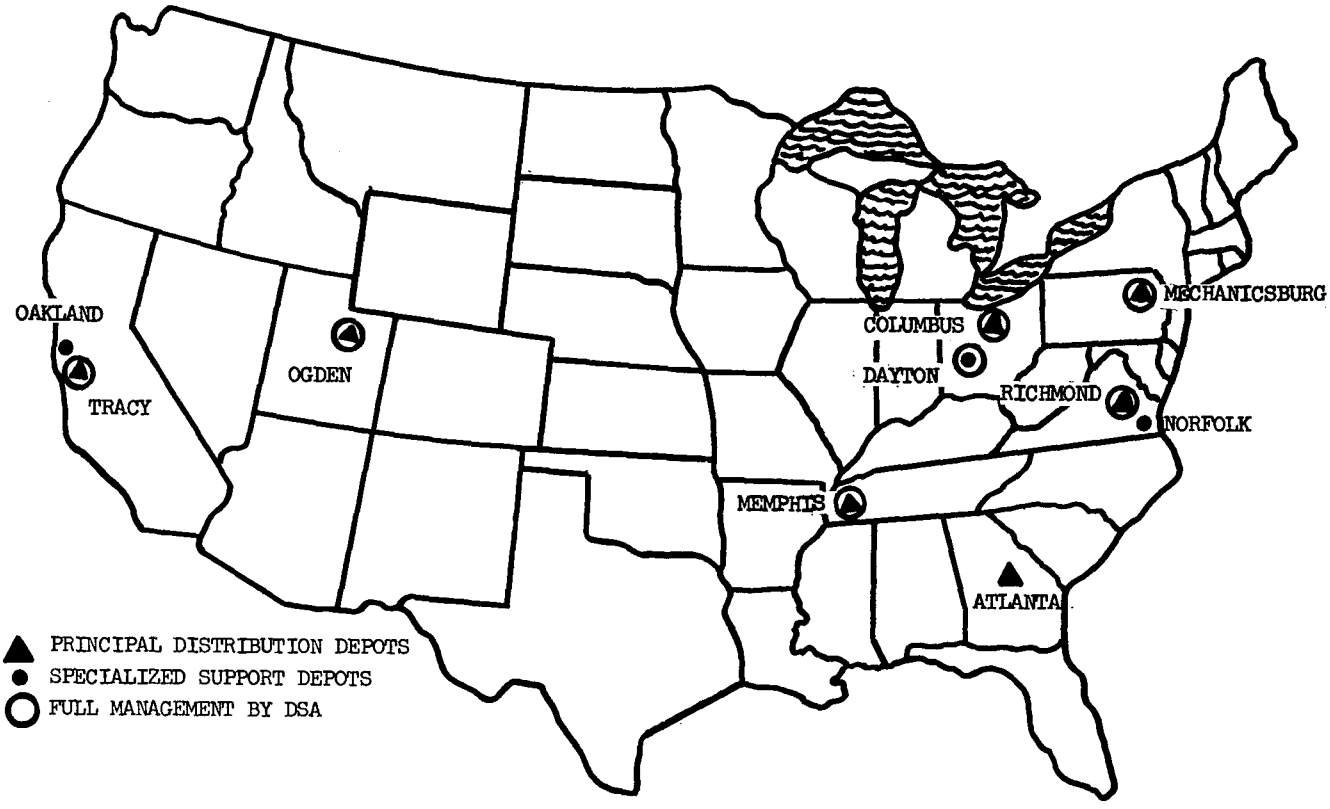


Figure 3–2. Defense Supply Agency Distribution System.

(5) The Defense Depot, Ogden, Utah, receives, stores, and issues clothing and textile, construction, electronics, general industrial, and subsistence supplies in support of all military services.

(6) The Defense Depot, Tracy, California, has the mission of receiving, storing, and issuing subsistence, clothing and textiles, medical general supplies, petroleum, industrial, and construction materials in support of the military services. It also stores and issues small amounts of Army-owned stocks as directed by the applicable Army National Inventory Control Point.

(7) The Atlanta Army Depot, located in Forest Park, Georgia, serves the Defense Supply Agency by furnishing warehousing services and warehousing space for DSA items. Services and space are provided by an Interservice Storage Support Agreement between the Department of the Army and Defense Supply Agency. However, the depot is under the management of the Army. The depot's DSA mission includes receiving, storing, and issuing of clothing and textile, general, medical, and subsistence supplies. Supply management functions for those items mentioned above are performed by the Defense Supply Agency Supply Centers.

b. Specialized Support Depots. The specialized support depots have functions similar to those of the principal depots, except that their missions are specialized as to type of material or scope of support. These depots are the Naval Supply Center, Oakland, California; Naval Supply Center, Norfolk, Virginia; and the Defense Electronics Supply Center, Dayton, Ohio.

c. Direct Support Supply Points. Direct support supply points have been established to support large volume users, such as shipyards and repair facilities. These support supply points are set up under service management control. The supply mission for DSA commodities at these points is restricted to the stocking of a selected range of DSA-owned and centrally managed materiel for the support of on-base industrial and maintenance requirements, fleet units, assigned Navy oversea activities, CONUS Navy activities

within a 25-mile radius, and such other Navy activities as may be assigned for accounting purposes. Direct support supply points for DSA commodities are maintained at the following installations:

(1) Naval Supply Center, Charleston, South Carolina.

(2) Naval Supply Center, San Diego, California.

(3) Naval Supply Center, Long Beach, California.

(4) Naval Training Center, Great Lakes, Illinois.

(5) Naval Shipyard, Philadelphia, Pennsylvania.

(6) Naval Shipyard, Norfolk, Virginia.

(7) Naval Shipyard, Boston, Massachusetts.

(8) Naval Shipyard, Portsmouth, New Hampshire.

(9) Naval Shipyard, Puget Sound, Washington.

3–7. Inventory Management

Defense Supply Centers perform the basic management functions for assigned items by computing wholesale stock requirements to support anticipated needs of military customers, initiating appropriate action to procure (or have repaired) stockage requirements, positioning them geographically in accordance with expected needs, determining retention limits, initiating disposal action for excess quantities, and carrying out the financial management responsibilities associated with inventory management. The DSC's compute their replenishment requirements on past experience, modified through use of appropriate data obtained from the military departments on expected changes in program intensity; for example, changes in troop strength, deployment, ration factors, and equipment density.

Section II. GENERAL SERVICES ADMINISTRATION

3–8. General

The General Services Administration (GSA) was established by the Federal Property and Administrative Services Act of 1949, effective 1 July 1949, to provide an economical and efficient system for the management of government property and records, including construction and operation of buildings; procurement and distribution of supplies; disposal of surplus property; transportation and communication management; stockpiling of strategic and critical materials; and creation, preservation, and disposal of records. The Administrator of GSA is appointed by the President and directs the programs of the General Services Administration. GSA has five separate but integrated services, four of which are headed by Commissioners and one by the Archivist of the United States. The services are Federal Supply, Property Management and Disposal, Public Buildings, Transportation and Communications, and National Archives and Records. This section describes the functions of GSA with emphasis on the operations of the Property Management and Disposal Service (PMDS) and the Federal Supply Service (FSS) as they relate to providing support to the Department of Defense and Army.

3–9. Property Management and Disposal Service

The Property Management and Disposal Service is responsible for acquiring, storing, and otherwise managing inventories of strategic and critical materials essential to the military and industrial requirements of the United States in times of national emergency and disposes of such materials when they are no longer needed. The service also supports the Department of Health, Education, and Welfare in the management of civil defense emergency programs and the National Industrial Equipment Reserve. It aids in expansion and maintenance of production of industrial raw materials, In addition, this service promotes maximum utilization within the Federal Government of excess personal property of all executive agencies; transfers excess property among Federal agencies; provides for maintenance, repair, rehabilitation, and the reclamation of in-use and excess personal property; approves donations of surplus personal property for purposes of education, public health, and civil defense; and sells surplus property for the civil agencies. Disposal of real property is also a function of this service.

3–10. Federal Supply Service

a. Supply Operations. The Federal Supply

Service procures personal property and nonpersonal service for Federal agencies, stores and distributes supplies, and regulates the supply functions performed by other agencies. It promulgates Federal Specifications and Standards, maintains the Federal Catalog System, and administers GSA's internal automatic data processing (ADP) support operations and the Government-wide ADP resources management program. In addition FSS is instrumental in developing, coordinating, and arranging for promulgation of procurement and supply policies and methods governing executive agencies. These are published in the Federal Procurement Regulations (FPR) and the Federal Property Management Regulations (FPMR). Activities are carried out by the Central Office in Washington, D.C., and 10 regional offices (fig. 3–3). Each region is responsible for processing orders from requisitioners located in its defined support area, the management of inventories of depot stocks, and the procurement of items for direct delivery from vendors to ordering agencies. Although a large number of selected items are contracted for by the Central Office, maintenance of adequate levels of the depot stocks is a regional responsibility. To provide maximum service, nationwide assets are available to meet demands for stock items. When a stock item is keyed to a particular region, referrals are made automatically to the region stocking the item. Orders for other out-of-stock items are automatically referred to the National Inventory Control Center, Central Office. This center is responsible for overall guidance, nationwide control of inventories, and referrals to other regions of orders for items which cannot be supplied by the support region due to an out-of-stock position. System capability is compatible with DOD activities in the use of the Military Standard Requisitioning and Issue Procedures (MILSTRIP) and the

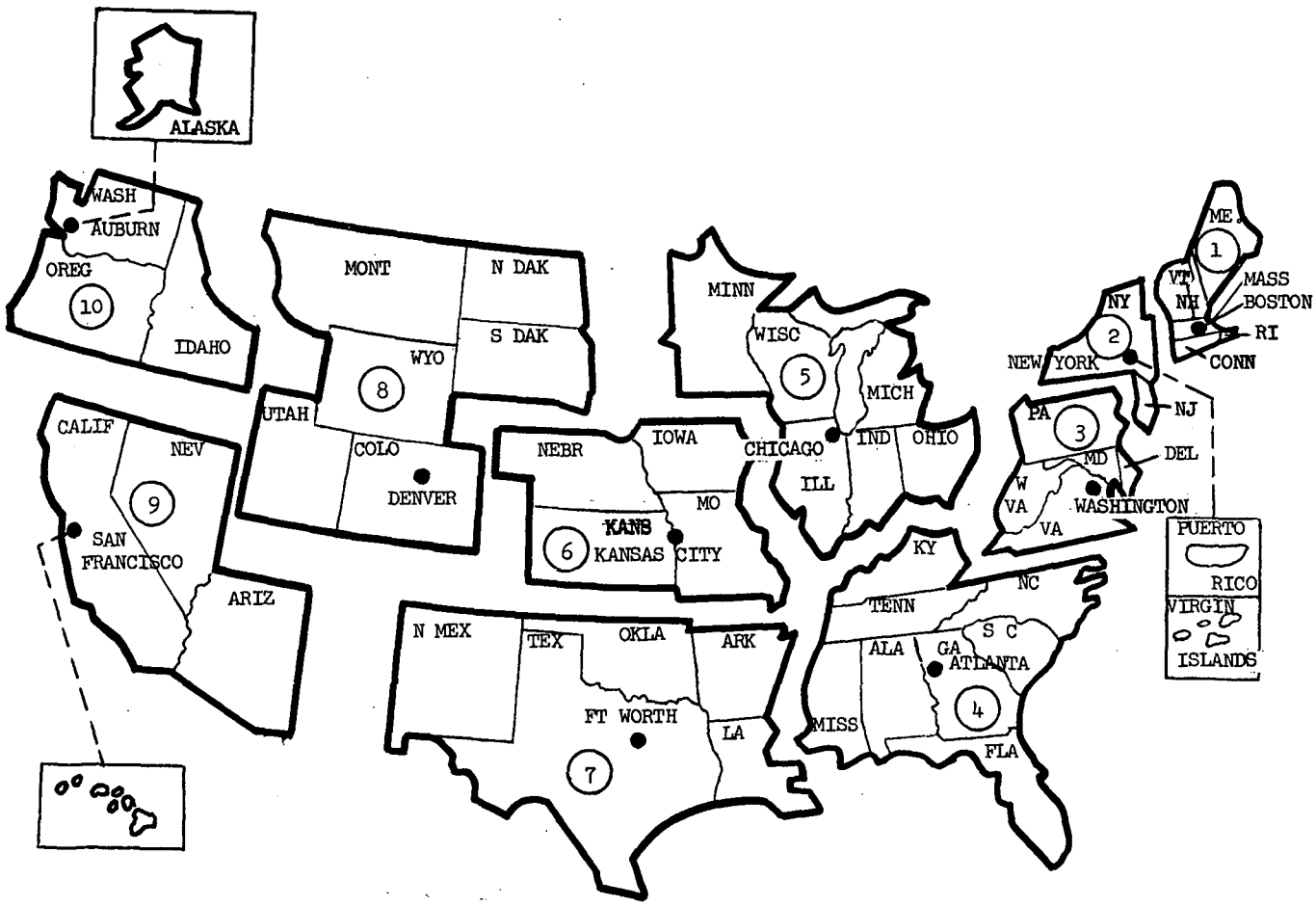


Figure 3–3. General Services Administration support to Army.

Uniform Materiel Movement and Issue Priority System (UMMIPS).

b. Methods of Supply. To satisfy the supply needs of Federal agencies, FSS has three major buying programs which are conducted by the Central Office and the procurement divisions of each regional office. The three buying programs are stock replenishment, Federal Supply Schedules, and direct delivery purchasing.

(1) *Stock replenishment.* This program includes all items stocked in the FSS supply distribution system which includes supply facilities and conveniently located self-service stores. These items are described, illustrated, and priced in the GSA stock catalog. Catalogs are published periodically and distributed to all Federal agencies. Items listed in the catalogs include office supplies, standard forms, office furniture, machine and hand tools, janitorial supplies, paints, brushes, electrical equipment, housewares, containers, and packing supplies. GSA stock catalogs are issued to DOD activities for information purposes. Sources of supply of GSA items for DOD activities are governed by their military management data lists or other appropriate issuance. In contracting for stock repenishment items, emphasis is placed on making contracts which establish a readily available supply of items required in substantial quantities. The contracts are usually for definite periods of time and indefinite quantities. FSS regional offices use these contracts to place stock repenishment orders for FSS supply distribution facilities.

(2) *Federal Supply Schedules.* Federal Supply Schedules are listings of articles and services that are available direct from contractors under contracts entered into by the GSA—Federal Supply Service. These contracts cover items that are not appropriate for storage and redistribution by the Government due to their size, weight, variety of characteristics, or demand pattern. The schedules contain such items as photographic equipment and supplies, computers and peripheral equipment, tires, tubes, batteries, household and office furniture, and office machines. Federal Supply Schedules are distributed to procurement offices for use in ordering their requirements directly from the schedule contractor for direct delivery and billing. The GSA publication "Guide to Sources of Supply and Service," published periodically, contains supply information and identifies sources of supply for most supplies and services available from the GSA supply system including stock items, and listings of Federal Supply Schedules and term contracts.

(3) *Direct Purchasing Program.* This program covers procurement for Federal agencies of items that are neither stocked in GSA supply distribution facilities nor available through Federal Supply Schedule contracts. It encompasses consolidated purchasing of certain commodities such as passenger and freight-carrying motor vehicles, household appliances, and special buying services requested by agencies that rely on FSS technical knowledge, specialized skills, and experience in purchasing activities. For example, requirements for new motor vehicles are consolidated on a national basis and purchased by the FSS in large quantities for direct shipment by the manufacturers to the various agencies involved. Purchase contracts under this program are for definite quantities and for direct delivery to the using agency.

c. Distribution. The FSS is organized to distribute common use supplies to civilian and military agencies worldwide through a nationwide network of supply distribution facilities, supply centers, self-service stores, and a number of special operations including a fuel yard, printed materials distribution activity, and a building materials yard. The geographical location of these distribution activities generally conforms to the concentration of Federal activities, and is based on such factors as Federal population served, freight rates, customer service potential, and similar considerations.

d. Support to DOD Activities. The Federal Supply Service is designated by DOD as an integrated materiel manager for 68 Federal Supply Classes and coordinated procurement assignee for 72 Federal Supply Classes. Close contact is maintained with the logistics staffs of DOD, DSA, and the military services in the planning and implementation of their new and on-going major supply programs. The Federal Supply Service also participates in the military standard logistics data systems and other major DOD programs including the Inactive Item Program, Defense Automatic Addressing System, Item Management Coding, and the Uniform Excess Returns Procedures. In a revised agreement reached between GSA and DOD in February, 1971, a new "National Supply System" framework was established. It recognized further FSS support responsibilities to DOD and considerably expanded support of Federal civil agencies by DOD in additional commodity ranges. Implemen-

ting details are to be published by specific GSA and DOD regulatory issuances. In its assigned classes, GSA has assumed management responsibilities for defense general mobilization reserves, industrial mobilization planning, provisioning support for new equipment being introduced into the military systems, coordinated procurement, and the procurement of commercial vehicles for military as well as civil agencies.

★CHAPTER 4

DEPARTMENT OF THE ARMY

4–1. Organization and Functions

a. Prior to the reorganization of the Army in 1962 the Deputy Chief of Staff for Logistics (DCSLOG), Headquarters, Department of the Army, was responsible for the direction and control of the seven technical services. When the Army was reorganized, it was organized along functional lines, the technical services were eliminated, and DCSLOG lost its responsibility for the direction and control of the technical services and their supply distribution and personnel systems. However, DCSLOG retained staff responsibility for logistics planning; development of the Army logistics organization and systems; and control over policies, doctrine, and procedures. DCSLOG also retained responsibility for the materiel program and installations program.

b. The Deputy Chief of Staff for Logistics operates under the functional supervision of the Assistant Secretary of the Army (Installations and Logistics) and under the direct supervision and control of the Chief of Staff, Department of the Army.

c. The DCSLOG exercises general staff supervision over the Chief of Engineers and the Chief of Support Services. He also monitors the activities of the Department of Defense agencies which provide logistics support of the Army. However, his assigned responsibilities do not extend to the civil functions of the Chief of Engineers and the Chief of Support Services. For the detailed organization of DCSLOG see figure 4–1.

4–2. Deputy Chief of Staff for Logistics

The Deputy Chief of Staff for Logistics has Army general staff responsibility for the management of DA logistical activities. In discharging these responsibilities, the impact on Reserve components logistics is considered in equal detail with that of the Active Army.

a. He has general staff responsibility for:

(1) Development and supervision of the Army logistic organization and system, including plans, policies, programs, doctrine, and standards.

(2) Interservice and interdepartmental logistical support.

(3) Materiel management to include requirements determination; production plans, policies, logistic concepts, and programs; supply; maintenance, materiel activities, and services; and support of materiel systems from completion of production validation through disposal.

(4) All logistical aspects of international activities relating to military assistance, grant aid programs, and foreign military sales to include negotiation.

(5) Directorship of the Procurement of Equipment and Missiles, Army (PEMA) Appropriation; the Military Construction, Army (MCA) Appropriation; the Military Family Housing Appropriation; and the Homeowners' Assistance Appropriation.

(6) Formulation, justification, and supervision of Army programs and budgets pertaining to the logistic area within the overall guidance and policies developed by the Assistant Vice Chief of Staff and the Comptroller of the Army, to include: Military Assistance Program; Military Construction, Army; Homeowners' Assistance Program; Family Housing Management Account; Army Stock Fund; Procurement of Equipment and Missiles, Army; Operation and Maintenance, Army; activities for central supply depot material maintenance and support, except for communications security (COMSEC) and signal intelligence (SIGINT) materiel, and base operations; and those logistic activities for munitions, weapons, missile facilities, depot maintenance activities, and Military Traffic Management and Terminal Service (MTMTS) financed through the Army Industrial Fund.

(7) Management, planning, and programing of materiel production including the production base support programs and materiel procurement requirements including Army materiel

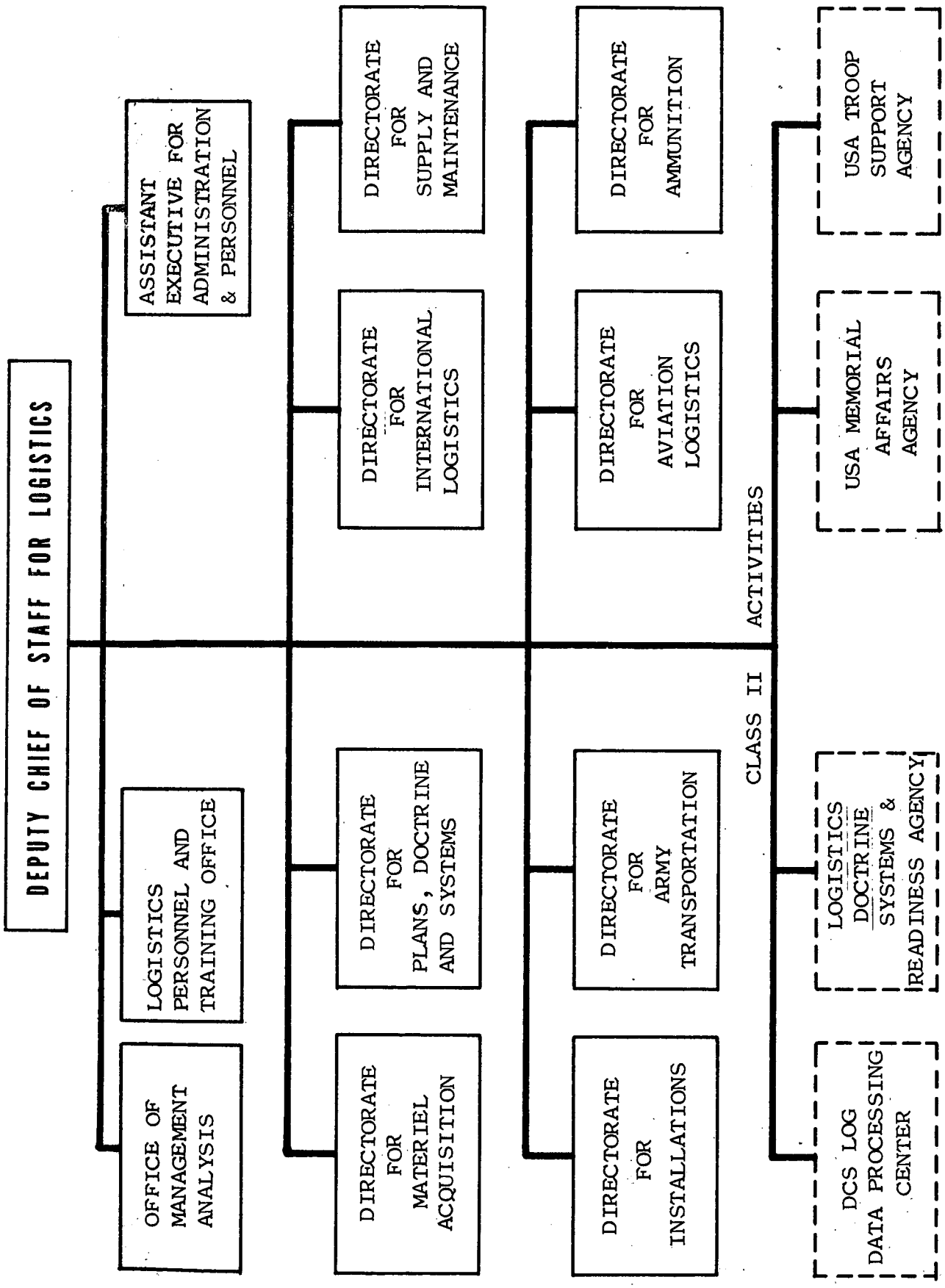


Figure 4-1. Office of the Deputy Chief of Staff for Logistics.

plan and Atomic Energy Commission (AEC) licenses.

(8) Planning and policies related to and coordinating environmental preservation and improvement activities within the Army, maintaining the central point of contact for those activities, and monitoring the activities of the DOD and other Government agencies that influence environmental standards.

(9) Logistic planning in support of the United States and Allied Army Forces.

(10) Logistic plans, policies, and programs for military construction, family housing, real property maintenance activities, and real estate matters.

(11) Financial inventory accounting system for logistic management purposes.

(12) Facilities requirements, stationing, and base development planning.

(13) Army-wide logistic support services comprising personnel guest billeting operations, commissary operations, food service, clothing sales stores and clothing issue points, laundry and drycleaning, fumigation and bath, self-service supply centers, and Army disposal of surplus and foreign excess personal property.

(14) Care and disposition of remains and personal effects of deceased personnel of the Army, and as directed for the Navy and the Air Force.

(15) Managing the DOD Industrial Defense Program under the general guidance of the Secretary of the Army who has been designated executive agent for the Secretary of Defense.

(16) Army quality assurance program relating to all Army materiel.

(17) Transportation and related transportation services required for the movement of persons and things for the Army and as assigned for the Navy, Air Force, and other Government agencies; transportation engineering; strategic movement matters; transportation strategic mobility planning in the short-range period and logistic plans; plans, policies, and programs for land transportation, traffic management, movement control, operation of water terminals and for rail, watercraft, and administrative use vehicle operations and utilization; intermodel distribution systems (including helicopter logistical operational applications) to include surface container-supported distribution systems development.

(18) Administering functions assigned to the Secretary of Defense by Section 5b of the International Security Act of 1950 as amended.

(19) International coordination for the standardization of transportation policies and procedures.

(20) Logistics readiness of the Army Forces.

(21) Data processing systems in support of all assigned functional areas of responsibility.

(22) Primary action on procurement related matters in the Army Staff.

b. He is the Program Director of Major Programs 4 and 7 and Administrative Program 11 of the Five Year Defense Program (FYDP).

c. He has direct access to the Assistant Secretary of Defense (International Security Affairs) on routine administrative and logistics matters, except those of financial management nature.

d. He monitors the activities of the DOD and other governmental agencies which provide logistic support to the Army.

e. Under the direction and supervision of the Secretary of the Army, he is responsible for the operation of the National Cemetery System and the procurement of Government headstones and markers.

f. He serves as functional chief of the Logistical Civilian Career Programs.

g. He manages the Integrated Logistics Support Program.

h. He is responsible for Army interservice supply operation.

4–3. US Army Materiel Command (AMC)

The US Army Materiel Command is responsible for integrated management of materiel and related services required by the Army. Because of its vital role in logistics, the Army Materiel Command will be discussed separately in paragraphs 4–8 through 4–11.

4–4. US Army Strategic Communications Command

a. The US Army Strategic Communications Command is responsible for directing and controlling the Army's telecommunications elements which operate strategic radio, wire, and cable facilities. This command is the principal Army

point of contact for coordination of communications operational matters with the Defense Communications Agency.

b. The US Strategic Communications Command performs a variety of functions which can be classified into three areas. Those functions that pertain to the Defense Communications System (DCS) Army, functions that pertain to non-DCS communications, or to both DCS Army and non-DCS communications and the principal functions of communications security logistics. For the purposes of this manual, only the functions of communications security logistics will be discussed. Communications security logistics deals with requirements computations, acquisition, cataloging, distribution, storage, overhaul, and disposal of COMSEC equipment, aids, and unique repair parts; cryptoaccounting of COMSEC equipment and aids; maintenance engineering, management, and support of COMSEC equipment; technical assistance; and new equipment introduction. The principal functions of the command for communications security logistics are to perform the following functions as Army commodity manager for COMSEC materiel:

(1) Provide technical guidance and assistance to the Army on COMSEC logistics matters and assist in development and review of concepts and studies which concern the functions of COMSEC logistics in the Army in the field.

(2) Operate the COMSEC national inventory control point with responsibility for cataloging direction, requirements computation, procurement direction, supply and distribution management, overhaul direction, and disposal direction.

(3) Operate the COMSEC national maintenance point with responsibility for maintenance engineering management and support planning, maintenance publications, provisioning, new equipment training, technical assistance, and product improvement.

(4) Operate the Army COMSEC depot as part of the COMSEC materiel wholesale supply and maintenance system.

(5) Operate the Army Central Office of Record for positive and continuous accounting of all accountable COMSEC materiel within the Army.

(6) Manage the COMSEC materiel portion of The Army Maintenance Management System (TAMMS) program and maintain a Central Data Bank.

(7) Prepare COMSEC logistics and maintenance support plans as directed.

(8) Prepare PEMA programs for COMSEC materiel and COMSEC materiel portion of the Army Materiel Plan.

(9) Prepare the COMSEC logistics annex to AMC Contingency Support Plans.

(10) Provide technical review comments on basis of issue (BOI) plans, tables of organization and equipment (TOE), tables of distribution and allowances (TDA), modification tables of organization and equipment (MTOE), modification tables of distribution and allowances (MTDA), Army Communications Development Projects (ACDP), and other authorization documents involving COMSEC materiel.

(11) Coordinate with appropriate AMC project managers and commodity managers to insure compatibility of life cycle management milestones related to communications and associated COMSEC equipment.

(12) Direct distribution of COMSEC materiel in accordance with distribution plans, established priorities, and, where applicable, decisions of the DA Distribution and Allocation Committee.

(13) Provide supply and maintenance technical assistance support of COMSEC equipment.

(14) Provide design-controlled repair parts in support of military assistance sales and grant aid programs.

(15) Monitor and evaluate the status of COMSEC materiel readiness within the Army. Conduct materiel readiness visits to major commands and units.

(16) Participate in preparation and review of required operational capability (ROC) involving COMSEC materiel for inclusion of optimum maintainability and reliability factors.

(17) Coordinate with US Army Combat Developments Command (USACDC) and AMC on test planning and assist AMC as required in test and evaluation of tactical COMSEC equipment; and perform on-site test and evaluation of COMSEC equipment used in DCS (Army) and assigned Army communications systems as directed.

(18) Monitor research and development of COMSEC equipment for long-range budgeting, programing, and maintenance support planning.

(19) Initiate COMSEC equipment-type clas-

sification and reclassification actions in accordance with AR 71-6.

(20) Participate in review of existing military occupational specialty (MOS) and development of new MOS pertaining to maintenance of equipment and COMSEC accounting.

(21) Coordinate with AMC to provide guidance and technical direction in the execution of the COMSEC calibration program; and prepare and publish DA calibration standards and procedures for test, measuring, and diagnostic equipment peculiar to support of COMSEC equipment.

4-5. US Continental Army Command

The Commanding General, US Continental Army Command (CONARC) performs several missions. He is a major field commander of the Department of the Army and an Army component commander. As a major field commander he commands the numbered armies within the continental United States, the Military District of Washington, and all troop units located within CONUS, installations, activities, and service schools that are assigned by the Department of the Army. He is responsible for receiving, processing, equipping, and training all personnel from time of entry into the United States Army until assigned to first unit or station and for organizing, training, equipping, and insuring the combat readiness of assigned troop units. In addition, he commands, supports, and supervises training of the US Army Reserve; and directs, supervises, and supports the Reserve Officers Training Corps (ROTC) and National Defense Cadet Corps Programs. As an Army component command, he is designated Commander in Chief, United States Army Forces Strike Command (CINCARSTRIKE) under the Commander in Chief, United States Strike Command (CINCSTRIKE).

4-6. US Army Combat Developments Command

The US Army Combat Developments Command is charged with the responsibility of formulating and documenting current doctrine for the Army in the field. In addition and in anticipation of the nature of land warfare in the future, the command is responsible for determining the kinds of forces and materiel needed, and how these forces and materiel should be employed. Two of USACDC's principal functions that have an influence on the Army Supply System are the establishment, revision, and/or elimination of required operational capability; and the development of revision of tables of organization and equipment, and items of equipment and ammunition that are recommended for deletion from the supply system either by complete elimination or reduction in quantities required.

4-7. Military Traffic Management and Terminal Service

The Military Traffic Management and Terminal Service, a major field command of the Department of the Army, is the single manager for military traffic, land transportation, and common-user ocean terminals in CONUS. Because of its role in traffic management, MTMTS is discussed in chapter 10.

4-8. US Army Materiel Command

a. The US Army Materiel Command is the principal wholesale supplier for the US Army. As the wholesale supplier AMC is concerned with research, development, engineering, testing, and evaluation of materiel; production and procurement of materiel; inventory management; and distribution, maintenance transportation, and disposal of materiel. In executing these functions, the Commanding General, AMC, reports to and receives instructions from the Chief of Staff, US Army and, as appropriate, the Assistant Secretary of the Army (Installations and Logistics). Prior to the reorganization of the Army in 1962, those functions mentioned above were performed by the technical services, whereas today commodity and materiel management are concentrated in the organization of AMC, with the exception of medical materiel (Class VIII) which is managed by the Surgeon General.

b. The mission of the US Army Materiel Command is to develop and provide materiel and related services to the Army, to Army elements of unified and specified commands, and to other United States and foreign customers as directed. The mission of AMC includes the following functions:

(1) To perform assigned materiel functions of the Department of the Army, including research and development; maintenance, production, and product engineering; testing and evaluation; procurement and production; integrated materiel inventory management; new equipment training; wholesale logistics training; technical intelligence; mutual security programs; and, as

related to the continental United States wholesale supply and maintenance system, storage and distribution, transportation, maintenance, demilitarization, and disposal. In addition, the US Army Materiel Command is responsible for Army-wide technical control for petroleum logistics assigned to the Army for all military services and other customers, and participation in developing and maintaining interservice supply support (including the Defense Supply Agency).

(2) To develop and provide, in response to objectives and specific requirements established by Headquarters, Department of the Army, materiel and related logistics services to the Department of the Army, Department of the Army elements of unified and specified commands, and other United States and foreign customers.

(3) To command subordinate commands, installations, and activities as may be assigned by Headquarters, Department of the Army; and plan, program, budget, and coordinate requirements for resources; supervise and review utilization; and provide resources for all headquarters, installations, and activities commanded.

(4) To provide worldwide technical and professional guidance and assistance required for the support of Department of Army materiel including all international research, development, and standardization programs.

c. The US Army Materiel Command operates the Army depot system in CONUS for the storage of all types of Army materiel and supplies, conventional ammunition, guided missiles, special weapons, vehicles, repair parts, and tools and equipment as directed by the national inventory control points. In addition, AMC is responsible for the operation of separate maintenance activities, storage sites, and several miscellaneous activities.

d. In order to perform the functions listed in *b*(1) through 4 above, the US Army Materiel Command is organized with a headquarters element; nine major subordinate commands (Aviation Systems, Electronics, Missile, Mobility Equipment, Munitions, Tank Automotive, Test and Evaluation, Weapons, and Sentinel Logistics); and several separate activities, laboratories, and procurement offices. The headquarters is organized to include a Commanding General, a Deputy Commanding General, a Deputy for Research and Laboratories, Chief of Staff, Project Managers, Special Assistants, various staff elements, and 11 directorates. Figure 4–2 provides detail on the AMC organization.

4–9. Major Subordinate Commands

a. Seven of the nine major subordinate commands are classed as commodity-type commands; namely US Army Aviation Systems Command, US Army Electronics Command, US Army Missile Command, US Army Mobility Equipment Command, US Army Munitions Command, US Army Tank Automotive Command, and US Army Weapons Command. The commodity commands are responsible for:

(1) Exercising integrated commodity management of various commodities throughout the Army, including:

(*a*) Design and development.

(*b*) Product, production, and maintenance engineering.

(*c*) Procurement, production, and industrial mobilization planning.

(*d*) Cataloging and standardization.

(*e*) Wholesale inventory management and supply control.

(*f*) Such stock control, storage, distribution, surveillance, depot maintenance, and disposal responsibilities as may be assigned.

(*g*) New equipment training, design of pertinent training devices, and technical assistance to users.

(2) Conducting or managing basic and applied research with respect to assigned materiel development.

(3) Executing assigned missions in support of other AMC elements having project management or commodity management responsibility for specific weapon systems or items.

(4) Directing and controlling assigned installations and activities.

(5) Providing support of international logistics activities to include Foreign Military Sales, Grant Aid, and Cooperative Logistics Programs.

b. Some of the various commodities that the commodity commands are responsible for are depicted in figure 4–3.

c. Another major subordinate command of AMC is the US Army Test and Evaluation Command. This command is responsible for planning and conducting engineering and service tests of Army Materiel for AMC, providing test and

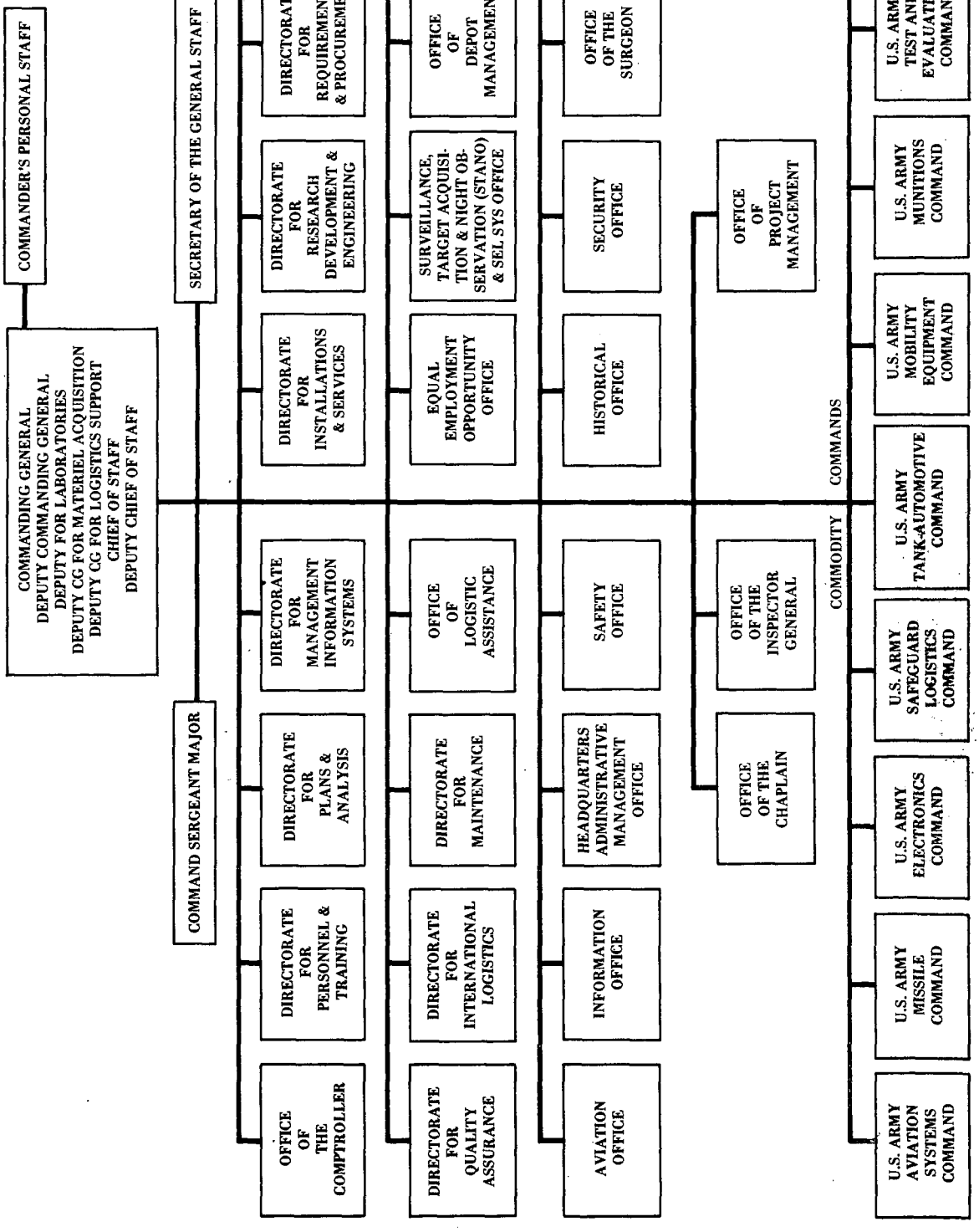


Figure 4–2. Headquarters, US Army Materiel Command.

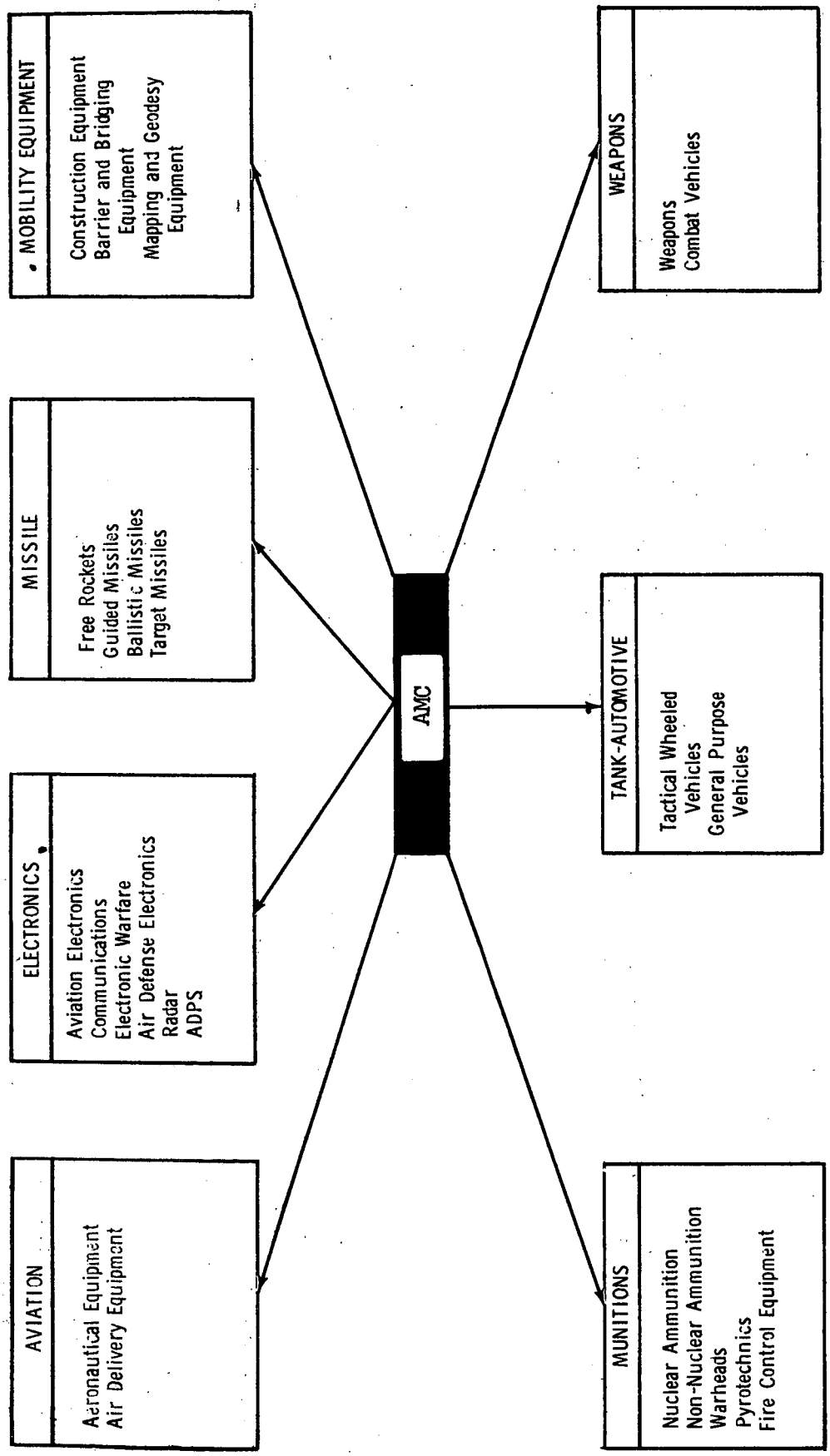


Figure 4–8. Commodity Commands.

evaluation services and support to the sponsoring development and production commands and project managers, and participating in the planning and preparation for troop tests involving Army materiel. In addition, it directs and controls installations and activities that are assigned to the command.

d. The US Army Safeguard Logistics Command, the last major subordinate command of AMC, is responsible for providing mission essential logistics support to the Safeguard Missile System except for nuclear munitions and auxiliary equipment.

4–10. Separate Activities

There are several separate installations and activities, which are US Army Materiel Command elements organized under a separate TDA or MTDA, that report directly to Headquarters, AMC. These include, but are not limited to, Army CONUS depots, research and engineering activities (laboratories and centers), procurement offices and procurement district offices, and training activities (Joint Military Packaging and Training Center, US Army Logistics Management Center, and US Army Management Engineering Training Agency). They perform such functions as research and development of materiel, procurement and contract administration, and training of military and civilian personnel in management skills and techniques.

4–11. Project Managers

a. A project manager is an individual within a military department who exercises full line authority over all planning, direction, and control of tasks and associated resources involved in providing a designated weapon or equipment system. This authority includes all phases of research, development, procurement, production, distribution, and logistics support for the purpose of maintaining a balanced program to accomplish stated objectives.

b. The US Army Materiel Command's project managers are assigned to handle programs which, because of high dollar cost, high priority, or sensitivity (or all three), need special attention. Project managers receive very little staff supervision and report directly to the Commanding General, AMC. This does not mean that they operate independently of the AMC staff. They must receive support from the staff (comptroller, development, procurement and production, etc.) in order to perform their functions of project management. The project managers deal directly with field activities and have across-the-board responsibilities and authority for their projects. However, the Director of Development, AMC Headquarters, must be kept informed on all development aspects of the project managed systems. Some of these systems are the Main Battle Tank, Chinook and Iroquois Helicopters, M–113 Personnel Carrier, and Mohawk Airplane.

4–12. Medical Materiel

The reorganization of the Army in 1962, which transferred supply management responsibilities of the technical services to the US Army Materiel Command, did not include medical materiel (Class VIII). The Surgeon General is the Army class manager for medical materiel. Operating under basic Department of the Army logistical policies, he is responsible for the establishment of appropriate policies, programs, and procedures necessary for the management of Department of the Army medical materiel. The surgeon at each echelon of command is responsible for the implementation, coordination, and technical direction of the Army Medical Materiel Program. Medical materiel is an integral resource for the medical care of the Army; therefore its management is accomplished by the Army Medical Department.

4–13. Army Medical Class Manager

The US Army Medical Materiel Agency is the Army medical class manager activity for all medical materiel. The functions performed by this agency are enumerated in paragraph 5–3.

PART THREE

MISSIONS, FUNCTIONS AND ORGANIZATION FOR SUPPLY OPERATIONS

CHAPTER 5

NATIONAL INVENTORY CONTROL POINTS

Section I. ORGANIZATION AND FUNCTIONS

5–1. Purpose and Establishment

National Inventory Control Points (NICP's) were established in the Army by the publication AR 700–5, Logistics (General)—Organization and Operations of National Inventory Control Points, dated 18 September 1957. A National Inventory Control Point is an organizational segment within a commodity command (such as the U.S. Army Missile Command) to which the commander of the commodity command has assigned responsibility for integrated materiel inventory management of a group of items such as free rockets, guided missiles, ballistics missiles and target missiles. Prior to the establishment of NICP's, inventory control for commodities in the Army was performed by two agencies; the supply control point and the stock control point. Establishment of NICP's is an outgrowth of the trend toward centralization of management and the close relationships between requirements management and all other elements of inventory supply management. The National Inventory Control Point was established in order to exercise this coordination and control for a single commodity. Their operations govern the worldwide management of assigned items of materiel and are responsible in the aggregate for all Army supply items under the supervision of the U.S. Army Materiel Command. This responsibility covers the areas of catalog direction, requirements computation, procurement direction, distribution management, rebuild direction, and disposal direction.

5–2. Materiel Inventory Management

a. The U.S. Army Materiel Command operates National Inventory Control Points as subordinate activities of the commodity commands. These activities are the organizations within the supply system that are responsible for the management of the various commodities assigned to the Army. When NICP's perform responsibilities under integrated materiel inventory management for items assigned to DSA or GSA, the basic organizational structure of an Army NICP may be modified. This will permit co-location and/or organizational integration of Army Class Manager Activities. NICP's (fig. 5–1) are headed by an inventory control point manager, who is either the commander or senior commodity manager of the NICP. He is responsible for integrated materiel inventory management for all items assigned to his NICP. Commodity managers, within NICP's, are assigned a given number of items, categories of items, or Federal supply classification groups or classes for integrated materiel inventory management. Materiel inventory management is the management of those items assigned to the commodity managers and consists of the following functions:

(1) Cataloging direction is the initiation of actions requiring the timely identification of items and preparation of prescribed Department of the Army supply catalogs.

(2) Requirements computations is the computation of quantitative requirements, subject to review and approval by higher authority when prescribed.

(3) Procurement direction is the authority, within limitations of approved programs, or as otherwise directed by higher authority, to require procurement to be accomplished.

(4) Distribution management is the control of stocks in, due into, or planned for the distribution system on a quantitative and monetary basis.

(5) Overhaul direction is the authority to require rebuild to be accomplished.

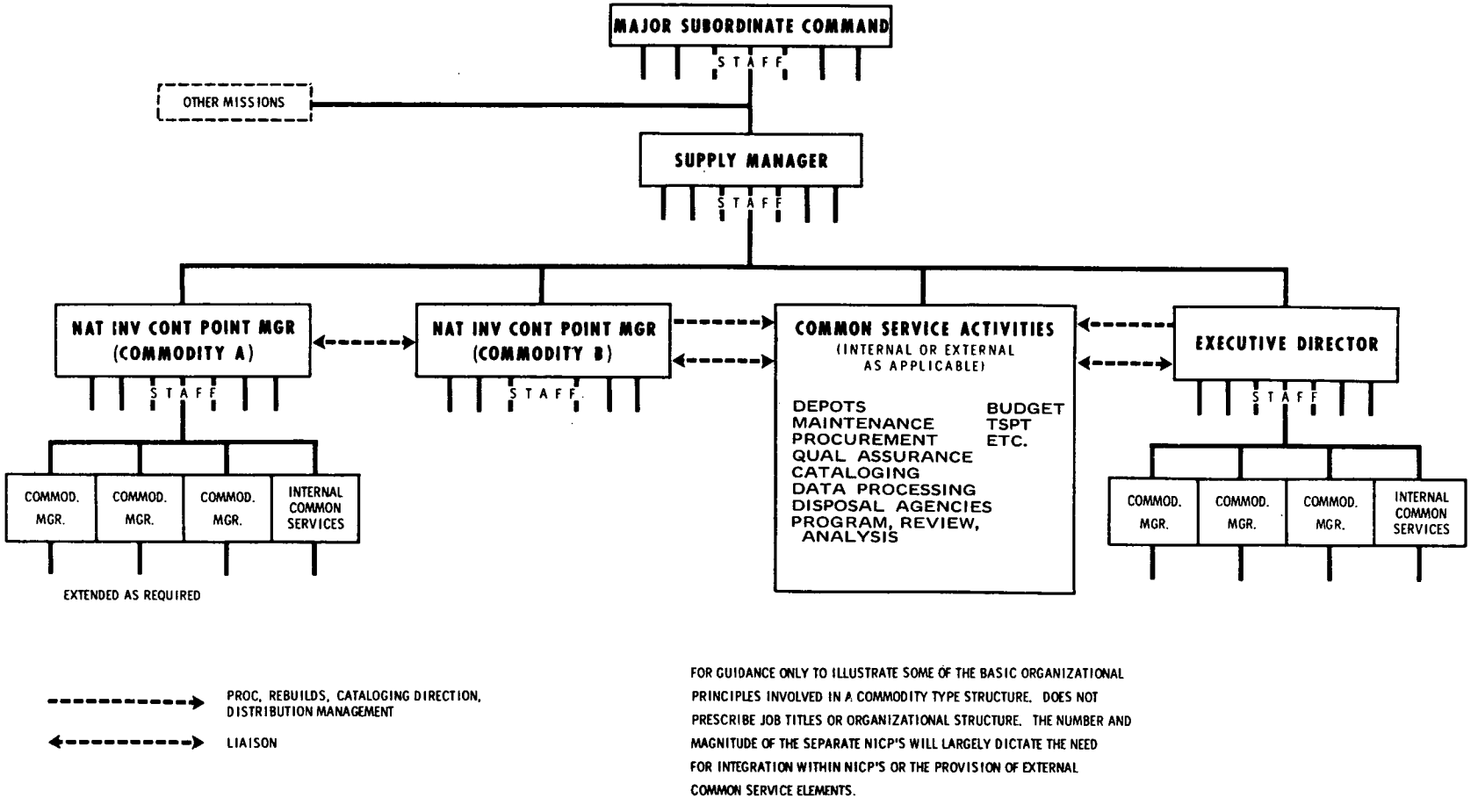


Figure 5–1. Type Organization—National Inventory Control Point.

(6) Disposal direction is the authority to require disposal to be accomplished.

b. Implementation of logistics policies, programs and prescribed control actions, and execution of the Army supply mission is the responsibility of the Commanding General, US Army Materiel Command. He also has staff responsibility for integrated materiel management for stock fund and procurement of equipment and missiles, Army (PEMA) secondary items and NICP related functions.

5–3. Army Class Managers

★*a.* Army class manager activities (ACMA) are those activities under the direct command of major subordinate commands of US Army Materiel Command and The Surgeon General, which are designated as Army class managers of Federal Supply Classification (FSC) classes assigned to the Defense Supply Agency or the General Services Administration for integrated materiel management. An example of an ACMA is the US Army General Materiel and Parts Center located at the New Cumberland Army Depot. This Center is the Army contact point for items managed by the Defense Supply Agency or the General Services Administration except electronics, subsistence, and clothing and textiles. Army Petroleum Support Center, which is the Army contact point for items if FSC classes of chemical materiel, package petroleum products, and petroleum containers and accessories. Functions of the Army class manager activities, which pertain only to items assigned to the Defense Supply Centers and the General Services Administration, are outlined below:

(1) Act as the Army focal point with Defense Supply Centers and General Services Administration for resolution of supply problems.

(2) General/limited war mobilization planning and requirements determination.

(3) Management of Army prepositioned war reserve and contingency planning. This includes both CONUS prepositioned war reserves and oversea prepositioned war reserve stock.

(4) Planning for introduction of new items to the supply system.

(5) Army program data.

(6) Army materiel management. Under conditions of integrated management by the Defense Supply Agency, certain functions must be performed by Army and are so reserved by charter or agreements. These functions are—

(*a*) Army cataloging as required.

(*b*) Type classification and participate in Department of Defense standardization.

(*c*) Develop commodity planning factors.

(*d*) Regulate/control items.

(*e*) Conduct publications review.

(*f*) Perform financial management and budget support.

(*g*) Direct excess utilization and disposition.

(*h*) Exercise control of maintenance programs.

(*i*) Recommend materiel authorization.

(*j*) Perform Army stockage reviews.

(*k*) Perform any additional and related supply support functions reserved to the Department of the Army by applicable directives or as required for effective support to the Army and not specifically exempted as the responsibility of another agency.

b. Major subordinate commands of the US Army Materiel Command, who have ACMA's assigned to them, are responsible for their organization, administration, and accomplishment of assigned missions. However, establishment of implementing policies, programs, and management actions that govern ACMA missions is the responsibility of the US Army Materiel Command. Responsibilities for organization, administration, policy and staff supervision of medical-dental supply items rests with The Surgeon General. Standardization of operations and uniformity of application of Department of Defense and Department of the Army policies for medical and dental items are coordinated between The Surgeon General and the US Army Materiel Command.

5–4. Accountability

Accountability is the obligation of an individual, officially designated with respect to a specified activity, to maintain records of item balances and/or dollar values reflecting authorized debits, credits and available balances of materiel on hand. On 1 February 1965 accountability for Army depot stocks was centralized at the National Inventory Control Point. Even though accountability is no longer performed at the depot, the depot commander is still responsible for the security, preservation and packaging of depot stocks. Centralized accountability resulted from

the Army Supply and Maintenance System Study, commonly referred to as ASAMS. Prior to centralization, accountability was a composite of centralized inventory accounting and decentralized inventory accounting which meant that accountability was being performed by either the National Inventory Control Point or the Army depot. In addition, each accountability point performed the functions of stock control and was a source of supply for the customer. Centralized accountability, in effect, has centralized the total inventory management of a commodity and provides the customer with a single source for a given group of items by commodity identification. At the present time, there are seven national inventory control points that manage stocks in the Army depots.

5–5. Stock Control

Stock control is the process of maintaining inventory data on the quantity, location, and condition of supplies and equipment due-in, on-hand, and due-out, to determine quantities of materiel and equipment available and/or required for issue, and to facilitate distribution and management of materiel.

Section II. DEFENSE MILITARY STANDARD DATA SYSTEMS

5–6. General

As a result of the Defense Materiel Management Improvement Project 60–11 (Single Manager System Design), several standardization processes or procedures are known as Military Standard Data Systems and are generally considered to be a systems family. Some of these systems, which will be covered in detail in the paragraphs to follow, are the Uniform Materiel Movement and Issue Priority System (UMMIPS), Military Standard Requisitioning and Issue Procedures (MILSTRIP), Military Standard Transportation and Movement Procedures (MILSTAMP), Military Standard Reporting and Accounting Procedures (MILSTRAP), Military Standard Contract Administration Procedures (MILSCAP), and Military Supply and Transportation Evaluation Procedures (MILSTEP). The objectives of the standardization program was to develop common methods and systems to be used by all Military Services in accomplishing their operational functions.

5–7. Uniform Materiel Movement and Issue Priority System

a. Uniform Materiel Movement and Issue Priority System (UMMIPS). This system, implemented on 1 July 1962, is a system for the movement of Department of Defense materiel and in the requisitioning of materiel from the DOD distribution system. UMMIPS is used by the Military Services (Army, Navy, and Air Force), Defense Agencies, US Coast Guard, Defense contractors, other government agencies, and Military Assistance countries (Grant Aid, Sales and Supply Support Agreements). The system is used in both peacetime and war except for Military Assistance Program (MAP) in a general war. The purpose for establishing UMMIPS was to—

(1) Insure that requirements are processed in accordance with the mission of the requiring activity and the urgency of need.

(2) Differentiate between the relative degrees of activity importance.

(3) Relate priority to the amount of time within which supplies must be delivered to preclude adverse effect on operations or capabilities.

(4) Provide equal application to normal limited emergency and all-out war conditions without basic changes being required.

(5) Establish and assign responsibility for each segment of the order and shipping time cycle, including maximum time allowances for each portion thereof. This provides standards for management evaluation of performance by each cycle segment.

b. Issue Priority System. The issue priority system, which is uniform in the Military Services, is based upon a combination of factors which relate to the mission of the activity and the urgency of the need of the end use. These factors are called the Force/Activity Designator (FAD) and the Urgency of Need Designator (UND) and are described as follows:

(1) A Force/Activity Designator (FAD) is a Roman numeral which relates to the importance of the mission of a unit, organization, or installation performing a function or mission, a project or program, including Military Assistance Program (MAP), Grant Aid, or Sales. Overall responsibility for assignment and review of FADs is vested in the JCS. Within the Army, major commanders are responsible for insuring the FADs are properly assigned and applied.

AR 11–12 contains the policies for the assignment of FADs. Five FADs ranging from I (the highest) through V (the lowest) are assigned as follows:

(*a*) *FAD I:* US forces in combat and other United States or foreign country forces or activities designated by the Secretary of Defense or recommendation of the JCS; programs which have been approved for top national priority by the President, declared emergencies, and units or projects which have been specifically designated by the Secretary of Defense on the recommendation of the JCS.

(*b*) *FAD II:* US combat, combat ready,

and direct combat support forces deployed outside CONUS in specific theaters or areas designated by the Secretary of Defense on the recommendation of the JCS; CONUS forces being maintained in a state of combat readiness for immediate (within 24 hours) employment or deployment; specified combat ready and direct combat support forces of foreign countries with comparable importance to US forces specified above; DOD component programs and projects vital to defense or national objectives, which are of comparable importance with elements specified above; specific identifiable Federal agency programs which are related to defense or national objectives and so designated by the Secretary of Defense.

(*c*) *FAD III:* All other US combat ready and direct combat support forces outside CONUS not included in FAD II, those CONUS forces being maintained in a state of combat readiness for deployment to combat prior to D+30, DOD component programs and projects which are of comparable importance with elements specified above, specified combat ready and direct combat support forces of foreign countries with comparable importance with forces specified above; specific identifiable Federal agency programs designated by the Secretary of Defense; and CONUS industrial maintenance and repair activities providing direct logistics support for forces in a state of combat readiness.

(*d*) *FAD IV:* US forces being maintained in a state of combat readiness for deployment to combat during the period D+90, DOD component programs and projects which are of comparable importance with elements specified above; specified combat ready and direct combat support forces of foreign countries with comparable importance to US forces specified above, and Federal agency programs which contribute to planned improvement of defense or national objectives as so designated by the Secretary of Defense.

(*e*) *FAD V:* All other US forces or activities including staff, administrative, and base/post supply type activities; and approved programs of DOD components and Federal agencies not otherwise designated.

(2) Urgency of need designators (UND) are alphabetic characters designating the relative urgency of need of an item. They are determined by the essentiality of materiel requisitioned to the accomplishment of the military mission assigned to the force/activity and are assigned as follows:

(*a*) *UND A.* This will be used in requisitioning materiel required for immediate end-use and without which the force/activity is unable to perform assigned operational missions;* immediate installations on, or repair of mission essential materiel and without which the force/activity is unable to perform assigned operational missions;* immediate end-use for installation or repair of direct support equipment (ground support, firefighting, etc.) necessary for the operation of mission-essential materiel;* immediate end-use in replacement or repair of mission essential training materiel and without which the force/activity is unable to perform assigned training missions; immediate end-use to effect replacement or repair of essential physical facilities of an industrial/production activity and without which the activity is unable to perform assigned missions; immediate end-use to eliminate an existing work stoppage at industrial/production activities manufacturing, modifying, or maintaining mission-essential materiel; or work stoppage on a production line performing repair and maintenance of unserviceable intensive management/critical items.

(*b*) *UND B.* This will be used in requisitioning materiel required for immediate end-use and without which the capability of the force/activity to perform assigned operational missions is impaired;** immediate installation on or repair of mission-essential materiel and without which the capability of the force/activity to perform assigned missions is impaired;** immediate end-use for installation on or repair of auxiliary equipment; immediate end-use in replacement or repair of mission-essential or auxiliary training equipment and without which the capability of the force/activity to perform assigned missions is impaired; immediate end-use to effect replacement or repair of essential physical facilities on an industrial/production activity and without which the capability of the activity to perform assigned missions is impaired; preclude an anticipated work stoppage at industrial/production activities manufacturing, modifying or maintaining mission-essential materiel; preclude an anticipated work stoppage on a production line performing repair and maintenance of unserviceable intensive management/critical items and immediate replacement of the safety level quantity of mission-

*Materiel requirements of this nature affect the readiness of mission-essential materiel and actually result in a report of casualty in accordance with equipment readiness information systems authorized by the Office of the Secretary of Defense, the JCS, or DOD component headquarters only.

**Materiel requirements of this nature directly affect the capability of the force/activity to perform its mission; it can temporarily accomplish assigned missions and tasks but with the effectiveness and efficiency below the level of acceptable readiness.

essential items on allowance/load lists (e.g., Prescribed Load Lists, Repair Kits, Station Sets) where the last item has already been issued out-of-bin to end-use.

(*c*) *UND C.* This will be used in requisitioning materiel required for on-schedule repair/maintenance/manufacture or replacement of all equipment; replenishment of stock to meet authorized stockage objectives; initial provision and initial support packages; and purposes not specifically covered by any other Urgency of Need Designator.

c. Issue Priority Designators. As mentioned in the preceding paragraph, there are five Force/Activity Designators and three Urgency of Need Designators. These designators are combined to form an Issue Priority Designator, of which there are 15 combinations, ranging from 1 through 15 as shown in figure 5–2. The appropriate issue priority designator is determined by the requisitioning activity. The 15 issue priority designators are placed in three issue groups (1 through 3) for the purpose of assigning requisition processing, material handling, and transportation time schedules. The issue groups, with their related issue priority designators, are as follows:

Issue group	*Issue priority designator*
1	1 through 3
2	4 through 8
3	9 through 15

d. Standard Delivery Date. The Standard Delivery Date (SDD) which have been established for each priority designator is the maximum ending calendar date by which normal processing and shipping in the logistics system will permit receipt and recording of the materiel by the consignee. Standard delivery dates for each of the issue groups are as follows:

Issue group	*Issue priority designator*	*CONUS or intratheater SDD from date of requisition to receipt of materiel*	*Oversea SDD from date of requisition to receipt of materiel*
1	1 through 3	7 days	11 to 12 days
2	4 through 8	11 days	15 to 16 days
3	9 through 15	29 days	67 to 82 days

Note. Issue priority designators 01 through 03 requisitions for items causing primary weapons and equipment to be "Not Operationally Ready For Supply" will be prepared to contain code "999" in card columns 62 through 64 in lieu of a delivery date. Code 999 will provide identification of documents related to critical items which require expedited handling.

e. Required Delivery Date. The Required Delivery Date (RDD) is a calendar date which specifies when materiel is actually required to be delivered to the requisitioner and it is always a date which is earlier or later than the computed SDD. An RDD will not exactly equal a computed SDD. An RDD shorter than the established SDD for the priority used on the requisition may be included only when the materiel must be delivered to a specific point by a specific day to meet one of the following conditions:

(1) Specific scheduled departure date for a vessel or other carrier is such that future replenishment of the force/activity from current supply sources will not be practical after departure.

(2) Scheduled deployment date for an operational force by a fixed date.

(3) Firm commitment for delivery of materiel to a country participating in International Logistics.

Note. An RDD beyond the established SDD may be assigned by the requisitioner when planned requirements are beyond the normal order and shipping time for the geographic area.

f. Required Availability Date. The Required Availability Date (RAD) is a calendar date which specifies the date when end items and current spare parts are committed to be available for transportation to an International Logistics Program recipient. RADs are firm commitment dates and will not be modified except as follows: In cross-servicing actions, when ILP requisitions or other documents bear a RAD with a shorter lead time than when materiel will be available for transportation; or, in intraservice transactions when authority directed through appropriate channels has been granted.

g. Control of Issue Priority Designator Utilization. Commanding officers of requisitioning activities are responsible for the accurate assignment of issue priority designators (IPD) on supply documents consistent with the assigned Force/Activity Designator and with the existing urgency of need. He, or in his absence, the acting commanding officer, will personally review all requisitions with IPD 01 through 08 to insure appropriate assignment. This review will be accomplished before release of the requisitions to the supply source. In regard to IPD 09 through 15, personnel authorized by the commander will personally review all requisitions within 24 hours after submission. Requisitions with IPD 01 through 08 will be restricted to that amount necessary to satisfy the immediate end-use requirement. The only authorized priority designators for replenishment of stock requisitions are 11 through 15. Further command responsibilities are: conduct a semian-

nual review (March and October) to insure the appropriateness of the FAD assigned each unit in relation to its mission; through command, administrative, and supply inspections insure that UNDs have been properly applied resulting in the proper utilization of IPDs in requisitions and will establish local training seminars periodically at which priority rules are reviewed and new and changed situations are discussed by all personnel who assign UNDs.

Urgency of need designator	*Force/activity designator*	*Issue priority designator*
A		
Primary weapons or equipment. Key items essential to mission's accomplishment.	I. Combat	1
	II. Readiness for combat	2
	III. Readiness for deploy	3
	IV. Planned for employment in support of joint war plans and essential support activities for such forces.	7
	V. All others	8
B		
Auxiliary equipment (equipment which supplements or takes the place of primary equipment should it become inoperative). Key item lack of which impairs performance of mission. Work stoppages in production.	I. Combat	4
	II. Readiness for combat	5
	III. Readiness to deploy	6
	IV. Planned for employment in support of joint war plans and essential support activities for such forces.	9
	V. All others	10
C		
Required for on-schedule operations, routine replenishment of stock, initial provisioning, etc.	I. Combat	11
	II. Readiness for combat	12
	III. Readiness to deploy	13
	IV. Planned for employment in support of joint war plans and essential support activities for such forces.	14
	V. All others	15

Issue Priority Designators Table (by Force/Activity Designator)

Force/activity designator	*Urgency of need designator*		
	A	B	C
I	1	4	11
II	2	5	12
III	3	6	13
IV	7	9	14
V	8	10	15

Figure 5–2. Issue priority designator table.

5–8. Military Standard Requisitioning and Issue Procedure

The Military Standard Requisitioning and Issue Procedure (MILSTRIP), which is used in conjunction with UMMIPS, is a standard requisitioning and issue procedure which prescribes the use of uniform codes and data entries in standard single-line format documentation. Prior to the establishment of MILSTRIP, there were several requisitioning systems and a variety of forms used by the services in obtaining items. MILSTRIP has replaced 16 different document systems for the issue and receipt of supplies. MILSTRIP—

a. Provides uniformity of procedures for all requisitioners and all supplies.

b. Meets essential requirements of all the military services.

c. Provides for Department of Defense interservice supply transactions, including Defense Supply Agency operations.

d. Provides for interservice supply support operations (excluding interdepartmental purchasing and services operations).

e. Provides for accommodation of requisitioning on General Services Administration stock stores.

5–9. Military Standard Transportation and Movement Procedures

a. Another segment of the Department of Defense standardization program is the Military Standard Transportation and Movement Procedures (MILSTAMP). MILSTAMP is concerned with uniform and standard transportation data, documentation, and control procedure applicable to all cargo movements in the Department of Defense transportation system. It consists of standard forms, formats, codes, rules and methods for shipment of materiel within and between military services, shipments originated by the General Services Administration and logistic support of missions assigned to Department of Defense components. Prior to the establishment of MILSTAMP, there was a complete lack of uniformity among the services and transportation activities, which resulted in such problems as:

(1) There were many documents and procedures.

(2) Nonstandard language and terms.

(3) Handling of increased small shipment workload generated by the Military Standard Requisitioning and Issue Procedures (MILSTRIP).

(4) Lack of quality and timeliness in communications.

(5) Nonstandard shipment planning.

(6) Lack of transit time controls.

(7) Inadequacy of electronic accounting machine (EAM) and automatic data processing (ADP) systems.

b. The Military Standard Transportation and Movement Procedures was designed to—

(1) Maintain compatibility with the Military Standard Requisitioning and Issue Procedures (MILSTRIP) and the Uniform Materiel Movement and Issue Priority System (UMMIPS).

(2) Provide the capability for control of shipments moving in the Defense transportation system.

(3) Provides the means for application of automated systems to transportation documentation and control.

(4) Provide for high speed transmission of transportation information through the communications systems.

(5) Provide standard transportation documentation and common transportation language.

(6) Assure timely responsiveness and optimum utilization of the Defense transportation system.

★*c.* MILSTAMP transportation priorities, used in the movement of MILSTRIP material by all modes of transportation, are assigned to agree with the MILSTRIP issue group described in paragraph 5–7*c*. These priorities are—

(1) *Transportation Priority 1.* The preferred mode of transportation for this priority is airlift. However, priority 1 material may be transported by other high-speed modes when its size, properties, classification, other peculiar characteristics, or when good traffic management indicates airlift to be inappropriate or unnecessary. Issue priority designators 1, 2, or 3 are assigned transportation priority 1.

(2) *Transportation Priority 2.* Materiel will be moved via an appropriate mode of transportation, which will assure delivery within the requirements of the required delivery date. Priority 2 applies to issue priority designators 4 through 8.

(3) *Transportation Priority 3.* Material moved via ordinary or expedited surface modes of transportation. Normally, movement by aircraft will be only under conditions where timely surface transportation is not available to oversea areas or when the only access to the consignee is by air transportation. Issue priority designators 9 through 15 are transportation priority 3.

★*d.* The transportation priority as they apply to the MILSTRIP issue groups and issue priority designators are indicated below:

MILSTRIP issue group	*MILSTRIP issue priority designator*	*MILSTRIP transportation priority*
1	1 through 3	1
2	4 through 8	2
3	9 through 15	3

5–10. Military Standard Reporting and Accounting Procedures

a. The Military Standard Reporting and Accounting Procedures (MILSTRAP), that was im-

plemented on 1 July 1965, establishes standard codes, forms, formats, and procedures for the transmission of item and financial inventory data between inventory managers, stock control and storage elements of all the military services and the Defense Supply Agency. MILSTRAP is designed to provide the following:

(1) A standardized coding structure for inventory transactions and related management actions which conveys the information required for effective management of inventories.

(2) Uniformity in the interchange of inventory accounting information within and between the military services.

(3) An integrated system of item and financial accounting which permits the accumulation of financial data for financial reporting purposes as an adjunct of updating the inventory record.

(4) An individual transaction reporting capability which accommodates any combination or variation of existing methods for centralized, decentralized, or regional processing of requisitions.

b. The objective of establishing MILSTRAP was to improve existing inter- and intra-service supply communications and provide improved management control through more effective and economical application of automatic data processing equipment with a minimum impact to basic supply policy. The range of codes, forms, formats, and procedures prescribed by MILSTRAP will accommodate the variations in logistics organizations within and among the military services and the Defense Supply Agency. The applicable logistics organizational structures and processing capabilities are as follows:

(1) Centralized inventory control and accountability; decentralized storage.

(2) Centralized inventory control; decentralized accountability and storage.

(3) Automated procedures (electronic data processing capability).

(4) Mechanized procedures (electrical accounting machines capability).

(5) Manual procedures (neither electronic nor electrical processing capability).

c. Even though MILSTRAP is applicable to all of the military services and the Defense Supply Agency, there are some organizational levels, certain financial transactions and commodities that these procedures do not apply. These areas are—

(1) Transactions below the inventory control point activity-storage activity level, i.e., internal transactions with posts, camps, stations, bases (or equivalent) for local support of functions, organizations, and activities.

(2) Financial transactions other than those produced as a by-product of receipt, issue, and adjustment processing within the inventory control system.

(3) The commodities of perishable subsistence items and brand name resale subsistence items; bulk petroleum and packaged fuel products; forms and publications; industrial production equipment; and communications security (COMSEC) and signal intelligence equipment and COMSEC aids (keying material).

d. Detailed policies, procedures, and directions for implementing the following areas of MILSTRAP are contained in AR 725–50:

(1) Inventory accounting.

(2) Processing receipt and due-in transactions.

(3) Issue, back order, and demand data transactions.

(4) Processing materiel adjustment transactions.

(5) Processing financial adjustment transactions.

(6) Logistical reassignments.

(7) Processing physical inventory transactions.

(8) Stock status reporting.

(9) Transfer of repairable items from storage to maintenance activities for repair and return.

(10) Processing shipments to a contractor repair facility for processing and return.

(11) Assembly and disassembly operations.

5–11. Military Standard Contract Administrative Procedures

The Military Standard Contract Administrative Procedures (MILSCAP) establishes a uniform mechanized transaction reporting system for the exchange of procurement/contract administration data between the military services buying offices and the Defense Supply Agency's Defense Contract Administration Services regions. MILSCAP has direct application to all Army procurements, contract administration and field activities (i.e.,

Commodity Command/National Inventory Control Points, Procurement Detachments/Agencies and Plant/Cognizant Activities), as well as lesser applications to depots and consignee post, camps and stations. MILSCAP has an extensive overlay in similarity to the U.S. Army Materiel Command's SWORDS (Standard Work Ordering and Reporting Data System).

5–12. Military Supply and Transportation Evaluation Procedures

a. The Military Supply and Transportation Evaluation Procedures (MILSTEP) is a procedure for evaluating supply and transportation performance. The procedure measures performance in terms of time response, as related to materiel moving through the logistics pipeline, and in terms of supply response as related to the percentage of requisitions satisfied by the supply source materiel availability. MILSTEP measure the total logistics pipeline by total time performance and by performance of the individual segments within the logistics pipeline.

b. The Department of Defense (DOD) measures the total pipeline in five major segments which are as follows:

(1) *Customer Submission Time.* Time from the date of the requisition until date of receipt of the requisition by the National Inventory Control Point (NICP).

(2) *NICP Processing Time.* The elapsed time from receipt of the requisition to the date a Materiel Release Order (MRO) or its equivalent is transmitted to the shipping activity.

(3) *Materiel Release Processing Time.* The elapsed time from the date of the MRO or its equivalent is transmitted to the shipping activity, to the date the shipment is made available to the depot transportation officer for movement.

(4) *Transportation Hold Time.* The elapsed time from receipt of shipment by transportation until release to the carrier for movement to the customer.

(5) *In-Transit Time.* The elapsed time from receipt by the carrier to the date shipment is offered to the consignee transportation officer.

c. In order to provide analytical detail to Army managers as by-products of MILSTEP, the Army measures the pipeline in seven segments. The segments are the same as DOD except the materiel release processing time is broken down into three segments and are as follows:

(1) *MRO Transmittal Time.* The elapsed time from date of the materiel released order (MRO) until receipt of the MRO by the depot.

(2) *Computer Hold Time.* The elapsed time the MRO card was stored in the shipping depot computer files prior to preparation and release of shipping documents to the storage activity.

(3) *Storage Processing Time.* The elapsed time required for the shipping activity to select, pack, mark and document.

d. MILSTEP also provides for an intransit time analysis report which is intended to provide depot transportation officers with a basis for future mode and carrier selection. The report reflects the number of shipments by elapsed time that were delivered by a particular carrier under a selected mode of shipment. This information is accumulated on a point to point basis.

CHAPTER 6

THE DEPOT

Section I. GENERAL

6–1. Background

Prior to the reorganization of the Army in 1962, Army branch depots in the Continental United States were operated by the former technical services (Chemical, Engineer, Medical, Ordnance, Quartermaster, Signal and Transportation). Each technical service was responsible for depot operations and each technical service chief commanded one or more depots. For example, Chemical Corps had stocks stored at 11 depots, Engineer had 7 depots, and Ordnance had 30 depots. The Quartermaster Corps operated the general depots (those which stored more than one commodity) as well as its own Quartermaster branch depots. Depot missions were assigned by the technical service chiefs with the approval of the Deputy Chief of Staff for Logistics. Each depot's mission represented a share of the total supply responsibility of the Army's depot distribution system. Depot missions were classified into three main groups, supply, maintenance, and other activities. The supply group consisted of distribution and reserve; maintenance as the term implies; and other activities consisted of assembly, returned material, and procurement. Even though the technical services performed the same functions of requirements computation, procurement, storage, distribution, and maintenance of items, each technical service had developed its own supply and maintenance system. This meant that the requisitioner submitted his request for supplies to many different places. In addition, several separate procedures were required to prepare the documentation and process the item for shipment. Activation of the U.S. Army Materiel Command and implementation of The Army Supply and Maintenance System (TASAMS) has eliminated the technical services, eliminated several depots, and standardized the supply and maintenance procedures.

6–2. The Army Supply and Maintenance System

a. The Army Supply Maintenance System was developed for the purpose of improving the effectiveness of supply and maintenance, improving responsiveness to combat forces worldwide, and to reduce operating costs. In order to understand TASAMS we must examine the supply system prior to 1 February 1965. The Army supply system was operated on both a decentralized system and a centralized system. These systems are explained below:

(1) *Decentralized.* A decentralized system was one that consisted of a National Inventory Control Point item manager, Army depots that maintained the stock accounting records, and storage locations (nonstock-accounting) that supported the stock-accounting depots. For example, a requisitioner located in the Western United States submitted his requisition for signal-type supplies to the Sacramento Army Depot. If Sacramento's stock records indicated nonavailability of the items, a referral order was prepared and transmitted to the U.S. Army Electronics Command (ECOM) National Inventory Control Point (NICP). At the same time Sacramento provided the requisitioner with supply status on the supplies requested. The NICP checked the national availability records for the supplies and found that Lexington Army Depot had the assets. The NICP then transmitted a referral order to Lexington for supply action and provided the requisitioner with the current supply status. Lexington examined their stock records and found that stock was available at both Lexington and Fort Worth Army Depots. Since the shipment of supplies will be made from the point closest to the requisitioner, a materiel release order (MRO) is placed on Fort Worth who in turn ships the materiel to the requisitioner. At the same time Fort Worth transmits a materiel release confirmation (MRC) to Lexington. Lexington then forwards a detail stock status (transaction) card to ECOM so they may update their national availability records. Figure 6–1 depicts the decentralized system. In figure 6–1 the column on the left shows

the NICP's, the middle column identifies the depots maintaining stock-accounting records, and the column on the right identifies the storage locations (nonstock-accounting) in support of the stock-accounting depots. Figure 6–1 illustrates what happened when an item was not available at the depot which received the requisition first.

(2) *Centralized.* A centralized system was one where Army depots operated as storage locations (nonstock-accounting) and responded to the directions issued by the National Inventory Control Points (NICP's). The NICP's received requisitions and placed shipping orders on the appropriate depots based upon the national availa-

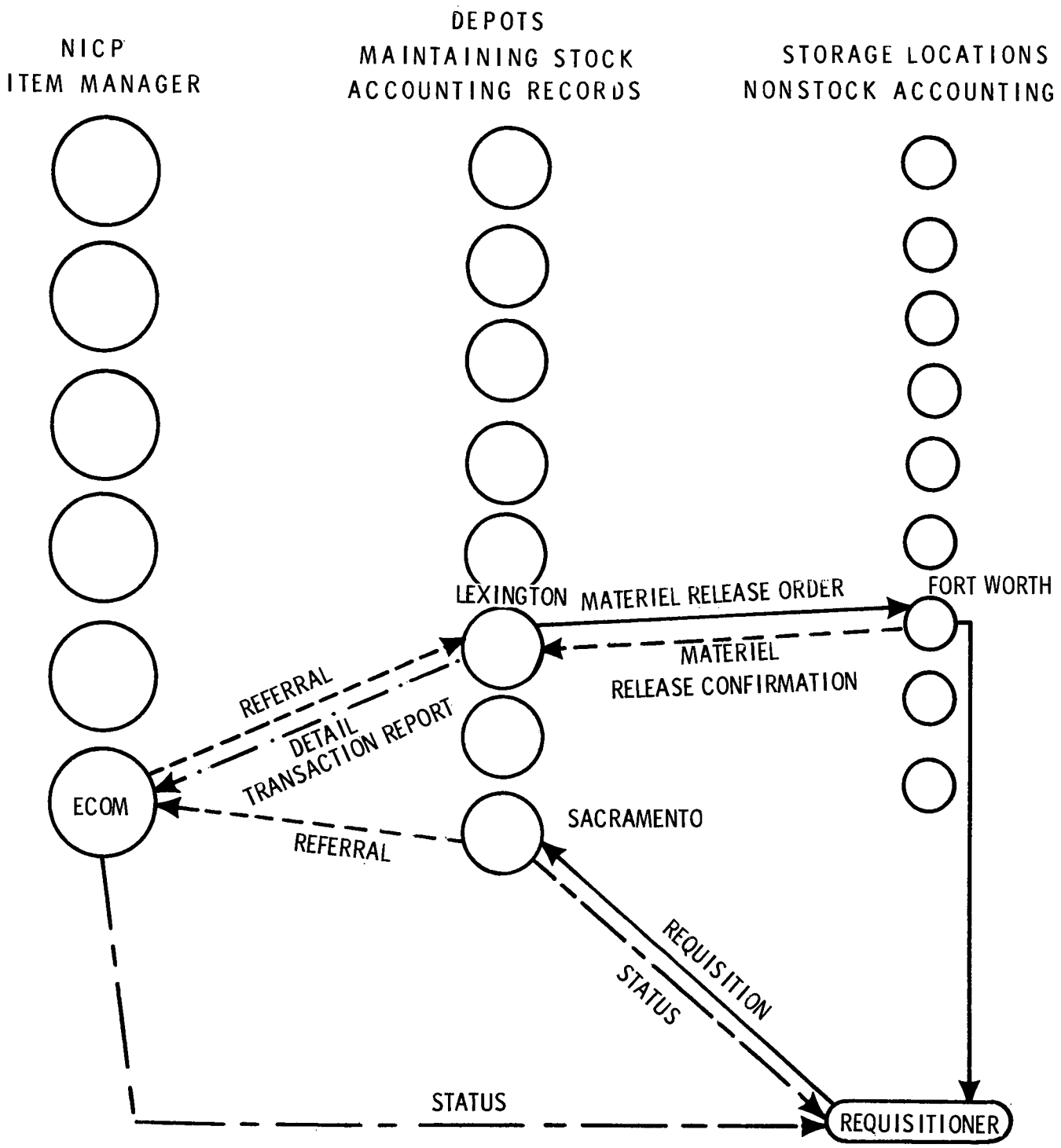


Figure 6–1. Decentralized system.

bility records. For example, a requisitioner would submit his requisition for Engineer-type items to the former U.S. Army Mobility Equipment Center (MEC). The Center would examine the national availabilty record which indicates that assets were available in two or more depot locations in CONUS. A materiel release Order (MRO) would then be transmitted to the depot nearest the customer. The depot would then ship the materiel to the customer and send a materiel release

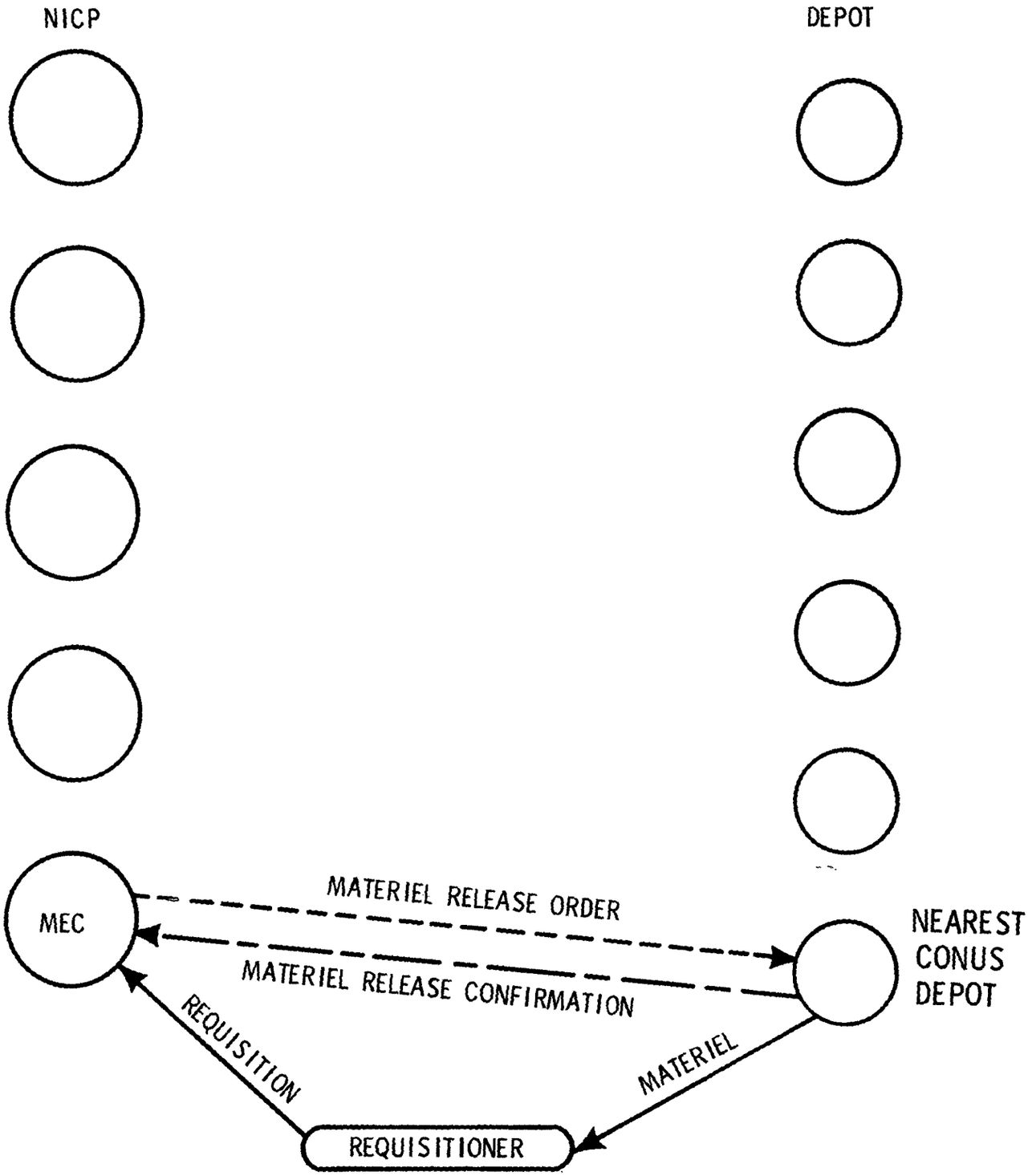


Figure 6–2. Centralized system.

confirmation (MRC) to the U.S. Army Mobility Equipment Center. Figure 6–2 depicts the centralized system.

b. On 1 February 1965 the CONUS Army started operating on one supply system. The implementation of TASAMS reduced the number of NICP's from 11 to 7, eliminated stock control functions that were being performed at certain depots and centralized the stock control function at the NICP's and closed some of the depots. As a result, there is one unified supply system with fewer places for the requisitioner to go, less supply status follow up by the requisitioner and less supply status reporting by the NICP. Under TASAMS, the requisitioner determines which NICP is the item manager for the required supplies and submits his requisition to the appropriate NICP for action. The NICP checks the national availability record for the items required and submits a materiel release order (MRO) to the depot which is recorded as having the assets. MRO's are placed on the depot having assets located nearest to the customer. Upon receipt of the MRO, the depot ships the materiel to the requisitioner and notifies the NICP that the shipment has been made by transmitting a materiel release confirmation (MRC) to the NICP. Figure 6–3 depicts the unified supply system.

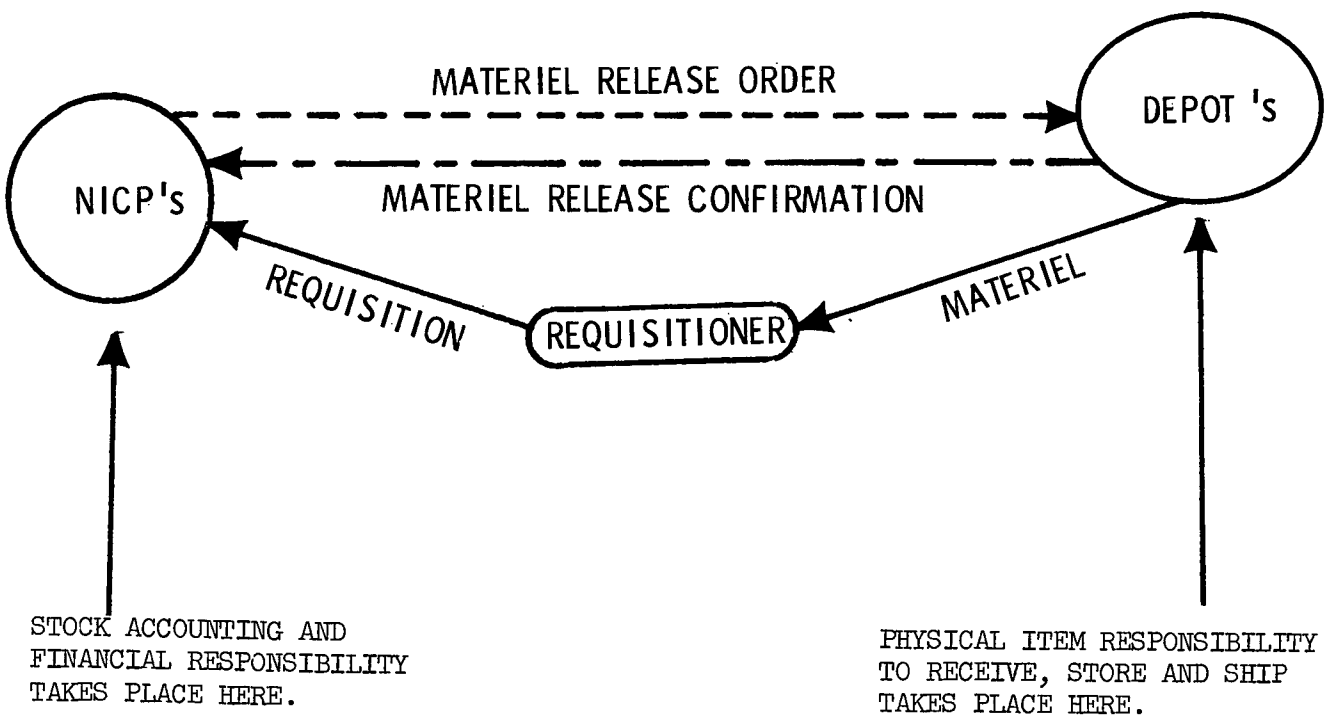


Figure 6–3. Unified supply system.

★Section II. ORGANIZATION

6–3. The Army Depot

a. The Army depots, located in CONUS, are under the direction and supervision of the US Army Materiel Command. The depot system represents a considerable investment of personnel, money, materiel, equipment, and facilities. In order to attain a balanced and economically operated supply system, certain basic management principles should be followed in standardizing the organization of an Army depot. The typical Army depot (fig. 6–4) is generally organized to include a depot commander; a personal staff; a directorate staff consisting of a Comptroller Directorate, Directorate for Administration, Directorate for Services, Directorate for Data Systems, Directorate for Quality Assurance, Directorate for Distribution and Transportation, and a Directorate for Maintenance; and subordinate depot activities located on another installation. The standard pattern for the internal depot organization, in descending order, is directorate, division or office, branch, section, unit, and subunit. Criteria for the internal organization of Army depots is spelled out in AR 740–1 and Army Materiel Command Regulations. The responsibilities of the various elements of the depot, including the depot commander, his personal staff, and directorate staff, are as follows:

(1) *Office of the Depot Commander.*

(*a*) *Depot commander.* The depot commander has command responsibility for managing and administering all depot operations and functions in the most efficient manner possible. The commander normally delegates operational control to his respective directors. Excepted from the commander's responsibility are tenant activities with missions not directly in support of the primary depot missions, and for which the command and tenant responsibilities have been specifically established.

(*b*) *Deputy depot commander.* This position may be authorized by the Army Materiel Command only if the size and scope of the depot mission warrants the additional position.

(*c*) *Directors.* A depot commander will designate directorates and appoint directors as provided in AR 740–1. Each director will report directly to the depot commander. Each director will act as program director for his area of responsibility, except where excluded by other regulations. The directors will be accountable to the depot commander for the accomplishment of this mission.

(*d*) *Executive assistant.* The executive assistant serves as program coordinator for the depot commander in directing and monitoring the development, review, and execution of the depot operating plans and programs. He also provides continuity and historical background to the office of the depot commander.

(2) *Personal staff.* Members of the personal staff will consist of individuals as are authorized by the depot commander. The personal staff will include any, or all, of the following:

(*a*) Safety Director.
(*b*) Intelligence Officer.
(*c*) Legal Officer.
(*d*) Restaurant Officer.
(*e*) Claims Officer.
(*f*) Depot Inspector.
(*g*) Information Officer.
(*h*) Deputy Employment Policy Officer.
(*i*) Purchasing and Contracting Officer.
(*j*) Special Services Officer.
(*k*) Post Surgeon (Commanding Officer of medical unit).
(*l*) Chaplain.

b. There are 16 Army depots located in the United States that receive, store, and issue supplies and equipment. In addition, some of the Army depots store supplies and equipment for the General Services Administration, Defense Supply Agency, and Civil Defense. The Army has no control over these supplies and equipment, but only provides storage space. The Army depots located in CONUS, which are depicted geographically in figure 6–5, are as follows:

(1) Anniston Army Depot, Anniston, Alabama 36201.

(2) Atlanta Army Depot, Forest Park, Georgia 30050.

(3) Charleston Army Depot, North Charleston, South Carolina 29406.

(4) Letterkenny Army Depot, Chambersburg, Pennsylvania 17201.

(5) Lexington-Blue Grass Army Depot, Lexington, Kentucky 40507.

(6) New Cumberland Army Depot, New Cumberland, Pennsylvania 17070.

(7) Pueblo Army Depot, Pueblo, Colorado 81001.

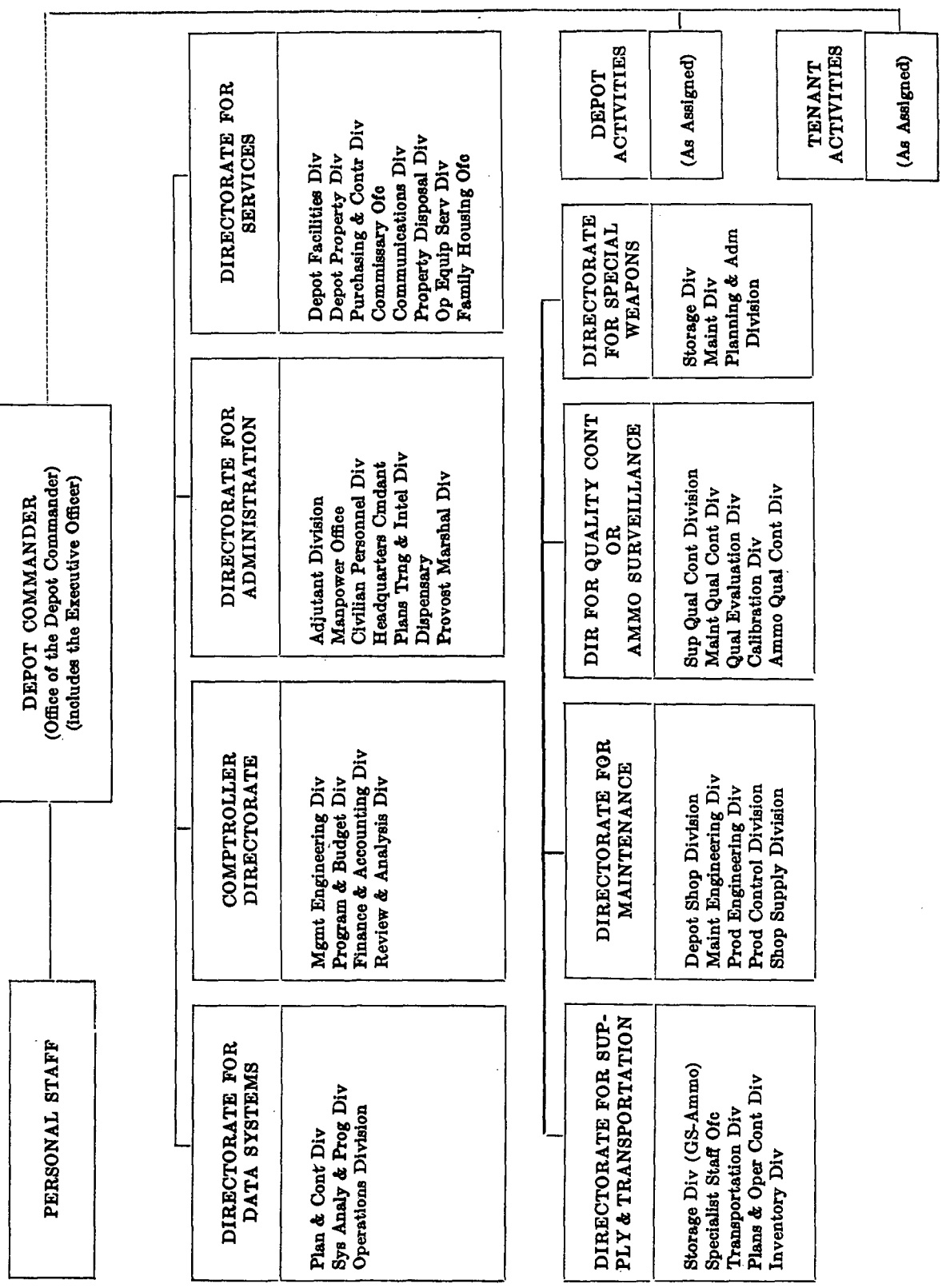


Figure 6–4. Typical organization of an Army depot.

(8) Red River Army Depot, Texarkana, Texas 75501.

(9) Sacramento Army Depot, Sacramento, California 95813.

(10) Savanna Army Depot, Savanna, Illinois 61074.

(11) Seneca Army Depot, Romulus, New York 14541.

(12) Sharpe Army Depot, Lathrop, California 95330.

(13) Sierra Army Depot, Herlong, California 96113.

(14) Tobyhanna Army Depot, Tobyhanna, Pennsylvania 18466.

(15) Tooele Army Depot, Tooele, Utah 84074.

(16) Umatilla Army Depot, Hermiston, Oregon 97838.

c. In addition to the Army depots listed above, there are two depot activities, an Army aeronautical depot maintenance center and a specialized Army depot, within the Army supply system. The two depot activities are assigned to Pueblo Army Depot while the depot maintenance center is assigned to the US Army Aviation Systems Command, St. Louis, Missouri. The specialized depot is assigned to the US Army Safeguard Logistics Command, Huntsville, Alabama. These activities which are also depicted geographically in figure 6–5 are as follows:

(1) Fort Wingate Depot Activity, Gallup, New Mexico 87301.

(2) Navajo Depot Activity, Flagstaff, Arizona 86001.

(3) US Army Aeronautical Depot Maintenance Center (ARADMAC), Corpus Christi, Texas 78419.

(4) Safeguard Army Depot, Moscow, Montana 59231.

6–4. Functional Responsibilities of Directorate Staff Offices

a. Directorate for Data Systems.

(1) Designs, programs, tests, and main-

Figure 6–5. Army depots in continental United States.

tains automatic data processing (ADP) systems for the support of command and staff elements of the depot and depot activities.

(2) Reviews ADP operations for conformance with directives and regulations.

(3) Establishes workload priorities in accordance with equipment and manpower resources to meet mission objectives.

(4) Maintains liaison with and provides technical advice and assistance on all ADP matters to the depot command and staff elements and the depot activities.

(5) Operates the ADP equipment.

(6) Conducts personnel training as required.

(7) Insures that centrally designed systems and machine programs are duplicated.

b. Comptroller Directorate.

(1) Provides finance and accounting functions, budgeting, program coordination, program review, analysis services, and management engineering services, including those applicable for Army Stock Fund and Army industrial operations.

(2) Surveys, studies/investigates, gathers, analyzes, and evaluates data on operational effectiveness, efficiency, organization, procedures, and methods; and presents appropriate recommendations for improvement thereof, or for changes in policy where required.

(3) Provides management counseling services.

(4) Supervises statistical and reporting procedures.

(5) Prepares or supervises the preparation of statistical reports and budgets.

(6) Analyzes and evaluates the depot operation cost and statistics, and recommends appropriate action on the basis thereof.

(7) Normally, performs depot internal review.

c. Directorate for Administration.

(1) Provides administrative support for the depot, including adjutant, headquarters commandant, provost marshal, dispensary, civilian personnel, and manpower functions. The manpower function should be organizationally located in the immediate office of the director or in a separate office reporting to the director. This directorate may be consolidated with the Directorate for Services where the size of the depot mission does not warrant the establishment of separate directorates.

(2) Determines overall depot administrative support requirements for facilitating effective, efficient, and economical accomplishment of depot mission.

(3) Plans, establishes, and implements policies, objectives, and programs for administrative support functions.

(4) Evaluates performance of administrative support activities.

(5) Advises the depot commander on administrative matters having depot-wide implication.

(6) Provides administrative control over Tables of Organization and Equipment and Tables of Distribution units assigned or attached to the depot.

d. Directorate for Services.

(1) Directs and coordinates the support services functions of the divisions assigned to this directorate.

(2) Coordinates and reviews the preparation and submission of operating programs and budgets, analyzes and reviews reports of progress of all elements within the directorate, and directs actions as required.

(3) Establishes policies for the operation of the support services activities of the depot including depot facilities, depot property, commissary (when assigned), communications, property disposal, and operating equipment services functions.

(4) Serves as principal adviser to the depot commander on matters pertaining to the services functions of the depot.

e. Directorate for Distribution and Transportation.

(1) Directs and coordinates the distribution and transportation functions of divisions assigned to this directorate.

(2) Coordinates and reviews the preparation and submission of operating programs and budgets, analyzes and reviews reports of progress of all elements in this directorate, and directs actions as required.

(3) Establishes policies for the operation of distribution and transportation activities of

the depot to include any, or all, of the following functions: Storage, including general supply, ammunition, petroleum, and special weapons; stock control; plans and operations; and transportation.

(4) The Directorate for Distribution and Transportation may be consolidated with the Directorate for Maintenance when the size of the mission warrants. The consolidated organization will bear the designation of Directorate for Distribution, Transportation, and Maintenance. Where a depot has a large workload in both ammunition and general supplies, both ammunition and a general supply storage division in the directorate may be established to be responsible for storage and warehousing functions of assigned categories of materiel. At the option of the major commanders commanding the operation of Army depots, a separate directorate for distribution and a separate directorate for transportation may be established when economically feasible and defensible on a workload basis. The Transportation Directorate, when organized, will include the following divisions: Incoming traffic, outgoing traffic, and at the discretion of the major commander, motor pool operations.

f. Directorate for Maintenance.

(1) Provides all depot maintenance missions and associated activities. The directorate will be organized to include as a minimum the following: Depot shops, production control, and shop supply divisions. Others may be necessary to accomplish the depot maintenance missions.

(2) Provides for the depot maintenance of all materiel and weapons systems, renovation of ammunition, and operations associated with the depot maintenance function; i.e., fabrication, manufacture, reclamation, and modification, and the assembly of basic items to complete an equipment item or a weapons supply item.

(3) Provides depot maintenance and mobile depot maintenance on-site support for all materiel and weapons for which the Army has life cycle management responsibility to include on-site support to Department of the Army, Navy, and Air Force.

g. Directorate for Quality Control.

(1) The directorate is responsible for all aspects of quality control (inspection) at depots covering all supplies with the exception of special weapons. The directorates will be organized to include any or all of the following functions as required:

(*a*) Supply quality control.
(*b*) Maintenance quality control.
(*c*) Quality evaluation.
(*d*) Calibration.
(*e*) Ammunition.

(2) When the mission responsibility precludes the establishment of a separate calibration division, calibration will be included as a branch or section of the quality evaluation division. Also, when the workload does not warrant a separate division for supply quality control and maintenance quality control, they will be consolidated into a supply and maintenance quality control division. When there is an ammunition storage division, the division chief is authorized direct communication with the depot commander on explosive safety matters.

(3) The principal functions of this directorate are the interpretation and implementation of quality control and reliability concepts and techniques.

h. Directorate for Special Weapons. (If there is an assigned mission.)

(1) Directs and coordinates the supply, maintenance, planning, and administration functions of the divisions assigned to this directorate.

(2) Coordinates and reviews the preparation and submission of operating programs and budgets, analyzes and reviews reports of programs of all elements within this directorate as required.

(3) Establishes policies for the operation of the following functions: Storage, maintenance, planning, and administration.

i. Directorate for Ammunition Surveillance. When it is economically and operationally feasible, a Directorate for Ammunition Surveillance is authorized. When this occurs, this directorate will assume the responsibilities for the depot quality control program for ammunition. This directorate will be responsible for:

(1) Providing administrative support, coordination of personnel staffing functions, planning, and programing for ammunition surveillance activities.

(2) Performing the inspection (audits) of operational elements involving storage, handling, receiving, shipping, maintenance, modification, and demilitarization of ammunition items.

(3) Directing and coordinating the performance of inspections (audits), testing and investigating ammunition, components, and packing material, including the quality of evaluation and stockpile reliability programs.

(4) Quality control function for other commodities are appropriate and necessary as specified under quality control.

(5) Planning, developing, and directing the depot surveillance mission for all ammunition components and explosives including the quality control, stockpile reliability, chemical and biological, surety, and explosive safety programs. This directorate approves and accomplishes the ammunition quality control program.

6–5. Site Selection

The Department of the Army issues a directive requiring that a site investigation be performed for a proposed installation. Directives are issued to the commanders who will be ultimately responsible for the operation of the proposed installation. Upon receipt of the directive, the commander would establish a site selection board whose duties are to determine and recommend the best available site for the proposed installation. In order for the site selection board to perform its functions, certain site selection criteria must be followed. For the purpose of this manual only the site selection criteria for Army depots will be explained.

a. General Supplies Depot. The site requirements for an Army depot which receives, stores, and issues general supplies and operates depot maintenance shops are as follows:

(1) The selected site must be in a satisfactory location with respect to distance and direction from military and civilian targets within the geographical limits indicated in the Department of the Army directive.

(2) The site should be located within easy access to preferably two main railroad lines and border a main highway or be located in close proximity to a main highway.

(3) The shape of the depot site should preferably be a four sided rectangle, with the long side running parallel with and adjoining the main serving railroad.

(4) The total area required for the depot will depend on the space required for storage and related depot supply missions specified in the directive plus supporting facilities. As a general rule, if an overall allowance factor of 150 acres is made for each million square feet of net open storage, the depot site requirements will normally be adequate. However, this does not include area for aircraft operations and support.

(5) Topography has quite a bearing on selecting a depot site. The land should be well drained, sufficiently flat, and level to permit construction of railroad tracks and yards, structures, roads or highways, and facilities required for operation of the depot.

(6) Railroads, highways, inland waterways, airfields, and/or port facilities that will serve the proposed depot should have the capability to support the depot mission.

(7) Other requirements that should be considered are soil and foundation conditions, climatic factors, and the availability of an adequate number of civilian personnel with experience or adaptability to meet the requirements for operating personnel.

b. Ammunition Type Depot. Site requirements for ammunition type depots are the same as those for a general supplies depot, except as follows:

(1) The depot site may have irregular boundaries, but should be compact. Locations near towns or densely populated areas, under commercial airways or where air traffic is congested, where existing types of forest or grass cover constitute a fire hazard, and where high incidences of electrical storms and prevalence of temperature inversions prevail should be avoided.

(2) The total area required is based on the safety separations required between explosives storage and handling points, and between these locations and the administration, service, housing areas, and the site perimeter. The usual total area requirement is the sum of explosives storage (magazine) area, inert storage (warehouse) area, chemical ammunition storage area, liquid propellant storage area, ammunition maintenance and destruction area, ammunition railroad facilities and truck inspection station, ammunition wharf and an airfield when directed; and administration, housing, service, and ammunition services areas.

c. Combined Depot. A combined depot, which has both ammunition and general supplies storage and maintenance missions, generally involves a combination of the elements covered in *a* and *b* above. However, administration, service, and

housing areas that are common to an ammunition and general supply division will be centralized. In addition, the troop area for Ordnance unit training centers located at combined depots must be entirely outside of the ammunition area buffer zones.

d. Chemical Depot. The site requirements for a chemical depot are the same as those indicated in *a* above except a reservation area of about 20,000 acres is required and the area should be located between 10 and 20 miles from a populated center. In addition, provisions should be made for administrative vehicles and materials handling equipment maintenance shops, a runway for cargo aircraft, and a burning area of approximately 640 acres located 1 1/2 miles from other facilities.

6–6. Supporting Activities

Each Army depot has several activities that are not primarily concerned with the function of supply. However, these activities, i.e., finance and accounting and post engineer, are required to support the supply system. Finance and accounting handles the receipts and expenditure of funds for supply operations to include the payment of military and civilian employees. The post engineer is responsible for the upkeep of the warehouses that house supplies and equipment and the roads or streets within the depot. Even though these activities are not part of the supply system, they are definitely required to support it.

★Section III. MISSION AND FUNCTIONS

6–7. General

The Army depot is the primary storage and distribution point for the Army wholesale supply system. Depot missions for each depot located in the continental United States are established by the Commanding General, US Army Materiel Command. The statement of missions that is prepared for each depot will contain the functions, scope, and purpose of the depot to include any limitations that may be placed upon it. Depot missions may be classified into three groups: stock distribution-storage, depot maintenance, and other. These groups are discussed in paragraphs 6–9 through 6–11.

6–8. Basic Policies

a. Within the depot organizations, each of the specific activities or parts must be subordinate to the overall organization.

b. Depot management is dependent upon an exchange of information and understanding. Understanding is facilitated by universal usage of terms, clear and freely used channels of communication, and mutual knowledge of objectives, authorities, priorities, and standards of performance between superiors and subordinates.

c. Decentralization of assignment of responsibility to a subordinate does not relieve the superior of the overall responsibility for performance.

d. The organization and systems should be oriented toward the mission of the depot and designed to insure that missions are achieved effectively with the least resources, and that each organizational element has a specific objective to attain or an end product to produce.

e. Continual improvement in systems, methods, and use of resources is required for continuing effectiveness in depot operations.

f. Assignment of responsibility and delegation of adequate authority will be made at the lowest practicable level with clearly defined lines of authority and responsibility so that the individual responsible for each organizational element is identifiable and can be held accountable for performance.

g. Centralized control of decentralized operations will be limited to the extent required to:

(1) Establish priorities of centrally directed programs.

(2) Allocate resources (funds, manpower, and materiel).

(3) Identify and correct basic deficiencies.

h. Deviation from depot organization concepts, established by AR 740–1, to include establishment of additional functional organizational elements, may be authorized by major commanders. Such approved deviations will be referred to the Deputy Chief of Staff for Logistics, ATTN: LOG/SPPD, Department of the Army, Washington, D.C. 20310, to consider for possible worldwide application.

i. Realistic performance standards will be established to assist management in making periodic (daily, weekly, or quarterly) performance evaluations.

j. Committees are useful tools of management; however, committee action will not be used as a substitute for command responsibility and decision.

k. Standard designations will be used to identify Army depots and depot activities within the Army wholesale system.

6–9. Stock Distribution—Storage

One of the most important missions of the Army depot is stock distribution—storage. This mission encompasses the functions of receipt, storage, preservation and packaging, and shipment of materiel as directed by the national inventory control point commodity managers. In addition some of the Army depots perform storage functions for materiel that belongs to the Defense Supply Agency and the General Services Administration.

6–10. Depot Maintenance

Another important mission of the Army depot is depot maintenance. Depot maintenance augments stocks of serviceable materiel, and supports organizational, direct support, and general support maintenance activities. Depot maintenance includes the functions of inspection, test, repair fabrication, modification, alteration, modernization, conversion, overhaul, reclamation, or rebuild of parts, assemblies, subassemblies, components, and end items. As mentioned previously, maintenance augments serviceable stocks. For example, if a depot has unserviceable items that are economically reparable and there is a requirement for these items now or in the future, they are programed for maintenance.

6–11. Other Missions

Army depots have other missions to perform. Some of these missions are:

a. Set Assembly and Disassembly. This involves the assembly of units, kits, and sets from component parts and disassembly of units, kits, and sets in order to obtain the components. The depot performs these functions on the instructions received by the national inventory control points.

b. Small Arms Ammunition Clipping and Linking. The repacking of bulk-packed small arms ammunition into functional packs as required by the user.

c. Demilitarization. Destruction of military offensive or defensive advantages inherent in certain types of equipment or materiel. For example, mutilation, scrapping, burning, or alteration in order to prevent further use of such equipment and materiel for its originally intended military or lethal purpose.

d. Ammunition Surveillance. Observation, inspection, investigation, study, grading, and classification of ammunition in movement, storage, and use with respect to serviceability, hazards, and rate of deterioration.

e. Petroleum Surveillance. Sampling, testing, investigation, inspection, identifying, grading, advising on petroleum products, containers, and handling equipment in storage, use or movement, with respect to usability, source of contamination, quality control, distribution, downgrading, hazards, handling, marking, packaging, and storage methods.

f. Returned Materiel. Receiving, inspection, identifying, segregating, classifying as to serviceability, reclaiming, renovation, preserving, and packaging of supplies returned from users.

g. Training. This pertains to types of training activities conducted at the depot, other than for training of depot personnel.

h. Modification of Equipment. Performs modification of equipment in storage upon receipt of directives from the national inventory control point. In order to modify a piece of equipment, it must meet one of the following criteria and be published in a Department of the Army Modification Work Order.

(1) Insure safety of personnel.

(2) Prevent serious damage to equipment.

(3) Increase significantly combat or operating effectiveness of equipment.

(4) Make equipment compatible with newer equipment with which it will be operated.

(5) Significantly improve or simplify maintenance.

★Section IV. CENTRAL WORKLOADING OF DEPOTS

6–12. General

a. The concept of central workloading of depots is one wherein the US Army Major Item Data Agency (USAMIDA) has been designated to assemble and disseminate the forecasted workloads for both supply and maintenance for all commodities, and will program and allocate the workload and related resources. This programing and allocation applies to both in-house and/or commercial activities to achieve the most efficient and cost effective results for the Army Materiel Command.

b. Under the concept, USAMIDA receives overall guidance from Headquarters, Army Materiel Command, and works closely with the national inventory control points and depots in carrying out the AMC mission. USAMIDA will control, for AMC, Budget Program (BP) 730000 (Depot Materiel Maintenance and Support Activities) funds and BP 720000 (Central Supply Activities) funds, involving receipt, storage, issue, transportation, disposal, and other storage activities.

6–13. Objectives of Central Workloading

a. The objectives of the central workloading of depots plan are to program and control resources required for depot supply and maintenance operations; to provide an automated system which will insure compliance and standard application of command variables; to allocate workloads to performing activities based on capability, capacity, and cost effectiveness; to provide comprehensive program visibility in the form of forecasts, schedules, analyses, reports, and evaluation of current and future supply and

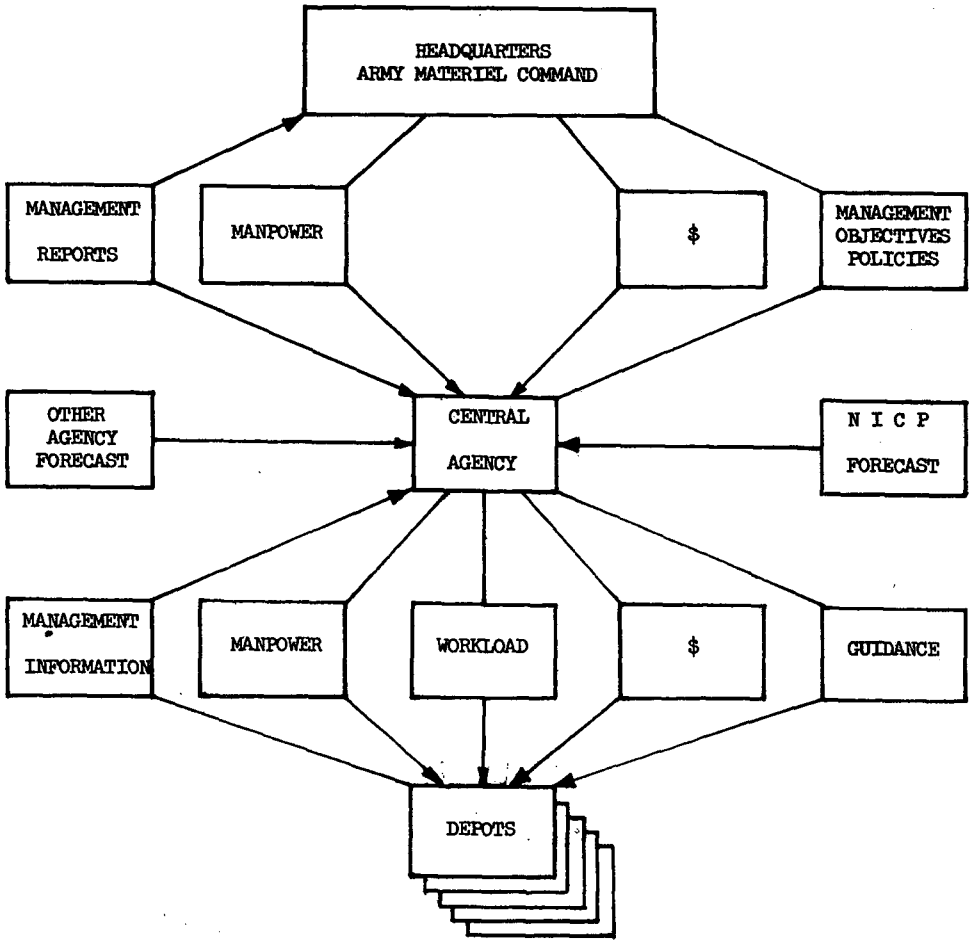


Figure 6–6. Central workloading activity concept.

maintenance programs; to provide documented support to budgetary and capital improvement programs; and to combine supply and maintenance data into one data bank for management interface and for a single source management information and control center.

b. The designation of USAMIDA as the central workloading agency places the responsibility under a single AMC management activity that plans and distributes the workload, controls expenditure of resources, manages the funds, monitors program execution, and provides management information (fig 6–6).

6–14. Fund Control

The system provides AMC with centralized control of depot operating funds and, upon implementation of depot-wide Army industrial funding, will provide a single funding and billing agency. All commodity command and Headquarters, AMC, originated workloads, to be accomplished on a reimbursable basis, whether for other appropriations, customers, or OMA functions, will be funneled with the funds through the central workloading activity. Unobligated residues of funds will be contained in a single program pot to provide better management visibility of fund status, and will facilitate trade-offs and adjustments. Most important, it will provide a constant program comparison of planned versus actual.

6–15. Management Information

At the data bank level, in the central workloading activity, computer programs will receive actual costs and accomplishments and will provide exception type analyses, highlighting trends, problems, program slippages, or violations, as they are detected.

★Section V. DIRECTORATE FOR SERVICES

6–16. General

The Directorate for Services within an Army depot has many and varied responsibilities and without its efficient operation other depot functions would be hampered in performance of their mission. It is the Directorate for Services that furnishes materials handling equipment and internal transportation required for day-to-day operations within the depot as well as other services such as housing, maintenance of buildings and grounds, depot property, etc. It is easy to visualize the impact of the Directorate for Services on other operating elements of the depot should the directorate, for some reason, not perform its mission.

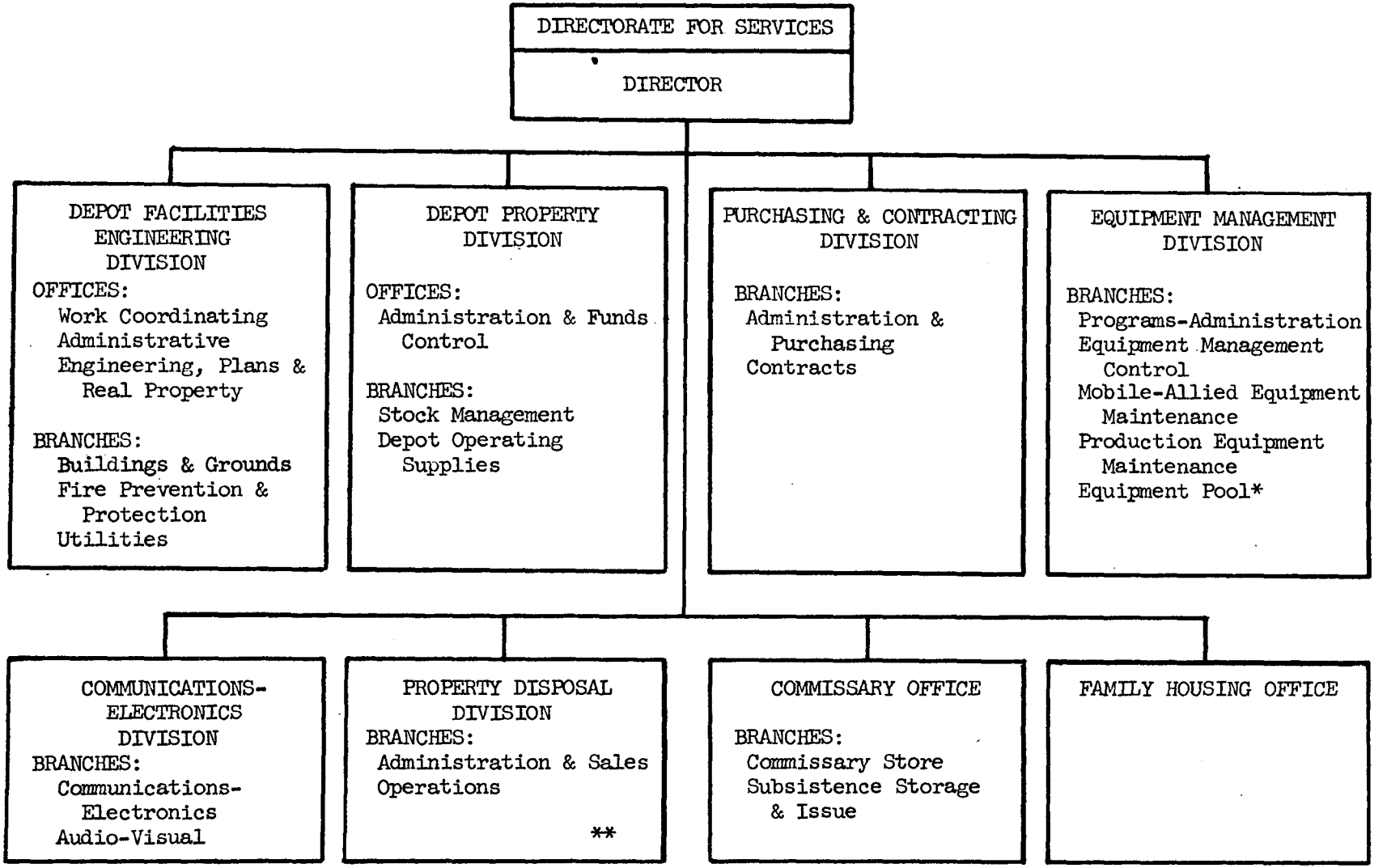
6–17. Purpose

The Directorate for Services, Army depot, provides logistics support services for depot operating elements, including maintenance of depot physical facilities; depot property functions; purchasing and contracting for depot supplies and services; commissary operation; communications-electronics, including audio-visual; property disposal; installation equipment operation, management, and maintenance; and family housing management functions. It also performs depot services programing, budgeting, and management functions; administers cross-service agreements; and advises the depot commander regarding service matters (fig. 6–7).

6–18. Functions

a. Depot Facilities Engineering Division. This division provides all services necessary to operate and maintain the physical plant and utilities of the depot and prepares and maintains current and long range plans and projects affecting depot facilities. It provides for installation of industrial production equipment. Maintenance of real property such as buildings, structures, roads, railroads, and drainage systems is a major function of the division. The division is responsible for the operation and maintenance of heating, sanitation, and power utilities systems and plants. Additional services provided by the division are entomology, refuse collection and disposal, snow removal, street cleaning, custodial services, and fire prevention and protection. Facilities improvement and coordination of major construction are directed and coordinated as well as the development of resource requirements for assigned functions. An adjunct to this last responsibility is the control of resource utilization and review of operating results.

b. Depot Property Division. This division is responsible for the purchase, requisition, and maintenance of accounts for all supplies, repair parts, and equipment, including petroleum and



* Motor pool (administrative motor transport) operations may be performed within the Directorate of Transportation at depots where this directorate is established as a separate element, reference AR 740-18.

** Under current planning this will no longer be a depot responsibility effective 1 July 1973. On that date this function will become a tenant activity under the Defense Supply Agency.

Figure 6-7. Directorate for Services.

lumber products required for depot operations. It maintains property accountability for depot serviceable and unserviceable property except where specifically excluded by regulation. It serves as the branch office manager for Army Stock Fund inventories and arranges for disposal of surplus/excess property. It has the responsibility for operation of the filling station, clothing sales store, and self-service supply center. It also assists and advises staff elements and other supported activities in matters relating to supply support.

c. Purchasing and Contracting Division. The division is responsible for the purchasing of all materials, equipment, and services for the accomplishment of the depot mission through contractual, imprest fund, small purchase, or other authorized procurement method by formal advertising or negotiation.

d. Commissary Office. This office is responsible for the operation of the commissary to provide for sale and issue of subsistence supplies to authorized customers.

e. Communications-Electronics Division. This division provides communications facilities for the depot, including fixed telephones, teletype, radio, cryptographic, photographic and audiovisual services. It operates and maintains telephone and teletype systems, switchboards and cable and wire networks, including connection with AUTOVON and AUTODIN circuits. It operates and maintains radio and electronic equipment and internal communications and warning devices.

f. Property Disposal Division. This division is responsible for the receipt, identification, segregation, classification, accounting for, and making final disposition of excess, surplus, scrap, exchange/sale, or other property by transfer to other Federal agencies, donation to authorized donees, sale, abandonment, or destruction, as authorized in Department of Defense directives or Department of the Army regulations. Necessary demilitarization of specified items prior to disposition is a definite function of this division.

g. Equipment Management Division. This division performs management and control of installation equipment, including equipment authorization, acquisition, utilization, redistribution, modernization, maintenance, and disposal. The division performs organizational, direct, and authorized general support maintenance of production, mobile, and allied equipment, and provides direct support and authorized general support maintenance to satellited organizations. In addition, the division coordinates the operation of depot operating equipment and provides administrative motor transportation services for movement of personnel, supplies, and equipment.

h. Family Housing Office. This office performs centralized management of depot family housing and operates housing referral service.

PART FOUR

SUPPLY OPERATIONS AT THE DEPOT

CHAPTER 7

RECEIPT OF SUPPLIES

Section I. RECEIPTS

7–1. Type of Receipts

a. Procurement. Materiel received by the Army depots comes from several sources. A large portion of the materiel received is obtained from commercial sources through procurement. In addition materiel is purchased from Department of Defense services or agencies, Federal agencies other than Department of Defense, and foreign governments. The US Army Materiel Command's purchasing offices are responsible for performing the procurement functions for the Army supply needs. However, the Army inventory control points establish the contract delivery schedules indicating which depots will receive the materiel being purchased.

b. Property on Temporary Loan. Property on temporary loan pertains to property that has been loaned to the Red Cross for use in a disaster area, equipment issued to units which are participating in a maneuver and is over and above their authorized allowance, property loaned to the Boy Scouts, property loaned to Veteran organization, etc. Examples of property on temporary loan are bedding, vehicles, tentage, and food preparation equipment. The National Inventory Control Point is responsible for maintaining records for all items on loan to include issue disposition instructions at the expiration of loan agreements.

c. Excess Property. Property that is serviceable and excess to the needs of one service, but required by the Army to fill their requirements. Property in this category eliminates procurement action by the Army, thus resulting in a savings to the Government.

d. Fabrication. This pertains to property that is fabricated by military manufacture. Fabrication normally takes place when all sources of supply have been exhausted and it is determined that fabrication is required to meet supply requirements.

e. Other. In addition to the above, property is received by the depot from several other sources. Upon receipt of the property the depot will inspect, identify and classify the materiel. Property that falls within the category of other is as follows:

(1) Returns from users.

(2) Repaired end items from commercial concerns or Government-furnished materiel (GFM).

(3) Contractors, GFM only.

(4) Relocation of stock between depots without change of National Inventory Control Point ownership.

(5) Materiel resulting from disassembly, assembly, alteration, conversion, or modification.

(6) Receipts from commercial repair activities.

(7) Specific items that have been removed from a principal item/weapon system.

(8) Items resulting from exchange of Army items when a like item is issued on an exchange basis.

★7–2. Receipt Processing

In the processing of materiel receipt documents, the Army depot is allotted a definite processing time to accomplish all internal work. The processing time is allocated on the basis of consecutive hours based on a 24-hour day and a 7-day workweek. The time frame of days is based on calendar days. The depot is allotted 6 days to accomplish all internal actions, which begins with the receipt of the materiel at the unloading dock and ends with the depot transmitting the materiel receipt document to the National Inventory Control Point (NICP). Receipt of materiel by storage activities from depot maintenance activities after final inspection must be reported to the NICP

within 6 days. This period of time commences with completion of final inspection and ends with the transmittal of a materiel conditions adjustment document to the NICP. The Department of the Army policy on detailed processing of receipts is contained in AR 725–50.

Section II. UNLOADING OF SUPPLIES

7–3. Planning

a. One of the major elements of the storage mission is the receipt of materiel at the depot. The prime requisite of an effective and efficient receiving operations is the manner in which receipts are processed. As is the case in any type of operation, some degree of planning is required. Therefore, certain plans and ideas must be developed and followed by all personnel involved in the unloading of supplies. Planning actually begins when a preposition materiel receipt card is received from the National Inventory Control Point. The prepositioned materiel receipt card will be used along with vendor advance notification for delivery of supplies. The extent of planning is based upon the commodity involved and the type of storage facilities to be used. Upon receipt of the notification of delivery, priorities are established based on the workload to be received, equipment and labor requirements are initiated, available vacant storage space is allocated, and warehouse personnel and other personnel concerned are notified about the incoming stocks. In the case of ammunition, for example, selection of storage facilities is based on the explosive quantity/distance qualification of the item, condition classification, quantity in the shipment, number of ammunition lot numbers, quantity per ammunition lot and the space requirements for storage by lot. Planning is based on many factors. It must be accomplished in advance of actual receipt of supplies in order to have an efficient and effective receiving operations.

b. Since there are many factors over which storage managers have little control, day-to-day receiving operations fluctuate probably more than any other storage activity. Because of this fluctuation and to insure timely and efficient receipt of supplies, a high degree of coordination must be effected among separate receiving operations and personnel. The following is an example of the coordination required:

(1) Car spotting, which is the placement of rail cars at specific locations, must be accomplished in such a manner that will cause the least interference with working crews. Where possible, spotting of cars should be done when there is no activity at the rail docks. However, internal rail operations should not be penalized to accomplish this objective.

(2) Work crews and allied equipment must be available simultaneously, in proper balance, and at the appropriate moment to begin unloading operations.

(3) Information pertaining to impending truck arrivals must be made available as soon as possible. Transfer of personnel and equipment from other storage operations to unload trucks, which normally arrive on intermittent time schedules must be accompanied expeditiously with the least amount of disruption to other activities.

(4) Upon completion of unloading, inspection and receiving operation, materiel is moved to storage locations where each storage element concerned will process receiving documents thoroughly and rapidly in order to insure accurate and expeditious recording of incoming supplies and to permit the timely payment of invoices.

7–4. Preunloading Consideration

After the arrival or spotting of the carrier and before the physical handling of supplies begins, there are certain functions in the unloading operations that are performed by the receiving or warehouse personnel. These functions include, but are not limited to, the following:

a. Blue flags must be placed at both ends of a car or cut of cars when personnel are working in, on or under the cars. When thus protected the car or cars whall not be coupled to or moved.

b. A visual inspection of the containers within the car or truck will be performed to determine the degree of damage incurred during transit, if any. If visual inspection of the containers indicates damage, the quality control inspectors, transportation officials or claims agent of the carrier will inspect the contents preferably prior to unloading. However, if not feasible, shortly thereafter.

c. The debit voucher number of the receiving control office is obtained. Receipt of the voucher number will insure that all receiving actions are

recorded, and undue delay in document processing is prevented by establishing an immediate point from which to initiate follow-up action when receiving document actions are not returned in time to permit the Materiel Receipt Confirmation Card to be transceived to the NICP within time allowed for the depot to process receipts.

7–5. Unloading Methods and Techniques

The type of commodity being handled will cause a variance in the mechanics of unloading. The type of conveyance being unloaded, weight of supplies to be handled, distance to point of deposit, and type of equipment and unloading facilities available will cause a variance in the methods of unloading. Generally, the methods and techniques of unloading are the same, under like circumstances. As a general rule, gondola cars will be unloaded by crane; box cars and trucks will be unloaded by forklift trucks, manual labor, conveyors, dollies, and warehouse cranes working as single units or in any suitable combination; and flat cars will be unloaded by crane, forklift trucks or by towing or skidding contents into suitable docks or ramps from whence they may be handled with heavy forklift trucks, warehouse tractors and trailers or other suitable equipment. All shipments received must be identified, recorded on an inbound shipment register, quantitatively documented on a prescribed receiving document, inspected for condition and, as required, for contract requirements, and stored in a manner that affords adequate protection control and subsequent accessibility. Normally, the unloading sequency applicable to supplies that present no special or unique handling problems is as follows:

a. Opening of rail car doors must be performed by the storage personnel. Trucks doors are opened by the truck driver. In the event rail car doors cannot be opened manually, mechanical equipment or other devices are used to open the doors. Entry into the carrier will depend upon the type of conveyance being unloaded and the physical characteristics of the receiving area. When standard box cars or trailers or van type trucks are unloaded at a warehouse platform or dock, a metal bridge plate is used to span the gap between the dock edge and the carrier door. When there are no fixed unloading platforms, portable platforms or ramps should be used or, in instances where terrain features permit forklift trucks to make a near approach to the car doors, supplies can be taken from the doorway by forklift trucks operating at ground level.

b. Once the carrier has been opened, arrangements have to be made for personnel to remove the dunnage. The time required for dunnage removal will depend on the type of dunnage used and the load bracing method employed. Storage personnel must coordinate dunnage removal activities in order to eliminate delays in unloading, and idle time of unloading personnel and/or equipment.

c. The removal of supplies from a carrier depends upon the type of carrier being unloaded, type of materials handling equipment available, and the characteristics of the receiving area. The forklift truck is the most common method used for unloading supplies. The 4000-pound forklift truck can enter practically every freight car, as long as the collapsed mast height does not exceed 91 inches. However, when unloading trucks, a 4000-pound forklift with a collapsed mast height of 68 inches is the largest unit that may be used provided overhead guards are not installed. In many cases the basic unloading methods for truck receiving operations are the same as those used for rail car receiving operations. However, there are exceptions to the rule and they do exist. Some of the exceptions that require special considerations are outlined in (1) through (4) below.

(1) When the truck bed or springs cannot support the weight of a forklift truck, other types of equipment must be used. This equipment consists of such items as dollies, conveyors, hydraulic pallet jacks, skidding tongs, cables, ropes, and warehouse trucks. There are cases when hand carrying becomes necessary.

(2) There are cases when the interior height of closed truck or van bodies will only permit entry of a low mast forklift truck. If a low mast forklift truck is not available for unloading operations, another method will have to be used, such as those mentioned above.

(3) When entry by any type of wheeled equipment is prevented by variations between truck bed heights and dock heights, and docks are not equipped with adjustable ramps, the method of conveyors or dollies or manual handling must be employed.

(4) Since space within a truck body is limited, it is difficult for unloading personnel to move around freely or maneuver containers or equipment. To eliminate excessive unloading time, caution should be exercised in the assignment of personnel and equipment if a balanced ratio is to be obtained. Generally two 2-man

teams palletizing stock should be supported by a forklift operator.

d. Palletizing supplies is by far the most common method for providing a static base for supplies in storage. The standard pallet used by the Army is a 40-inch × 48-inch-size, wing-end, four-stringer, four-way (partial) entry type. Since the majority of Army stocks can be palletized, many benefits are gained from palletization of supplies. Some of these benefits are safety, space utilization, and decreased damage to material. Empty pallets, to be used in unloading supplies, should be placed in a convenient location adjacent to the car or truck door. They are normally stored on truck or rail docks. This will permit palletization at the time the shipment is being unloaded. Pallet patterns for various container styles and commodities are determined before supplies are palletized. Pallet patterns for each type of commodity or container should be standardized and publicized within the depot and should remain constant in all like circumstances. Various pallet patterns are depicted in TM 734–200.

e. Extreme care must be exercised when palletizing mixed loads of supplies. During the unloading and segregating of mixed shipments, the checker should be located at the point where items are placed on the conveyor or proximity thereof. If he is located at the point where supplies are palletized, there is a possibility of error check. When a central receiving and segregation area is established because of the volume of shipments, powered conveyors can be used in the unloading and segregation process. Powered conveyors can be the sole means of conveying supplies or it can be used in conjunction with gravity conveyors.

f. As new loading methods, patterns, binding adhesives, tapes, etc. are developed, unit loading is becoming more and more the normal rather than the exception. Unit loading decreases the unloading costs through increased mechanical equipment usage. One of the main advantages gained from this system is greater utilization of storage personnel.

g. It is often necessary that incoming supplies be packed and marked or repacked and remarked prior to final placement in storage. This condition is brought about by numerous factors. Some of these factors are changes in stock number, item identification, or other data subsequent to contract award and prior to receipt; failure of the contractor to comply with contract requirements; conditions in which contents of containers are unknown or not identified; and damage to containers en route to destinations. Action must be taken at the time of receipt by quality control personnel to direct storage personnel to correct such deficiencies in order to preclude rehandling of supplies in accomplishing this operation at a later date.

h. Prior to unloading supplies, the responsible labor supervisor must determine whether laborers will work as a team loading one pallet at a time or work individually at both ends of the car loading two pallets simultaneously. This decision is based on such things as the weight of the containers, the quantity of items to be placed on the pallet, etc. However, it may become necessary during the course of unloading, to employ both methods to maintain a balanced operation. In this type of an operation the forklift truck operator picks up the loaded pallets and moves them to the storage location and returns with a supply of empty pallets as needed. While the forklift truck travels to and from the storage points, the laborers continue to palletize supplies. When conditions of comparatively long hauls from the car to the storage sites exist, the employment of tractor trailer trains for movement of supplies in advantageous. Warehouse trailers are positioned on the warehouse dock adjacent to the car door, but in such a manner that will not hamper normal forklift truck performance. Empty pallets are placed on the floor of the car where they are loaded manually. As soon as the pallets are loaded they are removed by a forklift truck and placed on the trailers. As soon as there are sufficient trailers to form a train, a warehouse tractor pulls them to the storage site where a forklife truck is used to unload the palletized loads. A number of variations to this method are adopted by the supervisor even to the point of changing or revising the operation during the unloading process. If variations are not considered by the supervisor, receiving.

i. One of the last unloading sequences applicable to supplies is unloading at ground level. There are three methods that can be employed to unload a car. The most desirable method is when the forklift truck enters and leaves the car with loaded or empty pallets by the use of a portable ramp. The second method is the use of a portable platform. A forklift truck, operating on the platform or inside the car, removes the loaded pallets from the car and places them on the edge of the platform. A second forklift, operating on ground level, removes the loaded pallets from the plat-

form transfers them to the storage location. The third method, which is the least desirable, involves a high degree of manual handling. This method is when loaded pallets are placed on a dolly or conveyor and manually pushed to the car door. The forklift truck operating on ground level picks up the loaded pallet at the car door and moves it to the storage location.

7–6. Post Unloading Operations

After the final pallet of supplies is removed from the car, there are certain functions that have to be performed by the unloading personnel. The car plate or ramp must be removed from the car and placed in a storage rack or moved to another location for use in loading or unloading. Flags are removed from rail cars and action is taken to indicate that the car is free. Dunnage strips, strapping, nails or other protruding objects are removed and the car, truck, or trailer is thoroughly cleaned. Docks and areas adjacent to the unloading site are cleaned of all debris. Even though these functions appear to be minor, they must be performed at the completion of unloading operations.

Section III. INSPECTION OF RECEIPTS

7–7. Inspections

Materiel received at the depot is subject to inspection at the time of receipt in order to eliminate unsatisfactory materiel from entering the Army inventory. Materiel is inspected in accordance with applicable directives, specifications, standards, and other criteria. Inspections are performed on materiel received by the depot for proper identity, quantity, and condition to include preservation, packaging, packing and marking. The type of materiel received will determine what type of inspection will be performed. Two inspection processes that the depot uses for inspecting receipts are the one hundred percent method and the sample method, the latter being used most of the time. A one hundred percent inspection is performed when all the items and/or all unit packs are inspected. A sample inspection involves selective inspection of one or more units as being representative of the condition of the entire shipment for inspection. Inspection procedures for the four categories of materiel received at the depot are as follows:

a. New procurement (national and local) involves three inspection procedures. Inspection and acceptance of materiel at origin, inspection of materiel at origin and acceptance of materiel at destination, and inspection and acceptance of materiel at destination.

(1) Materiel inspected and accepted at origin does not require an inspection at destination, except that upon receipt, materiel will be examined for damage in transit, correct count, positive identification by opening at least one unit pack per line item. Quality control personnel are responsible for receipt inspections and will take necessary action to rectify the discrepancies.

(2) The second procedure involves inspection of materiel at origin and acceptance at destination. When the materiel arrives at the depot, the receiving activity notifies the Directorate for Quality that such materiel is ready for inspection. One unit pack from the shipment will be selected and inspected for identity, condition, deterioration, packaging, packing, and marking. If the unit pack discloses a deficiency, additional unit packs (based on type of materiel received) are selected at random and inspected. If no major deficiencies are noted, the entire lot is accepted. When materiel is rejected because of deficiencies, an Unsatisfactory Materiel Report is prepared and forwarded through the procuring contracting officer, to the administrative contracting officer. In addition, the rejected materiel is segregated and set aside until disposition instructions are received.

(3) The third procedure is inspection and acceptance of materiel at destination. As mentioned in the other two procedures, as soon as the materiel arrives at the depot, the receiving activity notifies the Directorate for Quality that the materiel is ready for inspection. The type of inspection performed is based on the inspection requirements listed in the contractual documents. When inspection requirements are not specified, approved sampling procedures are used. When materiel is rejected as a result of sampling, screening action (100 percent inspection) may be accomplished when assets are urgently required to satisfy supply demand. Materiel that is rejected is reported to the responsible procuring contracting officer (PCO) for action with the administrative contracting officer (ACO).

b. Materiel received from other depots usually is inspected by the use of the random sampling technique. Materiel is inspected for correct iden-

tification, physical condition, completeness as to modification, packaging, packing, and marking. If no deficiencies are disclosed during the inspection, the lot is accepted. However, if there are deficiencies, the 100 percent inspection method will be used. The shipper of the items that were found defective is notified by the initiation of DD Form 1599 (Report of Item Discrepancy) so that he may take action to prevent recurrence.

c. Materiel returned from posts, camps, and stations (CONUS and oversea) is inspected for condition and identification. The technique employed is based on the type of materiel received and how it is packed. Repair parts in original pack are inspected by selecting and examining one unit pack for positive identification and classification. If deficiencies are noted, inspection will then be performed by using the appropriate sampling plan listed in MIL–STD–105. Repairs parts received at the depot that are not in their original pack are segregated and inspected for correct identification, serviceability, and classification prior to care and preservation and subsequent return to storage. End items received in original pack are inspected using the appropriate MIL–STD–105 sampling plan for appearance, completeness, storage serviceability standard requirements, and proper condition code. If deficiencies are noted and the lot is rejected, a 100 percent inspection is performed and the correct condition code is assigned to all items. For those end items that are not received in their original pack or are received uncrated, a 100 percent inspection will be performed. Items will be inspected for appearance, completeness and storage serviceability standard requirements. In addition, the correct condition codes will be assigned to the items.

d. Materiel reconditioned by commercial contract will be inspected/accepted at the point specified by contractual provisions. When materiel is inspected/accepted at source, this service is provided by personnel of the appropriate Defense Contract Administrative Services Region (DCASR) unless otherwise provided for by contract.

7–8. Discrepancies

Discrepancies in shipments received at the depots and other receiving activities from either procurement or other than procurement are clearly annotated on the authorized delivery documents and reported to the appropriate activity. While Reports of Packaging and Handling Deficiencies (DD Form 6) and appropriate affidavits should be prepared for all discrepancies of lost, damaged, or destroyed property which occur as the result of improper preservation, packaging, packing, or marking, they generally are prepared on a case by case basis because of the administrative work involved for both the receiver and the shipper. The exception is procurement receipts which are subject to inspection and/or acceptance at destination since such material remains the property of the contractor. Transportation discrepancies including loading deficiencies are reported on SF 361 (Discrepancy in Shipment Report). In these cases, an Unserviceable Materiel Report, stamped with the words Notice of Rejection, is prepared and forwarded to the procurement activity administering the contract. Unserviceable materiel received from procurement sources which has been inspected and accepted at origin is explained on an Unserviceable Material Report and forwarded to the procuring contracting officer with information copies provided to the procurement activity administering the contract and to the Commanding General, U.S. Army Materiel Command. In all cases where carrier liability may be involved, depots prepare a Discrepancy in Shipment Report (SF Form 361) for use during litigation with the carrier involved. When the true condition of materiel received cannot be determined within the time frame allotted, the materiel is assigned a condition classification to indicate the materiel is suspended pending classification or litigation as appropriate. When classification is required, the true condition must be determined and a materiel adjustment document is prepared and forwarded to the Inventory Control Point within 15 consecutive days from the date of receipt utilizing the same document number shown on the original receipt document.

CHAPTER 8

STORAGE OPERATIONS

Section I. STORAGE MANAGER

8-1. Management

Storage is the act of storing, or the state of being stored; the keeping or placing of property in a warehouse, shed or open area. Storage is a continuation of the receiving operation and is preliminary to the shipping or issuing operations. Storage operations is one of the largest functions performed at the depot. Management of the depot's storage functions is more than the placing of material in a warehouse. It includes, among other things, the proper utilization of storage space and materials handling equipment, the logical grouping of activities to provide for a straightline flow, and the integration of effort to insure the maximum productivity from storage personnel. In order to manage the storage operations effectively and efficiently, the storage manager must possess the capabilities and abilities of a business executive. He must be able to plan, organize, direct, coordinate, and control his organization in order to achieve an efficient and effective operation. Additionally, the storage manager requires a team of willing and thinking personnel. He operates according to the capabilities of his storage personnel and the availability of equipment and facilities at his disposal. Flexibility is another key requirement of a successful storage manager. With sudden and large impacts on one activity from time to time, the storage manager must be able to shift personnel and equipment from one activity to another without jeopardizing his total operations. To be successful, the storage manager must apply sound management principles and techniques.

8-2. Planning

Planning is a basic functional element of management that the storage manager must apply if he is to be successful. Planning involves considering the problem or operation for the purpose of determining, in advance, the most effective means of accomplishing a desired result with the least amount of manpower, time and material. To accomplish this, he must determine *what* should be done, *when* it should be done, *how* it should be done, and by *whom* it should be done. The amount and degree of planning varies at each level or echelon of management. The broadest aspects of the plan will occur at the top echelon with additional details being added as the plan passes through and down to the lower levels. It is important to remember that a plan cannot be substituted for a system. Once a plan is developed and finalized, a procedure or system can be developed to handle recurring problems or operations successfully. The development of a system will permit less experienced personnel to handle the problems or system and permit top management personnel to concentrate their efforts on future planning.

8-3. Organizing

Organizing, another element of management, is the grouping of work to be done into separate and manageable individual tasks. This is the point in time where management establishes clear lines of responsibilities, authority and duties for the tasks to be accomplished. Actually, organizing is the means of simplifying the task of the manager through logical arrangement of work and the personnel to do it.

8-4. Directing

Directing is that function of management which launches the organization into action and keeps it operating efficiently. The amount and type of direction required of the storage manager will vary and is based on such factors as the type and size of the storage operation, degree of organization, level of experience of subordinate personnel, and the depot management policies.

8-5. Coordinating

An important function of management is the coordination of the efforts of all his activities towards a common goal. If the storage mission is to

be accomplished all activities must work in harmony with one another. Therefore, the storage manager must frequently check his organization for both internal and external coordination. Coordination as a function of management is closely related to the functions of planning, organizing and directing.

8–6. Control

Control is the storage manager's tool for keeping operations proceeding according to plan and on schedule. Some of the control techniques used in management are accounting, reporting, funding and apportionment, organization, plans and programs, budgets, and review and analysis. Controls enable the manager to take timely corrective action if his operation is not being properly executed or proves to be defective. As far as the Army depot is concerned, systematic procedures are required and control may be exercised in the form of reports, records and statistics. It is important to remember that control is not in itself the solution to a management problem, but merely serves to highlight areas of deficiency. It also assures the manager that his objectives are being achieved.

Section II. STORAGE FACILITIES

8–7. Introduction

Supplies and equipment received by the depot must be stored properly, cared for and protected so that they will be available for immediate issue in a serviceable condition. Depot storage facilities must be designed and used to achieve the most efficient operation for receiving, storing and issuing supplies and equipment. Since storage space is at a premium, careful planning must be accomplished if space is to be used efficiently. Storage space at the depot consists of both covered storage and open storage which are discussed in the following paragraphs. However, the discussion of the various types of storage facilities are not intended to prescribe specific layouts, design, or details of construction. They are intended to point out the general appearance and functional use based on approved storage principles and policies.

8–8. Covered Storage

Since the majority of supplies and equipment deteriorate more rapidly when exposed to the elements of weather, they should be afforded the protection of covered storage. Covered storage retards deterioration and reduces the cost of initial and recurring preservation and packaging. Covered storage is storage space within any roofed structure such as a warehouse. All supplies and equipment must be stored in covered storage except for items designated for open storage as outlined in SB 38–8–1. This directive furnishes guidance to the depot for the selection of items to be stored in the various types of storage. If the depot receives advance notice of shipment and proper storage is not available for the materiel, the appropriate inventory control point should be notified to divert shipment to another installation having adequate storage facilities. There are several types of covered storage facilities. Some of these are—

a. General Purpose Warehouse. A general purpose warehouse is used for the storage of many kinds of items and is completely inclosed on the sides and ends. This type of storage facility normally contains the greatest portion of the total available covered storage space at the depot. General purpose warehouses are either single or multi-story buildings depending on the ground limitations. Because of the low operating cost, the single-story warehouse with the floor at the railroad car floor and truck bed level has become the standard type warehouse. The single-story warehouse has a truckloading platform located on one side and a carloading platform on the opposite side. Both platforms permit materials handling equipment to load and unload trucks and rail cars from the warehouse doors. Normally, there are two main aisles that run the entire length of the warehouse permitting materials handling equipment to move without interruption throughout the entire building. By connecting the main aisles with cross aisles, there is direct access to the stacks from the carloading and truckloading platforms. Aisle widths are determined by the size of the materials handling equipment required to handle unit loads in storage. A general purpose warehouse normally is divided into sections separated by fire walls and equipped with automatically closing fire doors on the main aisles. The best warehouses also have automatic sprinkler systems. General purpose warehouse space will be used:

(1) Supply Bulletin 38–8–1 directs that most items should be stored in a controlled humidity (CH) warehouse. However, because of the expense of installing CH units, the storage man-

ager must select those which will benefit most from storage in CH units.

(2) For supplies and equipment sensitive to moisture.

(3) When such storage will reduce the cost of initial and recurring preservation, packaging, and packing of materiel.

(4) To protect materiel such as rubber products, adversely affected by sunlight and elements in the air.

(5) To protect packaging and packing materials and metal containers containing materiel.

b. Refrigerated Warehouse. A refrigerated warehouse, which is similar to a general purpose warehouse is used for the storage of perishable items. It is divided into two distinct areas with one area being designated as chill space and the other designated as freeze space. The temperature in the chill space is controlled between 32° and 50° F while temperature in the freeze space is controlled below a level of 32° F using minus 10° as a target setting. It is sometimes desirable to construct a multi-story refrigerated warehouse. However, the flow of supplies in a multi-story building are much slower and the floor load capacity is comparatively less than single-story warehouses. Even though a refrigerated warehouse is similar to a general purpose warehouse, it is different in one respect. Normally, there are no main aisles that run from end to end within the warehouse. There are, however, cross aisles that connect the carloading and truckloading platforms. Door openings off these cross aisles permit access of materials handling equipment to the storage areas.

c. Flammable Storage Warehouse. A flammable storage warehouse is used for the storage of highly combustible materials, such as paints, oils, and hazardous chemicals. Flammable warehouses are similar to general purpose warehouses. They are divided into one or more compartments, each separated by a fire wall which has a 4-hour fire resistance rating. Additionally, an automatic deluge-type sprinkler system connected to an adequate water supply and an alarm reporting system is used for fire protection.

d. Igloo. An igloo is used for the storage of ammunition and explosives. An igloo generally is constructed of masonry with an arch type roof covered with earth and has one or more doors on only one end. Good ventilation is provided in igloos, but they are not heated. Due to the nature of items stored and for safety purposes, igloos are widely scattered and located in a comparatively isolated area.

e. Shed. A shed, which is a roofed structure without complete side walls, is used for storage of materials that require maximum ventilation or do not require complete protection from the weather. A storage shed is a compromise between open storage and warehouse storage. It offers more protection than open storage but less than warehouse storage, and costs more to construct and operate than an open storage area but less than a warehouse. Shed space may be used for—

(1) Materiel only slightly sensitive or impervious to moisture.

(2) Extremely large or heavy equipment (vehicles) which cannot be stored physically in a general purpose warehouse.

(3) Full or empty metal containers.

f. Dry Tank. A dry tank is used for long term storage and is constructed entirely of steel except for a concrete floor. Automotive parts and vehicles are some of the items stored in a dry tank. There are no operating aisles inside the tank for materials handling equipment and no carloading and truckloading platforms on the outside. A dry tank is a temperature-controlled, dehumidified, and sealed unit. After material is once placed in the tank, it is then sealed. The only entry into the tank after it is once sealed is through a portal tank which, after being removed from the tank, permits entry of one man. If material is to be placed into the tank or removed after it is sealed, a panel must be unbolted and removed from the inside.

g. Above Ground Magazine. An above ground magazine is designed for storage of ammunition and explosives. It is constructed with a roof, side walls and end walls, and is built of fireproof materials. It is well ventilated to lessen the danger of an explosion and is widely separated from other magazines to minimize the destructiveness of an explosion should one occur. A typical magazine has a carloading platform that runs the entire length of the building. Normally there are no main aisles running the length of the building, but there are aisles that run from the front (carloading platform side) of the building to the back.

h. Dehumidified Storage. Dehumidified storage has proved to be the most economical and efficient method of preservation for many classes of items

and is being used increasingly. Dehumidify means to dry out or absorb moisture by means of machinery, baking, ventilating, or by the use of a desiccant. Some of the types of facilities that have dehumidified storage are warehouses and dry tanks.

8–9. Open Storage

Open storage space is used for storage of items which will derive little or no benefit from covered storage nor lose their serviceability when stored in the open. It is also used for storage of items which are impractical to be placed in covered storage due to item characteristics or the nonavailability of covered or closed warehouse space. There are two types of open storage space, improved and unimproved.

a. Improved storage space is an open area that has been graded and hard surfaced or prepared with a topping of some suitable material in order to permit effective material handling operations. Hard surfacing and adequate drainage protect items from wet ground conditions and provide a smooth running surface for equipment.

b. Unimproved storage space is an open area that has not been surfaced. Storage in unimproved storage areas is inexpensive to operate and maintain. However, the use of materials handling equipment is restricted in this type area.

8–10. Commercial Warehouse Service Plan

The commercial warehouse service plan is a means whereby Department of Defense storage may be augmented by using commercial warehouse facilities through service contracts with public warehousemen. The use of public warehouse services is available to Department of Defense (DOD) agencies on a voluntary basis. This plan does not preclude the leasing of installations or space by the DOD agencies. The use of public services are normally limited to material moving in carloads and truckloads from procurement to point of distribution in the continental United States or to overseas points. In addition, commercial warehouses are frequently utilized for household goods storage. The commercial warehouse service plan is particularly important during periods of rapid mobilization or emergency or in the event of war when additional storage space is required on short notice. This plan is not applicable to open storage space, garage space, parking, and storage space for administrative vehicles, storage of supplies and equipment with the contractor from whom procured when such storage is covered by procurement contracts. The Director, Defense Supply Agency is responsible for administration of the Department of Defense commercial warehouse service plan for general merchandise and refrigerated storage.

Section III. STORAGE LAYOUT

8–11. Use and Control of Space

a. Allocation of space in Army depots in CONUS is the responsibility of the U.S. Army Materiel Command. However, space assignment at the depot is the responsibility of the depot commander. In order to effect the most economical utilization of storage space assignment of space at the depot should be based on the latest approved space management methods. All Department of Defense components and other Government agencies requiring storage space at any Army depot submit programed space requirements to the U.S. Army Materiel Command for space allocation on a fiscal year basis. These programs are reviewed semiannually and are adjusted as required. Requests for space allocation include the following:

(1) Name of department, agency, command, or service.

(2) Desired or suggested location.

(3) Type of location desired, shown in net square feet, e.g., warehouse, controlled humidity, heated, refrigerated, shed, igloo.

(4) Type and estimated tonnage of supplies to be stored.

(5) Phased timing of space requirements and approximate length of time the allocation will be required.

b. Utilization of space at an Army depot is the responsibility of the depot commander. It is essential that all storage space be utilized to the maximum extent consistent with the principles outlined in TM 743–200. Additionally, other principles that must be followed are as follows:

(1) The use of administrative space in the depot must conform to the allowances contained in TM 5–803–4.

(2) Utilization of general purpose warehouse and shed space is considered to be at optimum efficiency when the occupancy rate is 85 percent of net storage space available and a storage

density of 15 square feet per short ton is attained. Occupancy above 85 percent is too crowded and below space is wasted. However, exact attainment of this objective is slight, therefore, a plus or minus factor of 5 percent is generally acceptable.

(3) Utilization of magazine and igloo space must meet a minimum occupancy criteria of 90 percent of net storage space available when such occupancy is not in conflict with regulatory directives concerning compatibility and safety distances. Additionally, storage space occupancy must attain the following storage densities:

(*a*) Conventional ammunition—6 square feet per short ton.

(*b*) Special munitions—10 square feet per short ton.

(*c*) CBR munitions—12 square feet per short ton.

(*d*) Guided missiles—9 square feet per short ton.

(4) Net storage space available for storage must meet a minimum criteria of 70 percent of gross storage space used for storage operations for CONUS depots.

8–12. Layout Criteria

The development of storage plans for storage areas within the depot must be uniform throughout. There are certain factors to be considered in the development of the storage layout plan. Minimum aisle widths are limited by the size of materials handling equipment required to handle unit loads. Supplies that require large capacity materials handling equipment should be grouped in a separate location. If stock positions are to be changed, it should be accomplished by attrition during receiving and issuing operations whenever possible. Since storage space is the basis resource of the depot's storage mission, proper planning must be accomplished if space is to be utilized effectively and properly. Some of the factors to be considered in planning the storage layout are—

a. Similarity. Storage of items by similarity is when items of the same class are stored in one area. Items within classes should be stored by categorical groups to facilitate storage and issue operations.

b. Popularity. Storage of items by popularity is based on the relative activity or turnover rate. Stocks that move daily should be stored nearest to the shipping or breakout area. Since active items will require many trips to the location, the trips should be as short as possible. Receiving and shipping areas should be held to a minimum and should be no larger than is required for an average workload. The amount of storage space required will be determined by the volume of a particular commodity to be stored. If supplies are stored by popularity, fast moving items should be located near the point of issue. Slow moving items would be located farthest from the working areas.

c. Size. The size of the item to be stored is another planning factor that should be considered when preparing a storage layout. The size of an item affects the amount of storage space required and the location of the item within the storage area. For example a heavy piece of equipment should be stored near the receiving and shipping area to minimize the moving distance required during the receipt, storage, and issue cycle. The amount of cubic storage space required for a lot of material is determined by multiplying the size of the items times the quantity to be stored.

d. Characteristics of Materials. Even though most items of supply do not require special handling or storage methods, there are some items that do. Consideration must be given to the special handling and storage of hazardous, sensitive, and perishable materials when planning the layout of storage areas. For example: Some hazardous materials constitute a fire hazard and must be stored in protected areas. Many sensitive materials, that have a high resale value, are subject to pilferage and must be controlled by strict security measures. Perishable materials, such as food, must be stored in refrigerated or temperature controlled areas. Since some items have limited storage life, care must be taken to insure that the oldest stock is issued first. Another factor that must be considered is the density and volume of the items being stored. For example, pig iron has a high density and low volume because of its weight. Corn flakes have a low density and high volume. Therefore, floor load capacity would be considered when storing pig iron whereas cubic space would be considered for corn flakes.

e. Storage Facilities. The construction may limit the amount, kind, weight, and type of materials which may be stored. These limitations are imposed by the size and strength of the structure; by certain safety and security measures; and by the operating characteristics of the materials handling equipment (MHE) to be used. Some of the characteristics that must be considered are:

(1) *Floor load capacity.* Every structure, whether single or multistory, has a limit to the amount of weight it can support. This capacity is expressed in terms of pounds per square foot, determined by the amount of weight a given area can support, divided by the square feet of the area. The things for the manager to consider are concentration of weight, distribution of weight and support of weight. Additionally, the manager should see that floor load limit signs are posted in the warehouses.

(2) *Doors and openings.* Doors should be of such sizes and in sufficient quantity to permit movement of material without interference. Ordinarily, each door should be of sufficient size to permit materials handling equipment moving in opposite directions to pass through the opening at the same time.

(3) *Clearance and heights of overhead structures.* Modern storage methods are based on the utilization of cubic storage space. Thus, the effective storage height becomes a very important factor. However, the manager is faced with several safety features which he must consider when palnning for the maximum use of cubic space. Certain limitations have been placed on stacking heights and clearances. These limitations are imposed so that sprinkler systems or firefighting crews may work effectively. Floor load limits also affect stacking heights. Oviously, items having great bulk but little weight may be stacked as high as regulations allow. On the other hand, items with great weight, regardless of the bulk or volume, may be stacked only after taking these limits into consideration.

(4) *Location of aisles.* Whenever practical, aisles should lead directly to doors. The greatest number of accidents involving equipment occurs at corners of aisle intersections, and the material stored at corners is most subject to damage. The placement of aisles must be applied judiciously; that is, when placement of a direct aisle results in considerable loss of space or is otherwise inefficient, the storage manager must weight the loss of space against slower operations and increased hazards.

(5) *Elevators.* In those warehouses having elevators, certain safety factors should be kept in mind. The maximum limit of the elevator is the determining factor as to which MHE should be selected to perform specific tasks. In this instance, the elevator, not the MHE, determines what the maximum load is to be. In addition, only trained individuals should be allowed to operate the elevators. All safety equipment should be in proper working order.

8–13. Steps in Space Layout

a. There are certain basic principles or factors in space layout that must be considered in the planning of storage areas. All the storage elements must be considered, developed, and integrated into one homogeneous unit. Central retail storage areas are normally established by major stock groups such as electronics. The most active stocks should be stored in the most advantageous location in order to facilitate efficient receipt and issue operations. Another factor to be considered is the storage of material by its characteristics. This will facilitate receipt, storage, issue and inventory operations. One last factor to be considered is the establishment of a system for replenishing and maintaining specific levels of retail bin stocks. Supply requirements and characteristics of the item will dictate the level you establish.

b. There are certain steps that must be accomplished in the preparation of space layout. One of the first steps is the preparation of a floor plan for each area. The plan should show all obstacles, such as columns, stair wells, elevator shafts, office space, and washrooms as shown in figure 8–1. Shipping, receiving and retail bin areas should be determined and drawn on the floor plan. The size of lots, the location of the lots, and the location of racks are determined and developed from the Warehouse Planning Work Sheets. A typical layout with a variety of storage lot sizes is shown in figure 8–2. After the floor plan is completed the next step is the placement of stock on the layout plan. Here again, the work sheets are used for determining stock placement. From the groups of similar items the most popular group is selected and is assigned in the area closest to the packing and shipping area. Additionally, retail bin space is assigned at the same time as bulk space. The next popular group is assigned and so on until all groups have been assigned space on the stock floor. The next step is to locate the fastest moving stock adjacent to the packing area. Finally, the last step is to assign space according to the size of the item. See TM 743–200 for more detailed descriptions.

8–14. Stock Location

a. Rapid selection of supplies for shipment, efficient processing of receipts, and the best use of storage space by the depot requires the effective use of an adequate stock locator system. Supplies

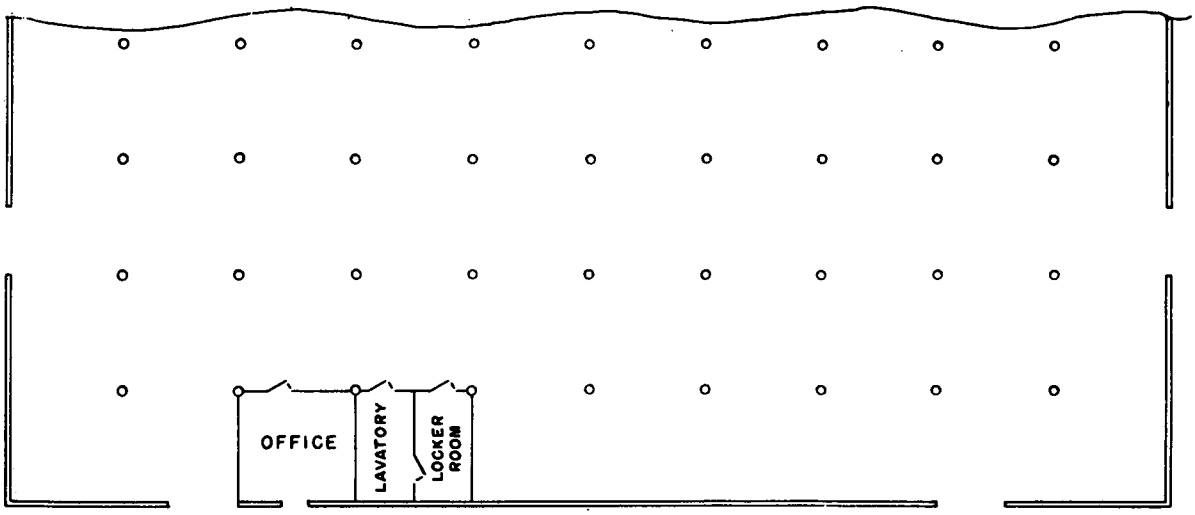


Figure 8–1. Storage floor plan prior to stock layout.

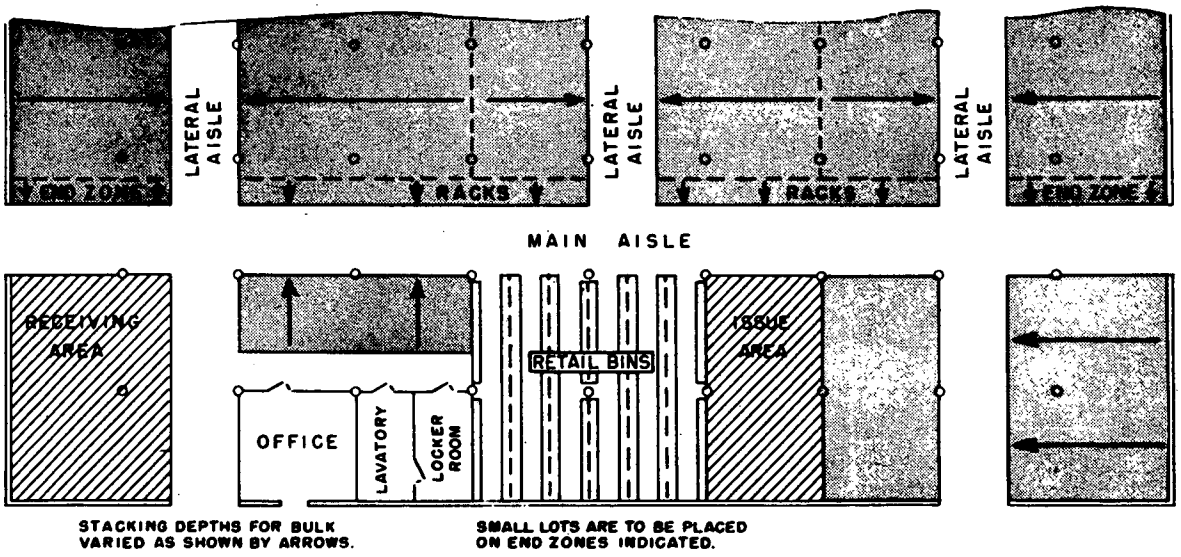


Figure 8–2. Typical stock layout.

that cannot be located are supplies not available for issue. The policies, responsibilities, and procedures for adopting a standard stock location system at the Army CONUS depots are prescribed by the U.S. Army Materiel Command. Each depot establishes and maintains a central location file with all locations of supplies within the depot being controlled by a central location activity. However, the ammunition location activity may be located separate from the general supply location. The system is adapted, to the extent practicable, to the use of mechanized processing and communications systems. It includes the use of transceiver networks and data processing by means of punched card machines or automatic data processing equipment.

b. Stock location is simply assigning an address to materiel while in the depot. The supply functions performed at the depot are dependent upon accurate location and management data contained in the stock location records. The address for numbers are composed of alphabetical numeric

characters not to exceed nine characters. Zeros (Ø) will be used, when necessary, to complete the required number of characters. For example, building, road, site, row and stack numbers 1 through 9 would be preceded by a zero. Storage areas are laid out on the basis of the grid system in TM 743–200 by separating each storage area into rectangular blocks of equal size. The location system is applied to permit identification of each block with a different location number. The location numbers are interpreted as follows:

(1) *Warehouse, shed, and open area locations.*

(*a*) First and second characters—building or area number. For location control purposes, begin with "Ø1" and continue in numerical sequence until all buildings or areas have been numbered. These numbers may or may not be the same as those indicated on the engineer drawings.

(*b*) Third character—floor of building. Floors will be numbered, beginning with "1" for the lowest floor and continuing in numerical sequence until all have been numbered. For single-story structures and open areas, the assigned number will be "1."

(*c*) Fourth character—section number. Warehouse sections, or those areas between firewalls, will be numbered on the planograph from left to right, beginning with "1" and continuing in numerical sequence until all sections on the floor have been numbered. Where section indication is not required, a "Ø" will be entered to complete the location construction.

(*d*) Fifth and sixth characters—short row within section. The short or "S" rows described in TM 743–200 constitute short rows within a section and will be numbered on the planograph from left to right within the section, beginning with "Ø" and continuing in numerical sequence through "99" or until all short rows have been numbered.

(*e*) Seventh and eighth characters—long rows within section. Long rows or "L" rows described in TM 743–200 constitute the long rows within a section and will be numbered on the planograph from bottom to top, beginning with "Ø" and continuing thourgh "99" or until all long rows have been numbered.

(*f*) Ninth character—level. Numbering will begin with "A" from the bottom level and continue in alphabetic sequence until all levels are identified. In the case of bulk storage where levels are not required, an "A" will be used to maintain uniform location construction and interpretation.

(*g*) The above location numbers are constructed as follows:

Ø3	1	4	Ø6	Ø4	A
Bldg	Floor	Section	Short Row	Long Row	Level

(2) *Igloo and standard magazine.*

(*a*) First character—block. Begin with "A" and continue in alphabetic sequence until all blocks have been identified.

(*b*) Second and third characters—road within block. Roads within blocks will be numbered, beginning with "Ø1" and continuing in numerical sequence until all have been numbered.

(*c*) Fourth and fifth characters—site number. Storage sites (igloos or standard magazines) on the road will be numbered, beginning with "Ø1" and continuing in numerical sequence until all have been numbered.

(*d*) Sixth character—suffix number. "X" and "Y" sites or other types of storage areas located between igloos will each be assigned a suffix number to the lower-numbered igloo, beginning with "1" and continuing in numerical sequence until all sites between the igloos have been numbered.

(*e*) Seventh and eighth characters—short row within storage site. Short rows within storage sites are similar to the short or "S" rows previously described and will be numbered on the igloo planograph from left to right, beginning with "Ø1" and continuing in numerical sequence until all rows are numbered.

(*f*) Ninth character—long rows within storage site. Long rows are similar to the long or "L" rows previously described and will be numbered on the igloo planograph from bottom to top, beginning with "1" and continuing in numerical sequence until all long rows are numbered.

(*g*) The location numbers for items stored in an igloo or standard magazine are constructed as follows:

A	Ø2	Ø8	1	Ø1	1
Block	Road	Site	Suffix	Short Row	Long Row

c. In addition to a stock location, a storage code which consists of an alphabetic-numeric character is used in association with the location number to designate the type of storage.

8–15. Planograph

A planograph is a scale drawing of a storage area showing the approved layout of the area, location

of bulk, bin, rack and box pallet areas, aisles, assembly areas, walls, doorways, directions of storage, office space, washrooms and other support and operational areas. The planograph, which is also called a warehouse floor plan, is a management tool that is used for maintaining space control. A warehouse floor plan (planograph) showing a typical layout is depicted in figure 8–3. The planograph is used to plan for the effective utilization of space at the most logical place in the storage area. It provides the framework for developing the depot storage space layout plan and provides the basis for preparing the storage space status report. In order for the planograph to be effective, it must be complete and kept current.

Figure 8–3. Warehouse floor plan—typical layout.

(Located in back of manual)

8–16. Storage Modernization

a. When we use the term storage modernization, we are talking about applying more effective storage practices in the depot by using and employing the most modern and up-to-date materials handling equipment available. With the reorganization of the Army in 1962, an Army wide modernization program was developed for the purpose of replacing outmoded materials handling systems which were not adequate for the supply system of today, either in operating costs or performance. The program embraces all operational functions as an integrated system covering both general supplies and ammunition. It further provides basic guidance to the depots for the improvement of operations within the limits of the depot's local resources and sets forth a long-range plan for their continued improvement. The program states that storage operations are to be equipped with the most practical and beneficial of the advanced materials handling systems and aids. The objectives of the modernization program are to assure responsiveness to the issue priority system, reduce operating costs, and insure an improved mobilization and materiel reasiness posture.

b. The storage modernization program (TM 743–200–2) is organized into two functional segments; general supply and ammunition. Each segment of the program stands alone in order that it may be independently applied at depots with only one of the two supply missions. The general supply segment of the program consists of seven functional areas. These are: receiving; bin, shelf, and rack operations; preservation, packaging and packing; shipment consolidation; container and dunnage fabrication and facilities, bulk storage and communications. The ammunition segment of the program is also broken down into functional areas. These are receiving, shipment consolidation, renovation, container and dunnage fabrication and facilities, storage, and communications.

c. Storage modernization has taken place in several of the depots. For example, Letterkenny Army Depot has installed electric conveyors in their bin storage area. The Defense Depot Ogden has modernized their storage operations by installing electric conveyors in their receiving, storage, shipping and shipment assembly areas. Anniston Army Depot has automated their receiving and shipping warehouse. Wherever practicable, supplies should be conveyorized at the first handling in receiving and kept mobile throughout the entire checking, verification, and inspection process. Conveyors, both floow mounted and overhead power and free types can be provided, either in combination or separately, to serve the various materials handling tasks. In the case of general supplies, materiel can move from receiving to storage and, as applicable, on to preservation, packaging, packing, and shipping and never leave the integrated transport system. Examples of how certain areas within storage operations can be modernized are as follows:

(1) *Loose issue or bin operations.* Most of the problems encountered in general supply storage operations are in loose issue or bin operations. Here, a heavy workload is processed and the impact of priorities is felt keenly. To promote relief, use of automatic controlled conveying systems that will pick up and delivery workload to selected service stations can be installed. Stock pickers can ride automatically steered vehicles that quickly move along the aisles. This service reduces stock picking time and replenishment time. Figure 8–4 depicts a loose issue operation.

(2) *Receiving operations.* Receiving operations represent an extreme variance in complexities of services rendered; e.g., returns vs new procurement and destination inspection vs verification checking. Extensive modernization can be used when justified by high-volume workloads. Supplies are conveyorized upon receipt and kept mobile throughout the entire receiving process as long as profitable. Extensible powered conveyor, automatic line diverters, power and free conve-

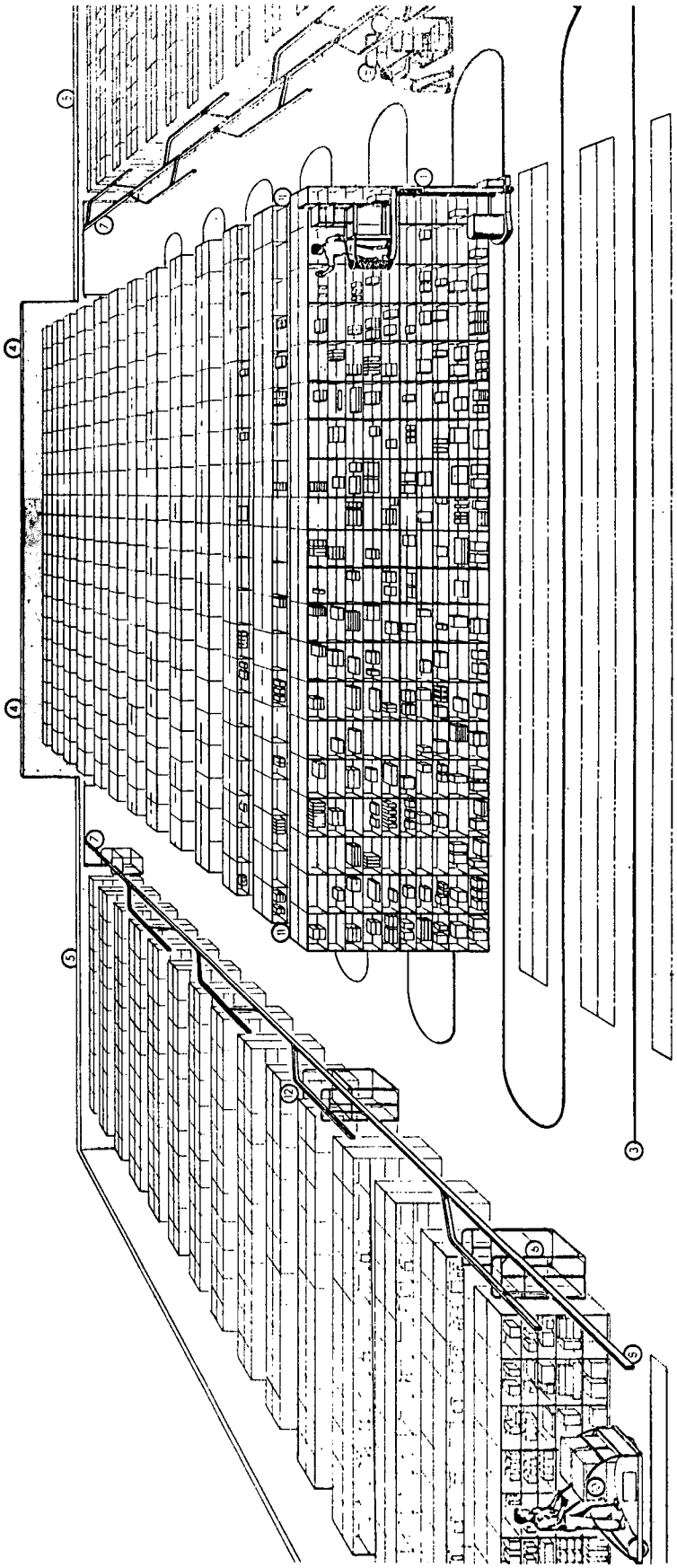


Figure 8–4. Loose issue area plan.

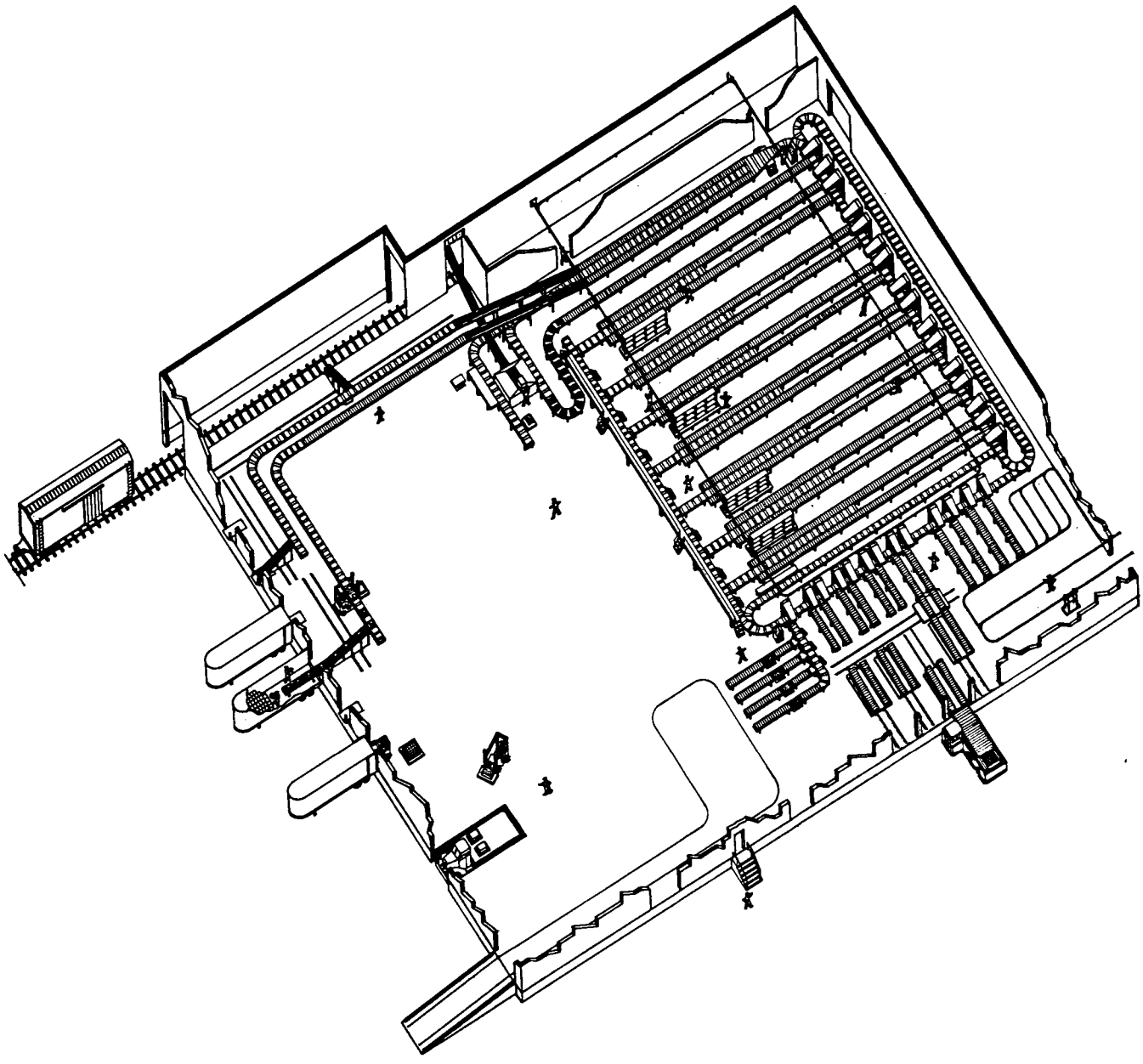


Figure 8–5. Receiving plan.

yors, are used to service this area of storage operations as illustrated in figure 8–5.

(3) *Small shipment.* Small shipment inflow from all locations are automatically directed into the shipment consolidation terminal as illustrated in figure 8–6 for automatic sorting into a hold area until an appointed time when it will be remotely discharged for stowage into the transportation conveyance.

(4) *Ammunition renovation operations.* Ammunition renovation operations are well adapted to production flow; therefore, the program introduces concepts of conveyorization and continuous flow that facilitate production and economize on costs. Highly mechanized service equipment, such as automatic palletizers and automatic taping and marking machines, are advanced to serve the variable tasks.

d. CONUS depots are responsible for establishing and maintaining a depot modernization committee, preparing and maintaining storage modernization plans, and establishing increment priorities for the storage modernization program. The depot modernization committee should contain permanent members representing key functions with consultants nominated on an "as re-

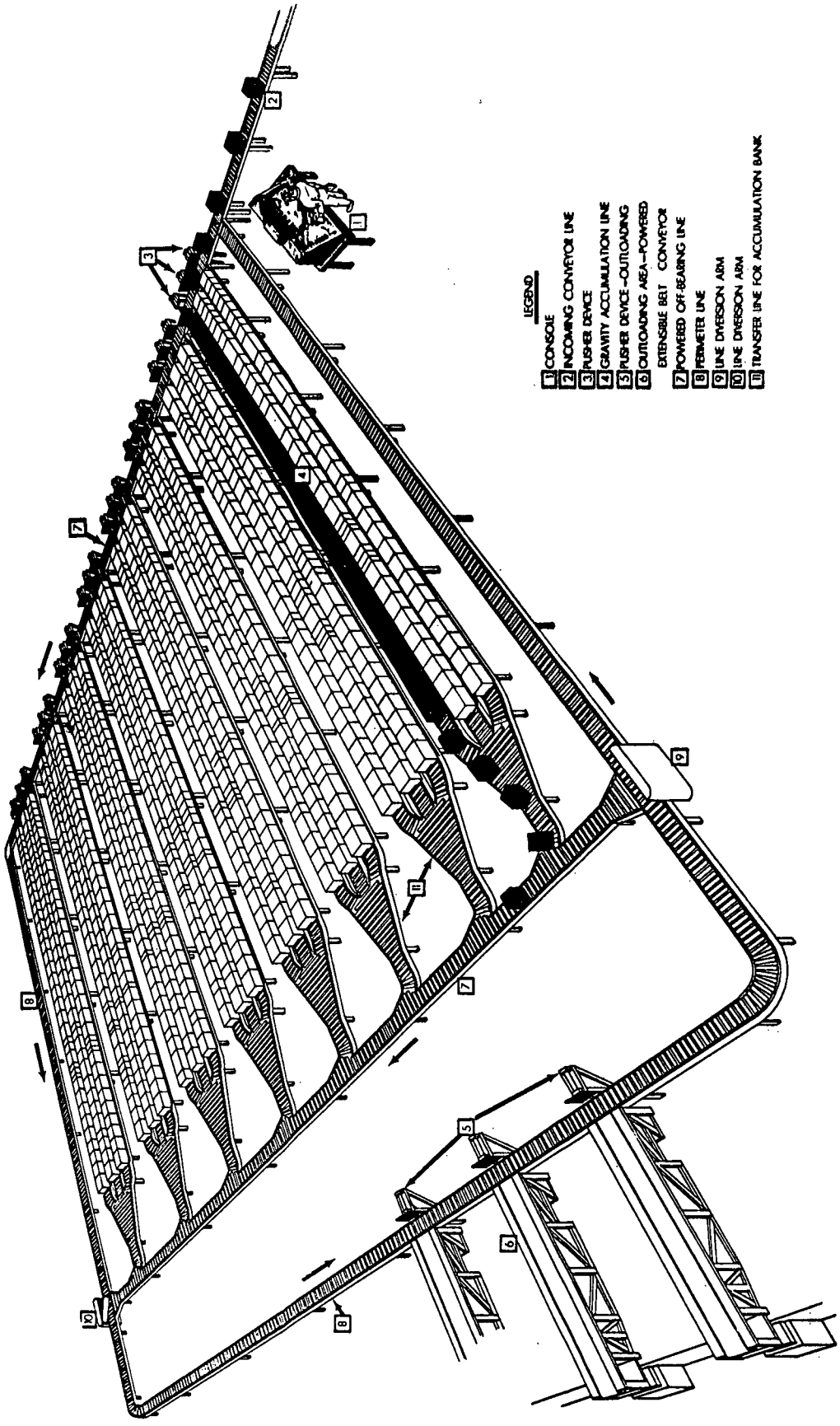


Figure 8–6. Shipment consolidation terminal.

quired" basis. Membership of the committee should consist of individuals of sufficient level in order that decisions may be made at the committee meetings. The chairman for the committee should be selected from top level management, such as the Director for Distribution and Transportation. Depots which have the mission for both general supplies and ammunition will establish two separate plans. However, the two plans must be coordinated and integrated with one another.

e. The concepts and layouts depicted in figures 8–4 through 8–6 are flexible and can be adapted to the various facility and mission characteristics of the depot system. One thing should be kept in mind when modernizing storage operations. Plans must be developed around known workload data and provisions made for ready expansion in the event of increased workload, mission change, or emergency.

Section IV. STORAGE BY COMMODITIES

8–17. General Supplies

Most items of general supply do not require special storage methods. However, similarity, popularity, and size of the item must be considered (when storing general supplies). If an item of general supply is of limited shelf life, care must be taken to be sure that the oldest stock is issued first. Additionally, security controls must be established to safeguard those items that have a high resale value and are subject to pilferage. Since there are such a wide variety of items that fall under the heading of general supplies, every type of storage facility is used in storing these items. The characteristics of the item will dictate the type of storage used. Examples of how the characteristics of the item will determine the type of storage are as follows:

a. Dry cell batteries, which are perishable, should be stored in a refrigerated warehouse in order to prolong their service life. (Since wide temperature variations are damaging to dry cell batteries, the temperature can be controlled in a refrigerated warehouse).

b. Electronic equipment is susceptible to corrosion, mold, and fungus growth if the relative humidity in the storage areas is not controlled. Therefore, this type of equipment should be stored in controlled humidity storage space.

c. Tires and tubes will deteriorate from light, heat, air and motion, ozone, oils, dust and dirt. They should be stored in cool, dry warehouses and be protected from light.

d. Highly combustible materials, such as paints, varnish, shellac, thinners, and chemicals with low flash points, should be stored in a flammable storage warehouse.

e. Items which are not susceptible to weather conditions, such as steel structures (components of bailey bridges) are normally stored in open storage areas. Other items, such as large storage tanks, are also stored in open storage areas.

8–18. Ammunition

a. Ammunition is divided into two groups, conventional and special.

(1) Conventional ammunition includes all ammunition items which do not require extraordinary control, handling, or security. Included are small arms and artillery ammunition, high-density low-maintenance rockets and missiles, grenades, pyrotechnics, mines, high explosives, and chemical ammunition (smoke and incendiary agents, riot control agents, and bursters, igniters, peptizers, and thickeners for flame fuel). When the same propelling charge is used with both special and conventional ammunition, the propelling charge is considered to be an item of conventional ammunition and only those quantities required to insure complete rounds of special ammunition are stored and issued with special ammunition items.

(2) Special ammunition items are those which require extraordinary control, handling, or security. Special ammunition includes—

(*a*) Nuclear and nonnuclear missile warhead sections, atomic demolition munitions, nuclear projectiles, and associated spotting rounds, propelling charges, and repair parts.

(*b*) Missile bodies (less missile combining high-density, low-maintenance, and conventional ammunition features), related components of missile bodies (less repair parts), and missile propellants.

(*c*) Toxic and incapacitating chemical and biological agents.

b. Military ammunition has inherent hazards

that affect all handling and storage operations from the time of manufacture until expended in service. Therefore, ammunition must be handled, stored and shipped in a manner that will afford optimum protection against deterioration, accidental ignition and detonation. One of the key factors in the handling, storing and shipping of ammunition is the strict observance of safety rules and regulations by the depot personnel.

c. Planning for the receipt of ammunition begins upon receipt of advance notification of shipment from the inventory control point. Selection of appropriate storage locations is based on the explosive quantity/distance qualification of the item, compatability of the various types of ammunition, condition classification, quantity of item in the shipment, number of ammunition lot numbers, quantity per ammunition lot, and space requirements. Additionally, the depots have specific storage drawings and directives which prescribe how each type of ammunition is to be stored. The reasons for such importance being placed on the storage of ammunition are as follows:

(1) Ammunition is manufactured, issued, stored, and expended by lot number. A lot number is assigned to a quantity of ammunition which is manufactured by one producer under uniform conditions, and which is expected to function in a uniform manner.

(2) Ammunition is graded or classified by condition codes based on surveilance observations, inspection, and function tests; by results of ballistic firing tests; and by data from troop firings. The grade or classification will apply to all ammunition as a specified lot.

(3) Specific ammunition lots are restricted for firing over the heads of friendly troops or restricted from issue due to the possibility of component failures. These restrictions are based on the inspections and tests mentioned above.

(4) Ammunition is stored and shipped by the depot in accordance with established drawings and compatibility charts. Ammunition items are grouped for compatibility with respect to effects of explosion of the item, rate of deterioration, sensitivity to initiation, type of packing, effects of fire involving the item, and quantity of explosives per unit. A given ammunition lot may be required to be stored in several different locations depending on the type of item, explosive content and quantity in the lot.

d. In the event of an emergency, some explosives and ammunition, such as bombs, may be stored outside provided prior approval is obtained from the U.S. Army Materiel Command. Solid propellants, pyrotechnics, bulk high explosives and critical items must be stored indoors. Certain items such as missiles and rocket motors, contain a shelf life storage date. If the surveillance inspection discloses that these items have been stored beyond their shelf life storage date, they are reported to the applicable national inventory control point for disposition instructions.

e. Commanding officers of Army depots having an ammunition storage mission must establish and maintain an ammunition surveillance and quality evaluation program. The purpose of this program is to assure that ammunition items are in a serviceable condition and are ready for issue. In order to carry out this program, each depot with an ammunition storage mission must establish an ammunition surveillance organization. This organization is independent of other depot functions and reports direct to the depot commander on all matters pertaining to ammunition surveillance, quality evaluation and inherent hazards of ammunition. Additional information concerning ammunition may be found in Department of the Army Technical Manuals, Supply Bulletins and Technical Bulletins.

8-19. Vehicles

a. In the storage of vehicles certain factors must be considered in order to determine what type of storage will be required. These factors are size of the vehicle, the quantity of vehicles to be stored and the length of time that the vehicles will remain in storage. After these factors are considered, vehicles are stored in metal tanks which resemble a petroleum storage tank, general purpose warehouses, transitory sheds or in an open storage area. To achieve better cube, vehicles and trailers are often stored two or more high, especially in warehouses. Since the vehicle's battery and basic issue list items (BILI) are subject to pilferage they are removed from the vehicle and stored as a group or boxed and banded and left with the vehicle. Additionally, batteries have a storage life and must be checked periodically. By storing the batteries as a group it is much easier to perform the surveillance inspection. Arms, such as machine guns mounted on tanks, are not stored with the vehicle but are placed in security storage.

b. The national inventory control point provides the depot with a storage forecast of the number and types of vehicles to be received by the depot for storage and the length of storage time required. In addition, the national inventory control point or contracting officers will provide advance information to the depot as to the approximate arrival time of vehicles at the depot. Based on this information, storage programs can be drawn up and advance planning can be accomplished prior to the receipt of vehicles. Storage programs must be flexible and the storage manager must use good common sense in his planning.

c. Vehicles, which are part of CONSSTOCS (contingency support stocks) should be removed from storage periodically to fill vehicle customer requests and be replaced with new or rebuilt items. This procedure will accomplish two important things.

(1) The amount of maintenance required for Consstocs will decrease and the in-storage maintenance costs will decrease.

(2) Vehicles will not become obsolete because of being in storage for a long period of time.

8–20. Medical Supplies

The storage of medical supplies is basically the same as that required for general supplies. Repair parts for medical equipment and less than exterior container quantities are stored in bins while boxed items are stored o npallets. However, medical items, such as drugs, biologicals, reagents, precious metals, X-ray film, and developing fluids, require controlled humidity storage, refrigeration (normal and subfreezing) and security. In addition, many items are potency and expiration dated or shelf life and require continuous in-storage quality control and surveillance. Therefore, the limited shelf life potency period of certain drugs, biologicals, reagents, and chemicals are factors to be considered during storage surveillance of these items. Narcotic drugs require an appropriate security storage device, such as a vault. Since the handling of narcotic drugs is governed by Federal Laws, it is mandatory that narcotics be safeguarded at all times.

Section V. CARE OF SUPPLIES IN STORAGE

8–21. General

The preservation and packaging of supplies in storage is an important responsibility of the Army depot's storage personnel. In order to carry out this responsibility a preservation and packaging program must be established. The purpose of the program is to insure that all supplies in storage are maintained in a ready for issue condition. The program includes such functions as examination; inspection or testing for other than ammunition; application of preservation treatment; reporting and recording of quality data; and action either to remove from stock, or indicate as nonissuable, any quantity of an item determined to be in other than a serviceable or issuable condition. The degree of activity involved in the various functions of the program is determined by the type of item, type of storage, length of storage, probable end use, and other governing factors. In order to carry out the program certain objectives must be established.

a. The condition of supplies in storage must be determined in order to segregate unserviceable from serviceable material.

b. Complete and accurate knowledge of the condition status of supplies must be maintained.

c. Assure the serviceability of supplies in storage to meet supply demand at a minimum cost in money, manpower and other resources.

d. Achieve longer shelf life and reduce quality control costs through analysis of information regarding stability and reliability of materials and feedback of data for improvement of specifications.

e. Permit adjustments in storage inspection and quality control effort to provide greater efficiency and economy through analysis of data concerning variation in deterioration rates.

8–22. Elements of Preservation

Some of the basic elements of preservation for supplies in storage are as follows:

a. Good Housekeeping Practices. Good housekeeping practices are essential for the protection of supplies in storage. Floors, containers, materials handling equipment, bin storage areas, pallets and platforms must be clean and free of any substances attracting or providing food or harbor for insects or rodents. Tears and ruptures in

sacked or boxed material should be repaired. Dead rodents, birds, and other pests must be removed from the storage areas.

b. Protection of Supplies. Adequate preservatives must be applied to protect most items from the damaging effects of water or water vapor. This is often true even though the item is to be stored in a warehouse provided with mechanical means of temperatures and humidity control. Some of the methods by which humidity is controlled are cocooning with strippable plastic films and enclosing items in sealed flexible barrier materials and metal, plastic or fiberglass containers.

c. Reconditioning or Restoration of Supplies. When reconditioning or restoration of an item is beyond the skills of personnel and facilities of the storage activity, the material is sent to a designated shop or is repaired commercially using current maintenance operating procedures. The repaired item is placed in storage after preservation, packaging, packing, and marking as provided in current applicable standards or specifications. Appropriate inspections are made as necessary.

d. Pest Control. Supplies that are susceptible to insect and rodent damage must be examined frequently to insure that materials are free of insect and rodents. The depot's insect and rodent control personnel are responsible for applying fumigants, insecticides, and rodenticides and will perform these services on request.

8–23. Inspections

a. Even though inspections are performed on material received for storage and on material being prepared for shipment, periodic surveillance inspections must be performed on material while it is in storage. Since some material requires more frequent inspections than others, a definite cycle or schedule for inspections must be established. For example, items stored in the open will require closer attention and more frequent inspections than items stored in a warehouse or shed. In determining the inspection cycle or schedule, you must consider the apparent or approximate date of manufacture, preservation or pack; type of pack and storage; climatic conditions and susceptibility to deterioration, insect infestation and rodent damage. Inspection frequency for materiel stored in Army depots is based on the type of items stored and the type of storage used. Materiel with a limited shelf life are schedule for inspection by the appropriate commodity command. Towed and self-propelled artillery, vehicles and marine; fixed and rotary-winged aircraft; and transportation rolling stock are inspected in accordance with the inspection schedule established by the U.S. Army Materiel Command. Unless otherwise specified by the commodity command, all other serviceable materiel is inspected based on the following criteria:

Type of storage	*Interval in months*
Controlled Humidity	60
Heated Warehouse	24
Unheated Warehouse	18
Shed	12
Open	6

The above inspection intervals may be adjusted for the second and subsequent inspection, where warranted, by the known deterioration of specific items. The various methods of inspecting materiel in storage are as follows and is the responsibility of quality control and assurance personnel:

(1) *Visual inspection.* A visual inspection means to observe the item and/or its packaging and packing to detect deficiencies. This type of an inspection normally does not require disassembly or testing of the item. Visual inspections are the responsibility of all depot personnel as well as the assigned mission of quality assurance personnel.

(2) *Technical inspection.* A technical inspection is one where the inspection is performed by visual and/or other means including disassembly, measurement (gaging), performance testing, and/or laboratory testing of the item.

(3) *Sampling inspection.* This type of inspection involves inspecting a representative sample of the quantity of an item on hand in order to estimate its true condition or degree of serviceability. Materiel evaluated by the sampling inspection method must be of the same type and serviceability status, stored under similar conditions, and manufactured or rehabilitated by the same facility. Materiel which does not conform to these criteria will be sampled separately from homogeneous groups within the total quantity involved.

(4) *One hundred percent inspection.* An inspection of all quantities of a given lot. A one hundred percent inspection is performed only when the item warrants it or when sampling inspections do not provide sufficient assurance as to serviceability status or when required by pertinent directives. This inspection is normally applied to returned materiel.

b. During the inspection process there is a possibility that some materiel will contain defects (MIL–STD–105). The defects found are classified according to their importance. Defects are classified as critical, major or minor. The criteria for determining the type of defect is as follows:

(1) A critical defect is one that could result in hazard to life or health, could create unsafe conditions for individuals using or maintaining the produce, or a defect that judgment or experience indicates is likely to prevent performance of the tactical function of a major end item.

(2) A major defect is one, other than critical, that could prevent an item from functioning at designed efficiency. In addition, inadequate preservation or packaging of materiel, inadequate packing, and incorrect marking and/or lack of identification can be considered as major defects if they meet the following criteria:

(*a*) Inadequate preservation or packaging is classified as a major defect if it has permitted or will permit any degree of corrosion or deterioration of a critical surface, or if it has allowed heavy corrosion or deterioration of a noncritical surface. In addition, inadequate packaging is a major defect if it fails to provide necessary protection against physical damage that could prevent an item from functioning at designed efficiency.

(*b*) Inadequate packing is classified as a major defect if it fails to provide necessary protection against physical damage that could result from hazards to which an item could be subjected during receipt, storage, and issue.

(*c*) Marking is classified as a major defect when incorrect marking and/or lack of identification would result in the wrong item being shipped, an item shipped to the wrong destination, or a special marking that could result in loss of, or damage to, the item.

(3) A minor defect is one that does not materially reduce the usability of the item for its intended purpose or is a departure from established standards, but has no significant bearing on the effectiveness of the item. Even though inadequate preservation or packaging, packing, and marking defects are classified as a major defect, they can be classified as a minor defect if they meet the following criteria.

(*a*) Inadequate preservation or packaging is classified as a minor defect if it has permitted the onset of light to medium corrosion or moderate deterioration of noncritical surfaces, providing the presence of such corrosion or deterioration would not adversely affect the operability or effective use of an item. Preservation or packaging that is not in strict conformance with specification requirements, but is deemed sufficient to afford the necessary protection to the item, is a minor defect.

(*b*) Inadequate packing is classified as a minor defect if it is not in strict accordance with specifications, but is sufficient to adequately protect the item from physical damage which could be encountered during receipt, storage, and issue.

(*c*) Minor marking defects include improper placement or illegible marking of contract number, requisition, number, weight, cube, preservation date, or any other marking not indicated in (3) above, provided they would not result in misshipment or damage to the item.

Section VI. SET ASSEMBLY AND DISASSEMBLY

8–24. Responsibilities

As mentioned in chapter 6, some of the depots have the mission of performing set assembly and disassembly for Army-managed sets. Set assembly and disassembly operations, for the purpose of discussion, pertains to tool and shop sets and does not include basic issue list item (BILI) sets. The commander of a depot, that has the mission of assembly and disassembly, is responsible for establishing or designating an organizational element as the depot assembly coordinating activity. The depot assembly coordinating activity coordinates all set assembly and disassembly schedules and change orders with the inventory control points as well as internal coordination control. This element or activity is the point of contact with the inventory control points to resolve any depot problems encountered with set assembly/disassembly or change actions.

8–25. Assembly and Disassembly Operations

a. Inventory control points supply various types of sets and assemblages of which the components are stocked items of supply issued for normal or routine demands or are procured and shipped into the depot specifically for assembly into a set of some description. Assembly compo-

nents are received at the assembly depot and reported to the Inventory Control Point (ICP) as a routine receipt. The ICP assigned logistical responsibility for the set accounts for assembly components that have been procured and received for assembly purposes. The ICP managing the set, upon determination that all components required for assembly are available at the assembly depot, assigns an assembly order control number (AOCN) to the assembly action and furnishes the depot a prepositioned receipt document for reporting the set when assembled and a Materiel Release Order (MRO) for each component to be assembled in the set. MRO's are processed by the depot as an issue, and the materiel is shipped to the assembly area for assembly into the set. The ICP also provides the depot with an appropriate packing list for the set, indicates the quantity and description for each of the items required in the set, and any special assembly instructions. As a general rule, when several of the same set are to be assembled, depots prepare a pilot pack for one set to determine the size and number of boxes required, type of packing to be used, and which items should be placed in which box or container. Once the requirements are determined, sufficient materials are prepared as required for accomplishing the total assembly order and the assembly area is prepared with materials placed at proper points for a production line assembly operation.

b. A packing list for each container listing the items in the container is prepared in duplicate for each set. One list is placed inside the container and the other is placed on the exterior of the container. In addition, a master packing list, indicating all items in the complete set and the box number in which each is packed, is prepared and affixed to the exterior of the number 1 container.

c. The ICP managing the set may desire to disassemble some of his assembled assets. In this case, the ICP assigns an AOCN to the disassembly order and provides the depot an MRO for the quantity of sets to be disassembled. The MRO is processed by the depot as an issue and the materiel is shipped to the disassembly area with a materiel release confirmation document forwarded to the ICP. The depot prepares materiel receipt documents for each component recovered from the set by condition and submits them to the ICP directing the disassembly action.

d. Control of assembly/disassembly component changes of sets is vested with the ICP managing the set. Upon determination that assembly/disassembly component change is desired, the ICP ascertains the capabilities of the depot to perform the required actions. In those cases where maintenance facilities are required, the ICP coordinates with the Depot Maintenance Control Center for work order and scheduling purposes. The inventory control point initiates internal controls to freeze or hold sets requiring component changes. Upon completion of required change actions, depots submit material adjustment documents to reclassify sets to their true condition. Sets may be directed by the ICP to be assembled short some of the minor components which are not available in the supply system. In these cases where an incomplete set is shipped to a customer, the customer is billed at the published standard price of the set. The remaining components are supplied to the customer on a nonreimbursable basis at a later date.

Section VII. MATERIALS HANDLING EQUIPMENT

8–26. Basic Principles

a. Materials handling is the movement of materials and supplies from one place to another without affecting its value or performing any productive operation. Handling of material in the Army depot is such a massive job that it is virtually impossible to handle it by manpower alone. Therefore, materials handling equipment must be employed if we are to accomplish the job of handling materials. The basic principles of materials handling remain unchanged even when materials handling practices vary. Some of the basic principles of materials handling or handling guides are as follows:

(1) The handling of materials should be kept to a minimum. The operation of handling material should be so organized so that the number of and distance of moves are minimized.

(2) Standardization of methods and equipment aids the materials handling activity by reducing operations cost. It also simplifies procedures for maintenance, repair, storage and issue.

(3) Materials handling equipment generally should be selected for its multiple number of ap-

plications. Flexibility with which equipment can be converted to handle different jobs must be considered.

(4) The selection of specialized equipment should be kept to a minimum since special equipment is costly. Additionally, maintenance costs for specialized equipment are greater than for standard equipment.

(5) In order to determine the method of materials handling, you must consider the work volume, what the item is, size, shape, value and distance to be moved.

(6) Advanced planning on materials handling methods and equipment must be carried on simultaneously with other planning activities and undertakings. In order for advance planning to be effective it must be coordinated with other organizations. Some of the factors requiring advance planning are protection against weather or breakage, legal and physical restrictions in reference to transportation, the possibility of using unitized loads, standardization of equipment and methods, the possibility of combining materials handling methods, and safety hazards.

(7) The rated capacities of equipment should never be exceeded. Overloading of equipment causes excessive wear and increases the accident potential.

(8) Storage managers must analyze their materials handling operations for the possibility of elimination, combination or simplification. The number of times that material is handled may be simplified and reduced if some operations are combined.

(9) The selection of materials handling equipment should be based on the economies of operation. Since economies are measured in cost of moving the materials, greater pay loads for each handling operation should be considered.

(10) A definite method or pattern for materials handling operations to follow should be established. The method used in picking up, carrying to, setting down of material, and returning from is always the source of variation.

(11) Physical exertion should be conserved if possible. Wherever practicable, materials should be moved in a horizontal plane or with the aid of gravity. For example, when material is loaded and unloaded, personnel exert excessive effort by reaching either down or up. This effort could be reduced if the workplace layout is planned so that the lifting position is at the waist. The nearer to the waist that a container or part can be picked up and disposed of, the greater the efficiency will be.

b. The selection of a proper container is another important principle of materials handling. A proper container retains the product properly and restrains its movement to the degree necessary for protection during handling, storage, and transportation. The degree to which the product must be retained and protected depends on basic economics. For example, the container required for ladders would not have to restrain the product to the same degree as one for aircraft engines. This is particularly true of blocking and bracing for shipment.

c. Storage managers know that the major portion of personnel assigned to materials handling activities are engaged in loading and unloading material. Therefore, it is important that the storage manager give a great deal of consideration to the materials handling function. Some of the basic loading and unloading principles that must be considered are discussed below.

(1) Where economical, loading and unloading personnel should be replaced with mechanical devices. Proper devices, such as conveyors, industrial trucks, and other mechanical handling devices, can be used advantageously when the volume, size, and weight of the items become great. Mechanical devices can reduce safety hazards and increase protection of personnel. They also afford much greater protection against loss and damage of packages than manual handling.

(2) The proper methods of loading and unloading to prevent damage is important. Generally, loose material is more likely to be damaged than properly packed material. Any loading operation should be planned with special consideration being given to such factors as the center of gravity of the carrier, use of dunnage, placement of heavy material on the bottom, rated capacity of the carrier, and possibility of containers and pallets being damaged while in transit.

(3) As few pickup and delivery points as practical should be employed. A large number of pickup and delivery points increases the loading and unloading requirements, manpower requirements, and costs. The possibility of combining several pickup points into one central point should be considered.

(4) Material should be segregated by source or destination whenever such action is economical. This eliminates unnecessary shuffling and reshuffling of the material. This type of segregation

generally is most advantageous when a relatively heavy volume of material is to be handled.

(5) Emergency items should be placed in accessible locations when they are being loaded. This facilitates rapid unloading and expedites delivery to the destination.

(6) Necessary areas, materials, tools, and equipment required for loading and unloading should be provided at proper locations. In the loading and unloading of boxcars, areas for dunnage, strapping, strapping tools, lumber, tools, and other miscellaneous equipment and supplies should be placed at easily accessible points.

(7) Adequate lighting and ventilation should be provided. They aid in the reduction of errors and accidents in the loading and unloading area. Planners should give consideration to the placement of portable lights and fans on docks and in carriers whenever necessary.

(8) Docks heights should be as compatible as possible with the bed height of carriers. This can be achieved by the use of bridge plates and permanently installed adjustable ramps.

(9) Materials requiring expeditious handling should be loaded and unloaded at a specific dock or location. Parcel post, air freight, and express items tend to congest dock areas unless ample facilities are provided. Generally, the "detention time" for the agency acting as carrier of expedited material is short. However, the loading and unloading delays which they may create are quite costly.

d. The most basic facility for handling materials is manpower. Therefore, it is imperative that storage managers recognize the importance and possibilities of improvement in this area. Since many accidents are caused through incorrect lifting or carrying methods, operators must be properly trained in safe lifting and carrying procedures. Five approved methods of carrying materials are as follows:

(1) *Tray carry.* The package is carried in front of the abdomen with both hands placed under the bottom surface and the body serving as the balance.

(2) *Side hand carry.* This simply is the "suit case method" and can be used where the load may be grasped by a handle or the equivalent.

(3) *Side under-arm carry.* The package is carried under one arm, with the other arm brought across in front of the body to steady and balance the load.

(4) *Shoulder carry.* The load rests on one shoulder with the near arm helping to support the weight and the other arm brought across the body to steady the load.

(5) *Neck carry.* In this method the package is carried on the back of the neck and shoulders, with both arms lifted to shoulder height and the hands grasping the sides or top of the load.

8-27. Types of Equipment

A number of different types of equipment is used to meet the needs of the Army depot. Equipment consists of powered and nonpowered materials handling equipment and storage accessories and aids. The selection of equipment is based on the size, shape, weight, and container strength of the commodities to be handled. Some of the types of equipment used by the depot are:

a. Forklift Trucks. A forklift truck, which is one of the most commonly used pieces of equipment, is a vehicle designed to pick up, carry, and stack unit loads of supplies and equipment. Standard forklifts are available with lifting capacities of from 2,000 to 15,000 pounds and lifting heights of from 100 to 210 inches. Gasoline-powered forklift trucks may be equipped with solid-rubber or semi-solid tires for use in warehouses or pneumatic tires for use in outdoor storage areas. Electric-powered forklift trucks are equipped with solid-rubber or semisolid (or cushion) tires for indoor operation only and are used where ventilation or fire potential is a problem. Forklift trucks are used to handle palletized supplies; containers such as large bales, crates, or boxes, and large items. The selection of a specific type of forklift truck is based on the capacity required, performance, type of power, lifting height, available storage aisle space in which to operate, and the cost of the equipment.

b. Warehouse Cranes. A warehouse crane is a power-driven, self-propelled unit consisting of a boom mounted on a mobile wheeled chassis. The boom is operated independently so that sluing and topping can be accomplished without the movement of the chassis. Gasoline and electric powered cranes are equipped with pneumatic tires and range in lift capacity from 6,000 to 20,000 pounds and can be used indoors on ramps or outdoors depending upon the size. A crane is used to lift, swing and lower loads that are too heavy or bulky or otherwise unsuitable for handling by other types of materials handling equipment.

c. Conveyors. A conveyor is a device for moving supplies in a fixed line of travel. There are two basic types of conveyors used by the military. The first is the gravity-type roller or wheel and the second is a power-driven belt conveyor. Gravity roller conveyors are available in straight sections and curved sections of 45° and 90°. The gravity wheeled conveyor is available in straight sections and a 45° curved section. Power driven conveyors are powered by a gasoline engine or an electric motor and are available in sections of different lengths. Conveyors are used on piers or docks, in warehouses, in packing rooms, or wherever a steady flow of supplies is desired.

d. Warehouse Tractors and Trailers. A warehouse tractor is an electric or gasoline powered vehicle designed to pull a train of warehouse trailers. Trailers have either solid or pneumatic tires. Tractor-trailer trains, when used in conjunction with forklift trucks, provide complete integration of loading, transporting, stacking, and warehousing supplies. Generally, tractor-trailer trains should be utilized for movement of supplies when the haul distances is greater than 400 feet. However, if haul distances are extensive, the use of rail cars and trucks should be considered.

e. Other Equipment. There are other pieces of equipment that are used by the depot for movement of supplies. A straddle truck, which is gasoline powered, is a four wheeled vehicle designed to straddle, lift, and transport loads of long and heavy supplies such as lumber or poles. Hand trucks of various types and sizes are useful in all types of storage operations, particularly where mechanical equipment cannot be employed. Four wheel dolly trucks can be used for moving heavy loads for short distances by hand. Dolly trucks are maneuverable and suitable for use on truck and reefer floors.

f. Storage Accessories and Aids. Storage accessories and aids consist of special devices, accessories, and attachments which have been designed to handle materials in situations where conventional items of materials handling equipment are not adequate. Some of these items are pallet sling, fork extensions for forklift trucks, portable platform, drum handling attachments, and bridge plates. The requirements for storage accessories and aids depends on the types of supplies to be handled.

Section VIII. SAFETY

8–28. Safety Responsibility

Safety is everyone's responsibility. However, it is the policy of the Department of the Army that a safety program be established and implemented at each echelon of command. The purpose of the Army safety program is to reduce and keep to a minimum accidental manpower and monetary losses, thus providing more efficient utilization of resources, advancing the combat effectiveness of the Army and savings of the tax dollar. The Deputy Chief of Staff for Personnel, Headquarters, Department of the Army has the responsibility for overall staff supervision for the safety program. Commanders at all echelons are responsible for conducting a continuing, vigorous effort toward the prevention of accidents in all operations and activities. The Depot Commander is responsible for establishing and conducting an effective safety program for his depot. The program should be designed to create safe conditions of operations and employment and promote safe practices by both the military and civilian personnel. Additionally, the Depot Commander must insure that adequate provisions for safe physical standards are incorporated in all depot directives, standing operating procedures and training doctrine. Accidents don't just happen, they are caused. Two causes of accidents are disregarding established safety procedures, or ignorance of safety rules. In both instances, the depot is being deprived of its most valuable asset, the loss of productive man-hours, when accidents occur.

8–29. The Cost of Accidents

The cost of accidents come in many forms. Some of these are—

a. Man-Hours Lost. Accidents to personnel cause loss of valuable man-hours of production. Whether the depot employee is compensated at his regular rate, special rate, or by lump sum settlement, there is a loss in productive effort. Since immediate replacements of equal skill or trained personnel are not readily available, the problem cannot be solved by merely making a replacement.

b. Material Damaged or Destroyed. Material which has been damaged or destroyed is a waste of valuable resources. Material must be replaced,

and rehandled by depot personnel, which results in a waste of the defense dollar. Additionally, the consequences may be very serious if the material is critical or in short supply.

c. Damaged or Destroyed Equipment. Damaged or destroyed depot materials handling equipment slows down the handling of materiel. It can result in materiel being moved by hand and slows down the flow of supplies in the materiel pipeline. It must be emphasized by storage managers that equipment must be taken care of and operated in accordance with safety rules and regulations.

d. Hidden Costs. One of the hidden costs is the resultant effect on the morale of personnel after an accident has taken place. You can not measure this in the terms of dollars and cents, as you measure the cost of damage to equipment or material. It is human nature for people, when the fear of an accident is present, to be reluctant to start a task which is considered hazardous. Additionally, and after the task has been started, efficiency will decrease.

8-30. Causes of Accidents

Accidents may be caused by many factors, such as the lack of safety education and training; unsafe working conditions, equipment, or facilities; and hazardous nature of the material being handled.

a. Caused by Man. The worker causing the accident may sometimes attempt to blame it on defects in materials or layout. The supervisor responsible for materials, equipment or layout may attempt to blame the worker. Too many people take the attitude: "Well, it was just one of those things; it just happened and nothing could have prevented it." Accidents don't just happen, they are caused. The cause can usually be traced to some careless act, or physical limitation, of man. Some of these causes are:

(1) *Lack of safety education.* The lack of safety knowledge or safe practices can be the cause of accidents. For example, personnel who have not been properly instructed may not recognize the danger of greasing valves on cylinders of compressed oxygen. Careful instructions in the hazards of this practice, explaining the potentiality of oxygen to cause combustion of the grease, should eliminate such malpractice. The basic understanding of the principle and the reasons for performing a task in a certain way will be the result of safety education.

(2) *Lack of safety training.* Safety education is concerned with instructing an individual with principles and reasons for safety. Safety training is concerned with what should be done in the area of safety, rather than why it should be done. One is a theoretical approach while the other is the practical application.

(3) *Physical and/or mental conditions.* Persons with faulty vision, those who are ill, and those who are suffering from fatigue or loss of sleep are not alert to ever-present dangers. They do not react quickly enough to avoid accidents. Generally, employees disturbed by personal problems, poor adjustment to their job, or a recent angry dispute, are more liable to be involved in accidents.

b. Caused by Material. Explosives and flammable items require more care than other items. The nature of the material will dictate the care required in handling and in storage. These two factors *are not* necessarily the same. It is possible that material can be stored with little risk but handled with great risk and vice versa. Hereagain, accidents caused by such material can be traced back to the lack of safety education or training, and/or to a careless act on the part of the handler.

c. Caused by Equipment. In some instances, defective design of a piece of equipment may cause an accident. However, it is more likely that the accident occurred because of improper use of equipment. Equipment is designed to handle a specific load, travel at a specific speed, ascend or descend a specific grade, and to operate under specified conditions. A potential hazard is created when equipment is selected and used in operations beyond the rated capacity or for other than the designed purposes. Also, equipment which is not in proper operating condition constitutes a hazard. Here again, this is the fault of man not the equipment.

d. Caused by Storage facilities. A poorly laid out storage area can be the cause of accidents. The greater the distance traveled, the greater the potentiality of an accident. Changes in elevation constitute a hazard. Elevators involve extra handling and increase the chances of accidents. Narrow aisles, turns and jogs in aisles, and protuberances of any kind constitute hazards. Most facility hazards can be eliminated through careful planning and conscientious implementation of these plans.

8–31. Accident Prevention and Safety Programs

As mentioned earlier, good accident prevention programs should be established and strictly enforced. Such programs should provide for the following:

a. Analysis of Operations. Each physical operation should be analyzed to predetermine inherent and manmade hazards. Safe operating procedures should be developed to include requiring personnel to use protective clothing and equipment.

b. Selection of Personnel. Minimum performance standards and requirements should be established for each job, especially those that have potentially hazardous features. Also, performance records of personnel must be studied to determine the suitability of a particular individual for a specific job.

c. Training of Personnel. Each depot should develop a training program in safety and accident prevention. Usually, the supervisors are trained first and properly motivated in safety and accident prevention programs. They, in turn, will instruct their workers.

(1) *Familiarizing personnel with good work habits.* By eliminating excess manual handling, particularly that involving lifting, it is possible to increase the efficiency, not only of the laborer, but of the job itself. Whether picking stock from floor level or loading a truck from grounded level, the element of fatigue rapidly cuts efficiency and productions, adding to the accident potential. The human body is flexible and adaptable but is also subject to weaknesses.

(2) *Use of safety equipment.* As mentioned before, the use of mechanized equipment introduces problems. In order to keep these problems to a minimum, the MHE operator must adhere to established methods of operations. For example, only authorized, properly trained, and licensed persons should be allowed to operate MHE equipment. Most accidents are the result of speeding, improper loading or failure to follow safety and operating instructions. Violations of this type are less likely to occur when the MHE is in the hands of a skilled and safety-conscious operator. Safety items (safety pallets, MHE backguards, ladder attachments, lumber aprons, corner markers, etc.) are provided, often at great expense, by the Government. This equipment is provided in warehousing operations to protect valuable employees from preventable accidents and to circumvent the loss of productive man-hours and needless damuseful purpose if they are used as intended.

CHAPTER 9

SHIPMENT OF SUPPLIES

Section I. DOCUMENTATION

9–1. Processing Standards

a. Upon receipt of a requisition from the customer the National Inventory Control Point (NICP) checks their records to determine which depot is the closest to the customer and has the supplies requested. The NICP then prepares a materiel release order (MRO) directing shipment from the storage depot to the customer. Materiel release orders are normally transmitted electrically to the depot by transceiver. However, there are times when MRO's are forwarded by telephone, radio, or teletype message. In the processing of MRO's, Army depots are allotted definite processing times for accomplishing internal work. Processing times are allotted on the basis of consecutive hours for a 24-hour day and 7-day workweek. Depots perform in accordance with storage target dates and depot transportation dates established for each issue priority designator. The depot processing standards are contained in AR 725–50 and are depicted in figure 9–1. Information concerning International Logistics Shipments is contained in FM 38–8.

b. Shipment planning is the function within the depot's shipping which coordinates data processing, storage and transportation activities required for shipment processing of materiel. It also involves the grouping of materiel release orders into shipment units, and schedules stock selection, packaging, packing and outloading of these units. During the shipment planning stage, the type of transportation equipment required is determined by the Military Traffic Management and Terminal Service upon receipt of routing request. Shipment planning at the depot is based on the Military Standard Requisitioning and Issue Procedures (MILSTRIP), including the Uniform Materiel Movement and Issue Priority System (UMMIPS), the Military Standard Transportation and Movement Procedures (MILSTAMP), the Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP) and embrace established Army shipment policies.

9–2. Documentation

The type of documentation received by the storage and shipping activity to complete shipment of supplies will depend on the location of the storage and shipping point in relation to the accountable supply distribution activity. In addition, the availability of EAM/ADP (electrical accounting machine/automatic data processing) and transceiver facilities at the storage and shipping activity will have a bearing on the type of documents received. Document processing of general supplies and ammunition described below is based on computerized concepts. Depots, other than those computer equipped, implement Army shipment planning policies by employing manual processes where a mechanical processing capability does not exist.

a. General Supplies. Materiel release documents for general supplies received by depots from inventory control points are input to computer systems for the creation of shipment schedules. These schedules are comprised of materiel release orders for a given consignee contained common elements of data; i.e., issue priority group; type cargo code; project code; Military Assistance Sales freight forwarder and case number; physical security classification; exception handling code; and pick, pack, and hold date. Each schedule contains one or more shipment units and a transportation control number is selected by the computer by selecting the materiel release order within the shipment unit having the earliest required delivery date. A shipment unit may be composed of a single materiel release order shipped loose or in one or more containers. If the quantity requisitioned must be shipped in more than one increment, then each increment is documented as a separate shipment unit. Other examples of a shipment unit are contained in the

UNIFORM MATERIEL MOVEMENT AND ISSUE PRIORITY SYSTEM
(UMMIPS)

TIME SEGMENT	TIME STANDARD (IN CALENDAR DAYS) FOR PRIORITY DESIGNATORS:		
	01-03 TP-1	04-08 TP-2	09-15 TP-3
A. Requisition Submission	1	1	2
B. Passing Action	1	1	2
C. ICP Availability Determination	1	1	3
D. Depot/Storage Site Processing	1	2	8
E. Transportation Hold and CONUS Intransit To CONUS Requisitioner, Canada, or to POE	3	6	13
F. Oversea Shipment/Delivery:	TP 1	TP 2	TP 3
1. To Alaska, Hawaii, South America, Caribbean, or North Atlantic	4	4	38
2. To Northern Europe, Mediterranean, or Africa	4	4	43
3. To Western Pacific	5	5	53
G. Receipt Take Up By Requisitioner	1	1	3

Figure 9-1. Time standards (DODD 4410.6).

MILSTAMP regulations. A shipment unit is determined by such factors as the contents of a shipment unit must not exceed the capacity of a single truck or rail car load except in cases where assemblies or sets are moved as a single unit. Computer programs provide for automatic accumulation and controlled release of shipping units. Shipping units not released for stock selection are consolidated with input from the next issue routine. Materiel thus consolidated is selected, packed, and loaded directly into carrier conveyances, thus eliminating the need to use warehouse space to assemble loads after packing. It also saves time that normally would be required to double handle shipments consolidated after packing. These computer shipment planning programs also provide for mechanized preparation of Government bills of lading. For shipment release and routing of shipments see *b*(3) below.

b. Ammunition.

(1) In shipment of ammunition items, obligation of ammunition for shipment is made from the ammunition lot record card maintained at depots. Ammunition lots indicated on the record in storage are reviewed to determine location accessability and readiness of materiel for the particular recipient indicated on the materiel release order. A single ammunition lot is selected where possible for shipment to insure functional uniformity. Lots thus selected are inspected and certified for shipment by surveillance inspectors.

(2) Once lots are certified, the total quantity of the ammunition to be shipped is partialed by carrier conveyance. One partial per carrier vehicle is based upon the allowable weight per vehicle, item cube, type of routing, and type of carrier equipment. If the shipment involves a mixture of ammunition items, all items to be shipped in any one vehicle must be carefully screened for compatibility in compliance with the compatability chart in T. C. George's Tariff No. 19, "Loading and Storage Chart of Explosives and other Dangerous Articles."

(3) Shipment releases and routing of ammunition shipments are obtained by the depot transportation officer from Military Traffic Management and Terminal Service. Specific details are contained in AR 55–355. The transportation officer will develop and assemble all information essential to preparation of the request for release and routing as early in the shipment planning cycle as possible. Shipments requiring export release and routing or domestic route order will not be loaded or tendered to carriers until the export release or domestic route order has been obtained.

(4) Once the shipment routing and release instructions have been obtained, the depot transportation officer contacts the carrier for supply of service and equipment. The carrier is advised as to the equipment needed, time and place of loading, and shipment destination. The equipment offered must meet the standards of condition and function established by the Department of Transportation for the class of explosives or dangerous articles involved. Prior to loading, the carrier equipment must be inspected to determine if equipment meets the safety regulations. AR 55–355 outlines in general terms the responsibilities of personnel concerned with the forwarding and receipt of explosives and other dangerous articles.

(5) An ammunition data card is required to be included with the documentation for each ammunition lot shipped between CONUS depots. For ammunition shipments to oversea consignees, copies of these cards will be air mailed to the oversea control point. This card contains the historical data relative to each component part of the items within the lot and the various testings and/or modifications that have been applied during the life of the materiel. These data are made available to the user for identification of various performance characteristics of the materiel.

(6) Shipment of classified ammunition materiel is conducted in accordance with the provisions of AR 55–203 and AR 55–355, and AR 380–5 for other than nuclear weapons and components. Shipping depots are advised by the inventory control point of the shipment schedule, carrier, route, rate, authority, domestic release number, junction points, and the number of couriers and guards required. Security guards and vehicles and equipment are provided by the Army commander upon request of the depot intelligence officer. Courier or guard personnel are briefed on the classification requirements, guarding procedure, routing, destination, emergency fire procedure, and procedures to be followed in case of accident or incident.

Section II. PREPARATION FOR SHIPMENT

9–3. Inspection

One of the first steps in preparing an item for shipment is inspection of the item. The program current in effect in CONUS requires inspection of materiel prior to shipment. The type of inspection performed will depend on the type of items, length of time in storage, date of last cyclical inspection, and destination/purpose of materiel. More specific information regarding this type of an inspection may be found in the U.S. Army Materiel Command regulations.

9–4. Preservation-Packaging

a. After items to be shipped have been inspected preservation and packaging is the next step in preparing an item for shipment. Not all items being shipped will require preservation-packaging since they were processed prior to arrival at the depot or were processed after arrival at the depot. However, items requiring preservation-packaging prior to shipment must be packaged in accordance with one of the following protection levels.

(1) *Level A.* The degree required for protection against the most severe conditions known or anticipated to be encountered during shipment, handling and storage. Preservation-packaging and packing designated level A shall be designed for direct exposure to all extremes of climatic, terrain, operational, and transportation environments without protection other than that provided by the package and pack. The conditions to be considered include, but are not limited to—

(*a*) Multiple rough handling during transportation and intransit storage from manufacturer to ultimate user.

(*b*) Shock, vibration and static loading during shipment, including deck shiploading and offshore or over-the-beach discharge, to ultimate user.

(*c*) Environmental exposure during transit where port and warehouse facilities are limited or nonexistent.

(*d*) Extended unimproved open storage in all climatic zones, particularly while under static loads imposed by stacking.

(*e*) Special package and pack features for field and combat operations (handling and utility).

(*f*) Sepcial features as required by combat development agencies.

(2) *Level B.* The degree required for protection under conditions known to be less severe than those requiring level A, but more severe than those for which level C is adequate. Preservation-packaging and packing designated level B shall be designed to protect items from physical and environmental damage during shipment, handling and storage for conditions other than those identified herein for level A or level C protection. In general, the following criteria will determine the requirements for level B design:

(*a*) Multiple handling during transportation and intransit storage.

(*b*) Shock, vibration and static loading of shipment worldwide by truck, rail, aircraft, or ocean transport.

(*c*) Favorable warehouse environment for extended periods.

(*d*) Effects of environmental exposure during shipment and intransit transfers, excluding deck loading and offshore cargo discharge.

(*e*) Stacking and supporting superimposed loads during shipment and extended storage.

(*f*) Special features as required by military and technical characteristics and logistical considerations.

(3) *Level C.* The degree required for protection under known favorable conditions during shipment, handling and limited tenure of storage. Preservation-packaging and packing designated level C shall be designed to protect items against physical and environmental damage during known favorable conditions of shipment, handling and storage. In general, the following criteria will determine the requirements of level C.

(*a*) Limited handling during transportation and intransit storage.

(*b*) Limited shock, vibration and static loading during the transportation cycle.

(*c*) Controlled warehouse environment for temporary periods.

(*d*) Effects of environmental exposure during shipment and intransit delays.

(*e*) Stacking and supporting superimposed loads during shipment and temporary storage.

(*f*) Item characteristics require no special or peculiar preservation-packaging and/or packing provisions.

b. Repackaging of materiel (both boxed and unboxed) must be controlled. Materiel should not be repackaged merely to comply with current packaging specifications, instructions, etc., except when deterioration or damage to the item is evident or would occur during shipment. If repackaging is required, it must conform to the current requirements of the applicable level of protection. Protection levels for packaging will depend upon the conditions expected to be encountered during shipping, handling and storage. Figure 9–2 will assist in the selection of protection levels (*a* above) to meet specific shipping, handling, and storage conditions.

Figure 9–2. Guidelines for selection of minimum levels of protection.

Located in back of manual

c. Proper packaging is not adequate unless preservation is performed prior to the packaging of an item. Therefore, the terms preservation and packaging are used together. We can define preservation and packaging as the application or use of adequate protective measures to prevent deterioration including, as applicable, the use of appropriate preservatives, protective wrappings, cushioning, interior containers, and complete identification marking (MIL–STD–129), up to, but not including the exterior shipping container. The methods of preservation are established by Military Specification MIL–P–116, and consist of six basic methods. These methods have not been designed to be exclusive or independent of each other, but may be used in combinations for application to specific problems. These basic methods are—

(1) Method I, preservative coating (with greaseproof wrap).

(2) Method IA, water-vaporproof inclosure (with preservative as required).

(3) Method IB, stripping compound coating (hot dip).

(4) Method IC, waterproof barrier (with preservative as required).

(5) Method II, water-vaporproof barrier with desiccant (with contact preservative when required).

(6) Method III, packaged for mechanical and physical protection only.

9–5. Packing

a. After the preservation and packaging operation has been completed, the next step in preparing an item for shipment is packing. Packing is designed to protect Military supplies and equipment against damage and exposure until they reach their final destination and to sustain the items during subsequent storage until used. Packing, like preservation and packaging, must be performed in accordance with specific protection levels. These levels are explained in paragraph 9–4*a* and depicted in figure 9–2.

b. The exterior container alone will not protect an item in shipment unless it is properly braced, blocked or cushioned in the container. The sole purpose of packing is to protect military supplies and equipment against damages and exposure until they reach their final destination. In order to perform adequate packing, some type of packing sequence should be established. For example, the packing sequence can be divided into a series of steps, such as determining packing requirements, selection of the proper container, preparation of protective barriers, inserting and securing the item to the container, sealing the barrier, closing the container, reinforcing the container, and marking of the container. Of the steps mentioned, selection of the proper container is one of the most important. The controlling factors for selecting exterior containers are based on adequate protection and overall cost. In the selection of containers the following factors should be considered:

(1) Physical characteristics of the item.

(2) Degree of protection required.

(3) Initial cost of the container.

(4) Weight and cube of the container.

(5) Simplicity and economy of assembly and inclosure.

(6) Handling and storage advantages of the container.

(7) Availability of the container.

9–6. Unitization

a. Cargo unitization includes but is not limited to unitization methods such as SEACON, Container Express (CONEX) (other than controlled humidity CONEX), SEAVAN (commercial demountable containers), MILVAN (Military demountable containers), Palletized Unit Loads, and Consolidation Containers. Cargo unitization will increase the speed, security, accuracy, flexibility and economy of packaging, packing, supply, storage and transportation operations by reducing miscellaneous small package shipments to homogeneous unit loads of optimum size for the

direct application of mechanical handling equipment. The cargo unitization methods are described as follows:

(1) A unitized load is the assembly, into a single load, of more than one package of one or more different line items of supply in such a manner that the load can be moved in an unbroken state from source to distribution point or user as far forward in the supply system as practical. It is concerned with containerization, palletization, and transportability of supplies with compatible properties normally handled by materials handling equipment.

(2) CONEX (used synonymously with cargo transporter) is a reusable corrugated steel shipping container designed for worldwide surface movement and security of suitable military supplies and equipment. Type 1 CONEX have a bale capacity of 135 cubic feet. Type 2 CONEX have a bale capacity of 295 cubic feet. Both types have a cargo capacity of 9,000 pounds.

(3) SEACON is a reusable steel container (similar to CONEX) designed for use by the Department of the Navy for the movement and security of suitable military supplies and equipment. Seacon's come in three sizes: small (150 cubic feet bale capacity), medium (200 cubic feet bale capacity), and large (295 cubic feet bale capacity).

(4) SEAVAN is a large container of the size and configuration of a truck, semitrailer body, demountable from its chassis. SEVANS are operated by commercial carriers. Various sizes are used with the most usual having exterior dimensions of 20-feet x 8-feet x 8-feet.

(5) MILVAN is the Army-owned demountable container, conforming to U.S. and International standards, operated in a centrally controlled fleet for movement of military sponsored cargo. Exterior dimensions of the MILVAN are 20-feet x 8-feet x 8-feet.

(6) Palletized unit load is a quantity of any item or items, packaged or unpackaged, which are arranged on a pallet and securely strapped or fastened so that the whole is handled as a unit.

(7) Consolidation container is a container, other than those described above designed to be handled with normal materials handling equipment and used to consolidate more than one line item into a single shipping container to one destination.

b. It is the policy of the Department of the Army that shipping activities use unitized loads for shipment whenever the size, weight, shape, compatability, and quantity of packages or packs permit unitization. However, unitized loads must enhance overall speed, security, accuracy, flexibility, and result in overall economy as compared with other shipment methods. The methods of unitization must be compatible with the characteristics of the commodity or commodities and the need for protection during handling, storage, and transportation, and will be such as to achieve maximum reduction in tare weight and cube. Unitized loads should be marked in accordance with MIL–STD–129 in order that the items within the load can be identified without disassembly. Detail unitization methods for CONEX containers, palletized unit loads, and consolidation containers are contained in AR 700–33.

c. The roll-on/roll-off (RO/RO) is an express service whereby trailers loaded and sealed at origin are moved intact between vendor plants and/or defense activities in CONUS and overseas destinations. The trailers are hauled from origin to loading terminal, whence they are carried in vessels into which the trailers are driven, parked and lashed down. At vessels' discharge port, the trailers are driven off the vessel and hauled overland to destination.

d. Sea van containership is still another method of shipping supplies. This method provides a large shipping container of the size and configuration of a truck semitrailer which is demounted from its chassis during ocean movement. At the depot supplies are loaded in the container, the container is sealed, and then hauled to the port by a standard highway tractor. At the port the container is demounted from its chassis and loaded aboard ship. At the oversea port the container is unloaded and mounted on a chassis and then towed to its destination.

e. One of the most familiar operations is the transportation of semitrailers on railroad flatcars, commonly called "piggyback." In this operation, supplies are loaded in the trailer and a tractor tows the trailer to the rail terminal where the trailer is loaded aboard a flatcar. At destination, other tractors haul the semitrailers from the rail terminal to final destination. This operation combines long-haul economy and volume movement of railroads with the flexibility, direct quick-haul service, and door-to-door delivery of motor transport.

9–7. Marking

a. No matter how well an item is preserved,

packaged, and packed, improper marking of the exterior container will cause confusion and delay and it will be hard to identify upon reaching its destination, if it gets there at all. There are so many different kinds and types of supplies, and makes and models of equipment in the supply system today that there is insufficient time to trace the origin of shipment or to open the containers. Therefore, marking of containers should be accomplished right the first time. Military Standard MIL–STD–129 provides uniformity in marking, eliminates unnecessary markings, and permits instant identification of contents. Personnel responsible for marking containers should check the following prior to shipment:

(1) Can the contents of each exterior container be properly identified without opening the container?

(2) Can the contents of each intermediate and unit container be properly identified without opening the container and possibly disturbing the preservation treatment.

(3) Does the quantity and nomenclature indicated on the containers agree with the contents and the packing list?

(4) Is marking sufficiently clear to assure delivery at intended destination?

(5) Are all old markings removed?

(6) Are all new markings legible?

(7) Are the sizes of the markings and colors as specified?

(8) Are markings properly located on the container?

(9) Have security requirements been complied with?

(10) Have all special markings required by the carriers or regulations for dangerous or fragile materials, or for ease of handling, such as center of balance or grabhook points, been applied?

(11) Does the marking indicate that the container is one of a set that should be shipped together?

b. In the marking of containers one end, the top, and bottom should be free of all markings, except service color markings or markings required by statute and those necessary for safe handling. As mentioned previously, each time a container is reshipped, old markings should be removed and/or obliterated. Marking of exterior containers will be accomplished by stenciling, labeling, tagging, stamping or printing. When authorized by MIL–STD–129, lithographing, silk screening, photomarking, embossing, decals, or transfers may be used. Regardless of the marking process, certain essential data must be included when marking containers and is as follows:

(1) Consignor (indicate in the clear and coded).

(2) Consignee (indicate in the clear and coded).

(3) Transportation control number.

(4) Project code when applicable.

(5) Required delivery date.

(6) Transportation priority.

(7) Port of Embarkation (indicate in the clear and coded).

(8) Port of Debarkation (indicate in the clear and coded).

(9) Piece number.

(10) Total pieces.

(11) Weight (each piece).

(12) Cube (each piece).

c. One document that must be used in shipment marking, in addition to MIL–STD–129, is the Joint DOD Activity Address Directory. This directory provides a current listing of coded activity addresses assigned by the Army, Navy (including the Marine Corps), Air Force, U.S. Coast Guard and the General Services Administration. The main thing to remember in marking of exterior containers is that they must be marked properly if they are to arrive at their intended destination and on time.

9–8. Planning the Shipment

a. Shipment planning actually begins upon receipt of the documents authorizing issue of supplies. Advance planning must be accomplished concurrently by warehousing, packing and transportation personnel in order to insure accurate, expeditious, and efficient selection, packing, marking, documentation, and shipping of supplies. As a minimum planning should include the quantity of an item to be shipped, weight and/or cube, packing, marking, availability of personnel and equipment, mode of transportation, date required at destination, and assembly date of supplies to meet date of shipment. Planning shipping operations is as necessary and important as any other storage operations. In order to have an

efficient operation, shipment planning goals should be established. Some of these goals are:

(1) Plan for the maximum consolidation of materiel release orders into shipment units. This will reduce the number of small shipments and reduce the number of containers and documents required.

(2) Provide a balanced workload in the storage operations. A balanced workload is accomplished by controlled release of materiel release order lines in the form of a "preplanned transportation package" scheduled through the storage and transportation cycle. This cycle includes stock selection, packing, marking and outloading of the material into the carrier.

(3) Reduce transportation costs by increasing the size of each shipment unit.

(4) Make the maximum use of standing route orders/consolidated standing route orders and stop-off routes.

(*a*) Standing route orders will eliminate the request for routing, eliminate hold time and repetitious routing will decrease.

(*b*) Stop-off routes will reduce parcel post and less than truck-load shipments, reduce the amount of freight bills required, and reduce in-transit time of supplies.

(5) Make a decision on small items whether to ship by parcel post or consolidate in multipacks. Parcel post permits more rapid movement to the customer and simultaneously gives the depot a better on time shipping record than if the items are held for consolidation.

b. The shipment planning activity must accumulate and maintain certain basic shipment planning data if the above mentioned goals are to be reached. These data are—

(1) Unit weight and cube.
(2) Dimensions.
(3) MILSTAMP cargo commodity codes.
(4) Compatibility of line item codes.
(5) Type of pack.
(6) Marking and labeling instructions.
(7) Level of preservation and packaging to be applied.
(8) Holding time to effect maximum consolidation to each ultimate consignee.
(9) Freight classification, freight rating and commodity description.
(10) Special handling requirements for classified or dangerous materiel.

c. "To facilitate the accumulation and maintenance of item characteristics and transportation data necessary for advance planning of shipment unit composition and for transportation documentation, each shipping activity will utilize a Shipment Planning Worksheet (SPWS). In addition to the data contained in *b* above, the SPWS will provide for inclusion of the following elements of data required during the various stages of shipment processing:

(1) Basic TCMD data.
(2) Appropriate TCMD trailer card data (e.g. outside dimensions, ammunition lot number, personal property ownership data, etc.)
(3) Carrier
(4) Routing
(5) Fund citation
(6) GBL number
(7) Date shipped, including transportation holding delay code."

Section III. LOADING PROCEDURES

9–9. Loading Preparations

Loading consists of moving supplies into a carrier's conveyance, stowing supplies in the prescribed manner, and blocking and bracing the completed load in a manner adequate to insure its arrival at destination in good condition. As soon as the shipment planning is completed and/or supplies have been prepared for shipment, the necessary railcars and/or trucks should be requested from the transportation office. The request should specify the exact spotting location, requirements for any special equipment, and the date and time each carrier is required. Arrangements must be made for the necessary personnel and equipment required prior to actual loading operations. Proper planning and coordination of carriers, personnel, and equipment will assure their availability at the proper time and place to begin loading operations.

9–10. Car Loading

a. Prior to the actual movement and loading of supplies, certain preparatory steps must be accomplished. A blue colored metal flag should be placed on the steps of the car at the traffic end of all cars being loaded. This will indicate that cars

are not to be moved and will eliminate unscheduled or unannounced bumping of cars with other rail equipment. It is also a safety measure. In the event that rail boxcar doors can not be opened manually, special door opening devices should be used. In order to save time, arrangements should be made in advance to have door opening devices available at the loading site prior to the opening of car doors. Prior to loading of supplies, railcars should be thoroughly inspected for loading hazards and cleaned. All strapping, dunnage, nails and other debris left from a previous load should be removed. Cars infested with insects or containing contaminating residue or odors, which will have an effect on the load, should be returned to the carrier. One last step to be performed is to check the car for any defects or interior damage. Any deficiencies noted during the inspection should be made a matter of record or the car may be rejected and returned empty to the carrier. When it is necessary to span the car door edge and loading dock or platform, metal car plates must be used. Car plates should be wide enough and strong enough to accommodate a forklift truck. The plate should also be anchored to eliminate slippage. After the load pattern for the car has been determined, loading operations begin. However, in order to save time, each depot should establish or develop load pattern tables for each type of material they ship.

b. Movement of supplies from storage to the carrier's equipment should be accomplished by mechanical equipment wherever possible. The forklift truck or forklift truck and tractor trailer train are two means of loading supplies. If the distance from the storage point to the carrier is 400 feet or less and loading is being performed under ordinary circumstances, a forklift truck may be used. When the distance is greater than 400 feet and condition warrants the use of such equipment, tractor trailer trains are used. In this type of operation, one forklift truck loads the supplies on the warehouse trailer at the storage site, the tractor trailer train then moves the supplies to the carrier, and a second forklift unloads the supplies for stowage into the carrier. Some circumstances will require that the trailers be pushed or pulled into the carrier by loading personnel where they are unloaded into the car by hand. If possible, this type of unloading should be avoided and a more acceptable means should be used. There are other methods of stock moving and loading. The type of commodity, distance from storage to loading point, and terrain conditions are some of the factors that will determine the loading procedures and type of equipment to be used.

c. Efficient loading of supplies into railcars requires that loading personnel following the stowage rules published by the Association of American Railroads. These rules, which are published in pamphlet form are normally available from the installation transportation officer, the local railroad offices or directly from the Association of American Railroads, 59 East Van Buren Street, Chicago, Illinois 60605. They are clearly written and describe nearly every conceivable loading situation utilized by storage personnel.

d. Shipments of ammunition are loaded on carrier equipment, and blocked and braced in accordance with approved Army drawings. When Army drawings are not available for outloading ammunition, the Association of American Railroads pamphlets or other appropriate publications must be used. The carrier equipment transporting the ammunition must be placarded in accordance with Interstate Commerce Commission regulations in order to identify the material being carried.

e. When loading boxcars with any type of a commodity, it may be necessary to block the opening of either one of the two car doors. When this is done, the car doorway that is blocked should be placarded, "Doorway Blocked," and such notation made on the bill of lading. When the consignee is aware of the fact that a car being received has one of the doorways blocked, he can have the car placed for unloading with the clear side at the unloading platform and thus save considerable time and possibly additional switching charges.

f. Care and planning is necessary when loading items in railway gondola cars. If commodities are loaded in solid-end gondola cars, it should be determined if the receiver at destination has lift capability to lift out the items. If vehicles are to be loaded in gondola cars, the drop-end type should be used in order that the vehicles can be unloaded quickly. Vehicles can be loaded in solid-end gondola cars; however, the same reasoning applies. The shipper must make certain that the receiver has lift capability, so the vehicle can be unloaded promptly at destination.

g. When flat cars are used to transport wheeled and track vehicles, end-loading and unloading ramps are used. If several flat cars are to be used, the draft or string of cars is placed at the ramp, and wooden or steel spanners are used

to bridge between cars. The spanners are to be constructed to handle the heaviest vehicle. This method is called "circus-train" loading and unloading. It is fast, efficient, and safe.

h. When shipping granular type commodities such as coal, gravel, and sand; hopper gondola cars are best used as a fast and efficient method. Unloading facilities at destination should include a trestle structure. Rail cars are moved onto the trestle and the commodity is dumped out of the bottom of the car by opening the doors at the bottom of the car hopper. The commodity can be hauled away by dumping into trucks, which have been placed under the trestle. A conveyor belt arrangement can also be used to carry away the commodity to another location.

i. Bulk liquid type commodities, such as POL products, can be most efficiently handled in rail tank cars. Packaged POL is shipped in either gondola or boxcars. Rail tank cars should have safe and adequate loading and unloading facilities. Also, provisions should be made for steam cleaning the inside of the tank. This is necessary should it be desired to load another liquid that may not be compatible with the liquid that was formerly being shipped in the car. Also, loading and unloading facilities should be away from other activities and have complete protection from fire.

j. When it is desired to load and unload rail cars directly from motor vehicles, rail cars placed on open "team-tracks" will expedite the loading and unloading. The "team-tracks" should be in large open areas to allow sufficient turn around space, so vehicles can maneuver up to and away from the rail cars.

9–11. Truck Loading

Truck loading is similar to car loading. The truck should be inspected and cleaned, and load patterns should be determined for the truck load. The use of a hydraulic ramp which can be adjusted to the truck bed height, plus a low masted forklift truck, will contribute to an efficient loading method. As is the case with car stowage, there are rules governing truck stowage. Because of the many variables in truck or trailer bodies, such as center of gravity, axle capacity, size, and structural design, as well as the dissimilarity of laws governing truck traffic in the United States through which trucks must travel, the truck driver ordinarily will determine load placement on truck beds. In the loading of trucks, there are certain stowage factors we should keep in mind. To prevent overloading of carrier equipment and costly delays during loading operations, supplies must be loaded properly. For example, proper stowage will minimize the necessity for "shifting" containers about to attain load stability and load level. Proper loading will result in a compact, stable load, so positioned that dunnaging can be expeditiously and economically accomplished and void spaces within the body of the load that ordinarily cause commodity or container damage by allowing shifting of load during transit, will be held to a minimum. Truck loading procedures must be consistent with the principles of the Military Traffic Management Regulation (AR 55–355) and the Military Traffic Management and Terminal Service. For shipments of ammunition see paragraph 9–10*d*.

9–12. Unit Loads

A unit load is composed of two or more small items handled as a single unit and generally supported on a pallet or base so designed that the load can be picked up by mechanized handling equipment. If a special base is not provided, the material should be arranged in such a manner so that the material can be handled as a unit load. Unit loads conserve time, manpower and equipment and should be used in loading operations wherever practicable. The larger the number of items handled each time, the smaller the handling cost per item. There are five advantages of unit loads in the loading operation. Greater speed in handling supplies, economy, decreased damage to material, safety in handling and utilization of cubic space. One thing that must be kept in mind is that unit loads must economically fit the carrier and its openings or you have lost the advantages of unit loads.

CHAPTER 10

TRAFFIC MANAGEMENT

Section I. INTRODUCTION

10-1. Fundamentals

Supplies that can not be delivered on time are of no benefit to the customer. Therefore, an efficient and adequate transportation system is as important to the military services as having adequate storage of supplies in the depot. The importance of transportation has long been recognized in the military services, but there was a tendency in the early years to become concerned about traffic problems only during emergency periods. Because of the rapid pace of military technology, particularly in the range and destructiveness of firepower, the need for improved mobility has increased as has the need for a balanced transportation system. The capacity and the ability to move strategic forces and supplies to reach destinations has a direct bearing on our national interests. Adequacy of a national transportation system for defense is not merely a military problem but a national one. The necessity for adequate transportation facilities for the movement of goods is difficult to overstress. Without economical and efficient methods for transporting goods, present-day civilization could not exist. Transportation affects virtually every segment of our economy. It is basically important in a wide variety of areas. The price system; the high degree of mobility of labor and population; geographical specialization of production, manufacturing, mining, agriculture, and distribution; inventory levels; rents; and military planning and operation. Economists state that transportation creates both place and time utility. Place utility is value created by moving an item from an area where it has little use to one where it is useful. Time utility is value created by having an item at a given place at the time when it is required. Therefore, a proper linkage of products of industry with the services of transportation results in the maximum benefits to the customer, whether commercial or military.

10-2. Government Regulatory Agencies

a. Interstate Commerce Commission. One of the government agencies that has quite an impact on our transportation system is the Interstate Commerce Commission (ICC). The ICC was created as an independent agency by the Act to Regulate Commerce on 4 February 1887 (now known as the Interstate Commerce Act). Subsequent legislation, such as the Motor Carrier Act of 1935, the Transportation Act of 1940, and the Interstate Commerce Act of 1942, strengthened the authority of the Commission and broadened the scope of its jurisdiction. The Commission consists of eleven members, appointed by the President and confirmed by the Senate, and various divisions and boards. The purpose for creating the ICC was to provide for a body empowered to regulate, in the public interest, common carriers engaged in interstate commerce. The major areas of regulation for which the Commission is responsible are as follows:

(1) *Control over operating authority.* This control includes granting and revocation of operating authority to railroads, water carriers, motor carriers, freight forwarders as well as abandonment of operations by railroads and transfer of operating certificates.

(2) *Establishment of rates, fares, and practices.* Responsibility for the establishment of rates, fares and practices include publication; posting for public inspection; filing with the Commission; and observance of the published rates, fares and practices.

(3) *Adequacy of transportation services.* Control in this area includes the establishment of reasonable requirements for adequate and continuous service.

(4) *Consolidations, mergers and acquisitions.* All consolidations, mergers, acquisitions and unifications are controlled by the ICC.

(5) *Carrier services.* The ICC controls car-

rier services to include pooling or division of traffic, service or earnings.

(6) *Required reports.* Accounts, records, and reports are required to be kept in a prescribed manner and filed at specified times.

(7) *Financial responsibility.* This control includes prescribing specified limits of insurance or other security required for the protection of the public by motor vehicle carriers.

(8) *Requiring carriers to file Section 22 Tenders and quotations for the movement of Government traffic.* This is the section of the Interstate Commerce Act that permits carriers, subject to the act, to grant to the Government free or reduced rates for transporting persons or property. The Civil Aeronautics Act also authorizes air carriers to grant reduced rates to the Government if the rates are approved by the Civil Aeronautics Board.

b. Foreign Governmental Regulations. Foreign operations must conform to the rail and highway rules of the countries in which supplies are moved.

c. Federal Maritime Commission. The Federal Maritime Commission is an independent agency that was established to administer the broad regulatory provisions of the various shipping acts. It was established on 12 August 1961 under the provisions of President Kennedy's Reorganization Plan No. 7. The Commission is composed of five commissioners appointed by the President with the advice and consent of the Senate. The commissioners are appointed for four years; not more than three may be from the same political party. The President designates one of the commissioners to be the chairman.

(1) The Federal Maritime Commission is the youngest of the so-called independent regulatory agencies, but its predecessor agencies go back to 1916 when the U.S. Shipping Board was created. It is not a part of any of the departments headed by a Cabinet officer or of any other office of the executive, legislative, or judicial branch.

(2) The Commission's responsibilities include regulating rates, fares, and practices of common water carriers engaged in the foreign commerce of the United States; regulating rates, fares, charges, classifications, tariffs, and practices of common water carriers in the domestic offshore trade; and regulating practices of ocean freight forwarders and terminal operators. In addition, the Commission approves, disapproves, cancels, or modifies conference agreements among common water carriers; make rules and regulations affecting shipping in the foreign trade; and hears complaints of alleged violations of the various provisions of the shipping acts.

d. Federal Aviation Administration. The Federal Aviation Administration (FAA), an independent activity of the government, was created by the Federal Aviation Act of 1958, and made responsible for the safety and progress of aviation in this country. The Administration is headed by an administrator and a deputy administrator, both appointed by the President with the advice and consent of the Senate. It has three associate administrators and several offices, services, and regions.

(1) The Administration develops safety regulations relating to manufacturing and operating aircraft, controls the registration and recording of aircraft ownership, performs flight inspection of air navigation facilities in the United States, and enforces safety regulations. It establishes and unifies research and development programs for air traffic control and navigation for civil and military flight operations. It tests, certificates, and rates all categories of airmen. In addition, it is responsible for:

(*a*) Constructing, installing, maintaining, and operating Federal aids to air navigation.

(*b*) Operating FAA emergency landing fields.

(*c*) Operating and maintaining visual and electronic aids, landline communications equipment, radio teletype circuits and equipment, and equipment at air traffic control towers and centers.

(*d*) Administers the Federal Airport Act in providing grants-in-aid for developing public airports.

(2) The Administration's Aeronautical Center in Oklahoma City, Oklahoma, is the central point for advanced training of FAA's technical, flight, and management personnel. The newest addition to this ultramodern facility, FAA's Civil Aeromedical Research Institute, was established to study the human capabilities of pilots, passengers, and air traffic controllers.

(3) The National Aviation Facilities Experimental Center in Atlantic City, New Jersey, does most of the final testing of FAA's research and development projects. Because it is located in one of the busiest air traffic areas in the United

States, it provides a realistic environment for studies of air traffic management problems. At the same time, the traffic-free airspace over the area immediately adjacent to the Atlantic Ocean provides a safe area for testing experimental devices.

(4) The eight' regional offices provide the support necessary for operations in the field. They are located in New York, New York; Atlanta, Georgia; Fort Worth, Texas; Kansas City, Missouri; Los Angeles, California; Anchorage, Alaska; Honolulu, Hawaii; and Brussels, Belgium.

e. Civil Aeronautics Board. The Civil Aeronautics Board derives its authority from and is organized according to the Federal Aviation Act of 1958. It is an independent Federal agency composed of five members appointed for 6-year terms by the President with the consent of the Senate. No more than three members may be from the same political party. Each year the President designates one member as chairman and another as vice-chairman. The Board performs the following functions:

(1) Regulates domestic and international United States air carriers and foreign air carriers operating to and from the United States.

(2) Participates in establishing and developing international air transportation.

f. Department of Transportation. The Department of Transportation was created for the purpose of developing national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest cost consistent therewith. The Department of Transportation is responsible for:

(1) Assuring the coordinated, effective administration of the transportation programs of the Federal Government.

(2) Facilitating the development and improvement of coordinated transportation service, to be provided by private enterprise to the maximum extent feasible.

(3) Encouraging cooperation of federal, state, and local governments, carriers, labor, and other interested parties toward the achievement of national transportation objectives.

(4) Stimulating technological advances in transportation.

(5) Providing general leadership in the identification and solution of transportation problems.

(6) Developing and recommending to the President and Congress for approval national transportation policies and programs to accomplish these objectives with full and appropriate consideration of the needs of the public, users, carriers, industry, labor, and the national defense.

10–3. The Installation Transportation Officer

The installation transportation officer at the depot is an integral part of a management team who are responsible for the Army's distribution system. He is normally under the staff supervision of the depot's Directorate for Distribution and Transportation. As the depot's transportation agent he is responsible for arranging and supervising transportation of supplies and equipment into and out of the depot, operating and supervising the depot's internal railroads, and maximum freight consolidation. The transportation officer of today is a specialist. He must be well-trained and alert if he is to perform the functions of traffic management in an effective and efficient manner. He must keep abreast of the traffic workload, understand packing requirements, and maintain liaison with all carriers and transportation concerns that serve and operate in the vicinity of the depot. He should be consulted whenever and wherever his advice can contribute to the solution of a problem or to the general operation of the depot in performing its mission. The principal functions of the installation transportation officer at the depot are as follows:

a. Serves as depot traffic manager, arranges or provides transportation for shipment of all supplies and for military and civilian personnel traveling under competent orders, including the issuing of transportation requests.

b. Maintains freight and car records, prepares necessary documents, obtains routings and releases, and diverts and reconsigns cars.

c. Handles incoming shipments containing supplies for more than one storage organization.

d. Operates a freight consolidation point or station for the receipt and consolidation of less-carload and less-truckload outgoing shipments, and furnishes technical advice on consolidation and distribution of shipments in order to accomplish economical and expeditious transportation con-

sistent with military necessity and regulations. This is done when authorized by the agency administering the depot.

e. Coordinates requisitioning schedules that may be established by the depot supply officer in order to have as many carload lots as possible and to prevent the imposition of unwarranted workload on receiving stations. Where necessary, the depot management office provides assistance in this matter when requested by the transportation officer.

f. Operates all railroad equipment, spots railroad cars, and arranges for placement of trucks or trailers in collaboration with, or on instructions from, the storage division.

g. Processes Army shipping documents and vendors' shipping documents.

h. Arranges for movement of household goods.

i. Furnishes technical advice on all transportation matters to all divisions, offices, and other activities at the depot.

j. Prepares Discrepancy in Shipment Reports (SF 361) when transportation and loading discrepancies are observed.

Section II. MISSION AND OPERATIONS

10–4. Introduction

Experience gained during World War II pointed the need for consolidating many of the activities of the three military services. One of the first steps taken towards organizing the services on a more efficient and economical basis was the establishment of the Department of Defense. Since the Secretary of Defense was given the responsibility of eliminating duplication or overlapping in several fields, including transportation, he adopted the single-manager concept in various areas of military supply and service operations. Under the single-manager plan for common service activities, certain operational transportation responsibilities were assigned to the services secretaries by the Secretary of Defense. The responsibilities were assigned as follows:

a. The Secretary of the Army is the single manager for military traffic, land transportation, and common-user ocean terminals. He executes these duties through the Military Traffic Management and Terminal Service.

b. The Secretary of the Air Force is the single manager for the Military Airlift Command which provides worldwide airlift services for the Army, Navy and Air Force as directed by higher authority.

c. The Secretary of the Navy, as single manager for the Military Sea Transportation Service, has global responsibility for ocean transportation services for all three military services.

10–5. Military Traffic Management and Terminal Service

a. The Military Traffic Management and Terminal Service (MTMTS) was established for the purpose of eliminating duplication and overlapping of effort between the services, improving the effectiveness and economy of operations, and insuring that approved emergency and wartime requirements of the Department of Defense are met. This organization resulted from combining the Defense Traffic Management Service, the Army Terminal Commands, the Army and Navy common-user ocean terminals, the Air Traffic Coordinating Offices at Military Air Transport Service (MATS) Terminals and certain other traffic management functions performed by the military services. However, single manager responsibilities for airlift and ocean carrier services is still the responsibility of the Military Airlift Command (formerly MATS) and Military Sea Transportation Service. In addition, the Department of the Navy retained responsibility for command and control of tidewater installations involving fleet support.

b. In order to have a better understanding of the Military Traffic Management and Terminal Service, certain terms must be explained. They are:

(1) *Military traffic.* Department of Defense personnel and materiel to be transported.

(2) *Military land transportation resources.* All military-owned transportation resources designated for common-user, over the ground, point-to-point use within the CONUS.

(3) *Common-user ocean terminals.* A military installation or a commercial facility operated under contract or arrangement of MTMTS, which regularly provides for two or more Services' terminal functions of receipt, transit storage or staging, processing and loading and unloading of passengers or cargo aboard ships.

(4) *Military traffic management.* The direction, control, and supervision of all functions incident to the effective and economical procurement and use of freight and passenger transportation service from commercial for-hire transportation companies (including rail, highway, air, inland waterway, pipeline, coastwise and intercoastal carriers). Reference to coastwise and intercoastal commercial carriers is not intended to affect those responsibilities of ocean carrier functions assigned to the Military Sea Transport Service but has reference to the traffic management authority necessary to determine the proper mode of shipment. Reference to air carriers is not intended to affect those responsibilities for procurement of commercial airlift services assigned to Military Airlift Command (formerly Military Air Transport Service).

c. The Commander of the Military Traffic Management and Terminal Service, who is a general officer, is also Executive Director for military traffic, land transportation, and common-user ocean terminals. He is responsible to the Secretary of the Army through channels prescribed by the secretary. In order to perform his mission, the commander is assisted by two deputy commanders (operations; management and systems), various staff officers and assistants, and eight directorates. The directorates include plans, freight traffic, passenger traffic, personal property, terminals, personnel and administration, research and systems, and comptroller. Since MTMTS is organized on the basis of centralized control and decentralized operations, operations and services are performed by the military traffic management and terminal services areas. There are two areas. The eastern area consists of thirty-four eastern, central, and midwestern states and the District of Columbia and the western area consists of fourteen western states. These areas, which are major subordinate commands of MTMTS, handle the day-to-day traffic management activities with local shipping installations and commercial carriers. The functions common to the two areas are issuing domestic routings and export releases to local transportation officers for certain categories of freight shipments; quoting freight rates and maintaining tariff files; arranging for diversion, reconsignment, and car supply as required by military installations and activities; and obtaining oversize and overweight permits from state authorities. In addition, they conduct loss and damage prevention program, review copies of Government bills of lading for discrepancies affecting transportation cost and charges; and furnish representation, as directed by the commander, MTMTS, in site selection, appearance before transportation regulatory bodies, and conferences and discussions with commercial carriers, carrier associations, and the like. Personnel staffing consists of civilian employees of the Department of the Army and military personnel from all services.

d. Military Traffic Management and Terminal Service operations are conducted within the United States, excluding Alaska and Hawaii, except for those functions outlined below or subsequently assigned by the Secretary of Defense requiring operations outside the Continental United States (CONUS). MTMTS is assigned the following missions:

(1) Provides transportation planning support to the Joint Chiefs of Staff, the unified and specified commands, the services, Department of Defense agencies in support of military plans and operations.

(2) Provides CONUS traffic management and common-user and commercial ocean terminal planning support and services.

(3) Provides for the procurement and use of freight and passenger transportation service from commercial for-hire transportation companies operating between points in CONUS, except for long-term contract airlift service.

(4) Controls the movement into air and ocean terminals.

(5) Develops and operates an integrated transportation information data system.

(6) Commands and operates assigned common-user CONUS military ocean terminals, and arranges movement of passengers and cargo through other military or commercial ocean terminal facilities as necessary.

(7) Provides worldwide traffic management for the Department of Defense household goods moving and storage programs.

(8) Controls and directs the operations of military-owned railway rolling stock registered for interchange service other than that perma-

nently assigned to intra-base or intra-plant operations, to include supply accountability and maintenance of the Defense Freight Railway Interchange Fleet.

(9) In coordination with the military departments and other Department of Defense components, develops and improves programs encompassing all features of transportation and related services bearing upon the through movement of shipments of personnel and material.

(10) Commands oversea Army terminal units providing terminal service in oversea areas in support of the Department of the Air Force and other agencies as assigned.

10–6. Military Airlift Command

a. The strategic airlift service came into being during World War II when the then Army Air Corps established the Air Transport Command and the U.S. Navy established the Naval Air Transport Command. These two organizations along with contract services of commercial airlines supplied the U.S. Forces and their allies with everything from spare engines to blood plasma. Duplication caused by these two organizations was eliminated when the Secretary of Defense directed the creation of the Military Air Transport Service (MATS). When the single-manager concept came into being, the Secretary of the Air Force became the single manager for MATS. MATS was redesignated the Military Airlift Command on 1 January 1966.

b. The Military Airlift Command (MAC) is responsible for providing strategic airlift and specialized technical services to the U.S. combat forces. These needs, which are prescribed by the U.S. Joint Chiefs of Staff, are to fly strategic airlift missions for the nuclear strike force of the Strategic Air Command, provide strategic airlift for fighters and bombers of the Composite Air Strike Force of the Tactical Air Command, deploy combat forces of the Army and Navy worldwide, and operate transocean aerial logistics missions for commanders of oversea theaters in which armed combat is expected or in progress. The Berlin airlift is one instance when the requirement for airlift was used to its fullest. Just three weeks after Military Air Transport Service (former name) was created, the Russians closed the land routes of communication into Berlin. The western decision was to hold the city and supply the two million people by air. Using aircraft from both the Air Force and Navy, MATS airlifted almost two and a half million tons in fourteen months.

10–7. Military Sea Transportation Service

a. During World War I, the Army and the Navy each operated their own sea transportation services and continued to do so until 1949. These two services frequently paralleled one another in their operations and required a tremendous number of ships and men to operate two separate transportation services. Additionally, there was considerable waste and duplication of operations. In order to eliminate the duplication of operations, the Army Transport Service and the Naval Transportation Service was combined into one organization called the Military Sea Transportation Service (MSTS), which was given to the Navy to operate. In 1956 the single-manager concept came into being and the Secretary of the Navy became the single manager for MSTS.

b. The Military Sea Transportation Service is responsible for providing sea transportation for personnel and cargo of the Department of Defense, planning and negotiating for use of commercial shipping to augment the MSTS fleet as necessary, and planning and being capable of expansion in time of war.

c. The Military Sea Transportation Service's active fleet is composed of two elements, the nucleus fleet of ships and craft and ships hired from commercial lines.

(1) *Nucleus fleet.* The ships in the nucleus fleet are designated USS (United States Ship) or USNS (United States Naval Ship). The USS ships are owned by the U.S. Navy and manned by Navy personnel. The USNS ships are owned by MSTS and are either manned by civil service personnel or operated by commercial shipping companies under long-term contract and manned by merchant seamen. About half of the nucleus fleet consists of fairly small craft. These include Navy amphibious and special-purpose ships of which there are few, if any, counterparts in commercial operations. Many of them operate in the Far East, the Pacific Islands, and the Arctic and service remote points far off the beaten track and usually inaccessible to conventional types of commercial carriers.

(2) *Commercial fleet.* The commercial fleet consists of chartered and General Agency Agreement ships. The ships under hire from commercial lines are on either time or voyage charters.

Time and voyage charters mean just what the name implies. The former is a ship that is hired for a period of time at a per diem rate for a certain type of trade as specified in the contract. The voyage charter is hired for a particular voyage to carry a particular cargo. Some of the chartered vessels are foreign flag ships. Among these are some landing ships, medium, serving the Atlantic Missile Range. They are required to beach at most of the sites. United States flag ships of this type are not available because the Coast Guard will not certificate them. The General Agency Agreement ships are those requested by MSTS from the Maritime Administration and assigned to private companies on a cost-plus-fee basis to operate for MSTS account. These ships usually come from the Maritime Administration's reserve fleet.

10–8. U.S. Army Materiel Command

The director of Distribution and Transportation, Headquarters, U.S. Army Materiel Command is responsible for the development of plans, programs, and doctrine and the coordination of certain traffic management and freight movement containerization activities within the Army Materiel Command. Customer liaison-type organizations may be established at terminals to provide for coordination and communication between terminal activities and the customers of the terminals. The Logistics Control Offices serve this function at CONUS terminals. These offices serve primarily as expediters exercising exceptional item management control in initiating follow-up action on shipments. This is accomplished by using such reports as aging-cargo reports, on-hand inventory lists, cargo disposition lists, manifests, and sailing cables. They may be assigned additional functions such as coordination of prepositioned (precut) requisitions for contingency plans.

Section III. DEPOT TRANSPORTATION OPERATIONS

10–9. Movement Control

a. Movement control of shipments from the depot is exercised by the use of a Transportation Control and Movement Document (TCMD). A TCMD is prepared by the depot's transportation officer for each shipment unit entering the Defense Transportation System (DTS), except the following shipments:

(1) Shipments moving in support of Government contractors where the shipment is accomplished by commercial bill of lading from, to, or between contractor plants.

(2) Shipments of bulk petroleum products.

(3) First destination shipments from contractors' plants to military depots for stock or storage when the complete movement is via commercial transportation and does not enter the DTS.

(4) Special assignment airlift.

(5) Unit movements, except surface shipments moving in the DTS.

(6) United States Marine Corps (USMC) tactical unit movements via exclusive-use surface transportation under special arrangements between the Water Terminal Clearance Authority and the USMC.

(7) Through government bill of lading shipments of personal property not entering the DTS.

(8) Annual resupply projects not entering the DTS.

(9) Movement of passengers.

b. The TCMD (DD Form 1384) is a manual or machine prepared document and serves several purposes. It is used to provide advance notice of shipments to consignees and transshipment activities within the DTS. Data contained in the TCMD are used to accomplish the documentation necessary for onward movement of cargo and serves as a control document for cargo moving in the transportation system. The TCMD data are also used in preparing manifests and executing the many logistical management decisions necessary to assure processing of the shipment unit consistent with the assigned transportation priority and required delivery date. The Transportation Control and Movement Document, plus a few auxiliary records, has eliminated numerous documents that were previously used for transportation purposes. The depot transportation officer does not fill out the entire TCMD, but only a portion of this document. That portion that is filled out is depicted in figure 10–1.

TRANSPORTATION CONTROL AND MOVEMENT DOCUMENT

PAGE NO.

Doc Id 1.	Tlr—Cont 2.	Consignor 3.	Comm—Spec Hdlg 4.	Air Dim 5.	POE 6.			POD 7.	
Mode 8.	Pack 9.	Trans Control No. 10.	Consignee 11.	Pri 12.	RDD 13.	Proj 14.	Date Shpd 15.	ETA 16.	Tr Acct 17.
Carrier 18.		Flight—Truck—Voy Doc—No. 19.	Ref 20.	Remarks 21.			Pieces 22.	Weight 23.	Cube 24.

Transhp Point (1) 25a.	Date Rec b.	Bay Whse c.	Date Shpd d.	Mode Carrier e.	Flight—Truck—Voy Doc—No. f.	Ref. g.	Stow Loc h.	Split i.	Condition j.	Signature—Remarks k.
Transhp Point (2) 26a.	Date Rec b.	Bay Whse c.	Date Shpd d.	Mode Carrier e.	Flight—Truck—Voy Doc—No. f.	Ref. g.	Stow Loc h.	Split i.	Condition j.	Signature—Remarks k.
Transhp Point (3) 27a.	Date Rec b.	Bay Whse c.	Date Shpd d.	Mode Carrier e.	Flight—Truck—Voy Doc—No. f.	Ref. g.	Stow Loc h.	Split i.	Condition j.	Signature—Remarks k.
Consignee 28.	Date Received—Offered (Sign) 29.			Condition 30	Remarks 31.					

DOC ID	TRAILER-CONTAINER	CONSIGNOR COMM ABBR OTHER	COMMODITY SPEC HDLG	STOW LOC AIR DIM	STOW LOC POE	POD	MODE	TYPE PACK	TRANSPORTATION CONTROL NUMBER	CONSIGNEE	PRI	REMARKS AND-OR RDD, PROJ, SHPD, ETA, TAC	MANUFACTURER'S SER. NO. PIECES	WEIGHT	CUBE
									SAMPLE						
			NOTE: Elements of data to be completed by the Depot Transportation Officer												
			are shown in the heavily outline block. Details on the preparation												
			of this form are contained in DOD Regulation 4500.32-R.												

DD FORM 1384, 1 APR 63 REPLACES EDITION OF 1 JUL 62, WHICH IS OBSOLETE.

Figure 10–1. Transportation Control and Movement Document.

10–10. Freight Classification

a. The traffic manager of today must be able to buy efficient and economical transportation. It makes no difference whether he is buying transportation for a commercial concern or a military organization. He must know the basic principles of freight classification, rates and tariffs and the part they play in preparing supplies and equipment for shipment. If the traffic manger knows the basic principles, freight classification will be less confusing and complicated and he will perform his job more effectively.

b. Freight classification is the process of dividing many thousands of articles into groups or classes. The physical characteristics of an item determines which group or class it is placed in. Items with similar characteristics are normally assigned to the same group and are identified by a numerical rating, such as 100. The purpose of freight classification is to simplify the quoting of freight rates. A rate is the cost in dollars per unit weight, usually 100 pounds, of moving freight between specific points.

10–11. Consolidation of Shipments

a. Consolidation of shipments is a procedure whereby two or more small lot shipments are consolidated into one container or into a single shipment or less-than-load shipments are combined into carload or truckload shipments on one bill of lading. Consolidation of shipments will conserve funds, reduce transit time, reduce the possibility of loss or damage of supplies in transit, and utilize transportation facilities and equipment more efficiently. Depot transportation officers must consider the following areas in order to obtain maximum benefits from shipment consolidation:

(1) Issuing a single bill of lading to cover two or more items consigned to the same destination.

(2) Combining small items into a single package.

(3) Assembling small lot items into single shipments to obtain lower rates.

(4) Assembling small lot shipments to produce a combined total weight in excess of the weight-break point.

(5) Combing shipments of a repetitive nature from one origin to one destination.

(6) Consolidating small lot items of different ratings into a mixed shipment when the available tonnage is not sufficient to consolidate articles of the same class into carload or truckload quantity.

(7) Utilizing the stop-off privilege to complete loading or to partially unload.

b. Even though the depot transportation officer must consider consolidation of shipments, there are exceptions to the consolidation of materiel. Some of these exceptions are—

(1) When the physical size and shape of an item or materiel would require special handling.

(2) Items designated as hazardous, explosive, or dangerous.

(3) Materiel assigned for different project codes.

(4) Project code materiel with nonproject code materiel.

10–12. Modes of Shipment

The depot transportation officer must be familiar with the characteristics of the various modes of transportation that are available for shipping supplies from the depot. In the employment of military-owned transportation and in the procurement of commercial transportation, economic resources of the military services will not be employed in such a manner as to affect adversely the economic well-being of commercial transportation. The selection of commercial carriers is based on that which produces the lowest overall cost consistent with military requirements and the transportation policy, and the carrier's ability to provide safe, adequate and efficient service. Selection of mode of transportation will be governed by the transportation priority, required delivery date (RDD) when specified, weight and size of shipment, nature of materiel, cost of transportation and modes of transportation available between consignor and consignee. Some of the various modes of transportation that are used to ship supplies are as follows:

a. Motor Carrier Service. Negotiations with commercial carriers for new or additional carrier facilities, schedules, agreements, or services is the responsibility of the Commander, Military Traffic Management and Terminal Services. Two types of motor carriers are the common carrier and the contract carrier.

(1) The common carrier is a person or firm who offers services to the general public engaged

in the transportation of intrastate, interstate or foreign commerce of any class of property for compensation, whether over regular or irregular routes. The common carrier may not legally choose or discriminate among shippers. Common carriers must furnish equipment within its capabilities when service is requested.

(2) The contract carrier is any person or firm, not a common carrier, who transports property in intrastate, interstate, or foreign commerce for compensation under individual contracts or agreements. The services of contract carriers are limited to certain shippers (others may be served if the carrier chooses) and may further limit their activities to particular commodities. Interstate contract carriers are required to file schedules of actual rates or charges with the Interstate Commerce Commission.

b. Rail Carriers. Rail carriers provide dependable, all-weather, 24-hour service that accounts for approximately 50 percent of the freight moved overland. It is the most economical form of transportation for long haul shipment of supplies, except inland water barges. Some of the types of services that use railways are the military, freight forwarder service, and railway express service.

(1) In addition to using railway equipment owned by the railroads, the military uses equipment that is owned or leased by or loaned to the Military Traffic Management and Terminal Service and assigned to the Defense Freight Railway Interchange Fleet. The interchange fleet consists of box cars, flat cars, gondola cars, general purpose tank cars, and special purpose tank cars. All military-owned railway freight and tank cars assigned to the interchange fleet operate on a mileage compensation basis. This means that the owning department is paid for each mile the car is used by another department. Unlike commercially-owned railway equipment, the interchange fleet is not subject to demurrage (a penalty for detaining railway equipment beyond agreed free time) when standing on Government-owned or leased trackage.

(2) The freight forwarder provides fast handling of shipments by consolidating less-carload lots into carload shipments. In other words, the freight forwarder collects, classifies and consolidates individual shipments for the same destination into one or more load-lot shipments and tenders such shipments to a rail, motor, or water common carrier for transportation to destination. At destination, the individual shipments are segregated and delivered to the consignees. A freight forwarder, by definition, is an individual, firm, partnership, corporation, company, or association other than a railroad, motor or water carries which represents itself as a common carrier and undertakes to assemble and consolidate shipments or provide for assembling and consolidating and performing or providing for the performance of break-bulk and distributing; assumes responsibility for the transportation of such property from point of receipt to point of destination; and utilizes the services of carriers subject to the Interstate Commerce Act.

(3) Shipment of supplies within CONUS can be accomplished by railway express. Railway express provides a fast and protective rail service at a cost which is usually higher than the charges assessed by other modes of surface transportation. Shipments of supplies generally are in less than carload quantities; however, carload express service is available. Railway express offers several types of protective service to the military departments. These services include protective signature service, armed surveillance and armed guard service.

(*a*) Protective signature is a service which provides protection of the shipment by person-to-person tally and signature, while the shipment is in the custody of railway express.

(*b*) Armed surveillance is a service which provides person-to-person tally and signature plus the continuous protection of the shipment by an armed express employee who is regularly assigned to the handling of shipments accorded person-to-person tally and signature service. This service includes armed pick up or delivery, or both.

(*c*) Armed guard service is when railway express provides sufficient armed guards to insure constant and specific surveillance of shipments on which this service is required.

c. Water. Domestic and foreign are the two major categories of water transportation. Domestic transportation, which is regulated by the Interstate Commerce Commission, consists of movement by water among the inland and coastal ports of the United States. Inland rivers and canals, the Great Lakes, coastal waterways, and the open waters along the Atlantic, Gulf and Pacific seaboards are utilized for domestic transportation. Foreign water transportation, which is regulated by the Federal Maritime Commission, consists of movement between United States

ports and the ports of other countries through the utilization of the Great Lakes and/or St. Lawrence Seaway, or the ocean/Gulf water routes.

d. Commercial Air. Commercial air service is another means for transporting military supplies and equipment. However, the transportation of explosives and other dangerous articles by commercial air service is prohibited except during emergency situations. When an emergency situation exists and other modes of transportation will not adequately meet military movement requirements, civil air carriers may be used to transport explosives and other dangerous articles only when special authority is granted by the Administrator, Federal Aviation Agency upon request of the Commander, Military Traffic Management and Terminal Service. There are five types of commercial air service available for shipment of supplies and equipment.

(1) Air express, generally the most expensive method, is confined, except for small shipments, to extreme emergencies requiring expedited or special handling service when no other service is acceptable.

(2) Air freight service is performed by certified air carriers at rates established on an airport-to-airport basis and are usually lower than air express rates. When pick up and delivery is available, these services are subject to additional tariff charges. When pick up and delivery service is not available, the consignor or consignee is responsible for performing these services.

(3) Deferred air freight service, which has been established by some of the major airlines between specified cities, is freight that moves on a space available basis after all other revenue traffic has been accommodated. Deferred air freight service is highly competitive with surface modes of transportation because of the low rate structure.

(4) Charter air freight service is unscheduled service performed by certified carriers under charter arrangements subject to the provisions of individual carrier's tariffs, when applicable, or to negotiations for the service between the shipper and the carrier. The Military Traffic Management and Terminal Service is responsible for negotiating charger service for domestic movement, except contracts for more than a 6-month period. Although cost is an important factor, the use of charter air freight service could be considered whenever expeditious commercial service is not available for shipments of urgently needed material or when it is evident that such service will not meet delivery requirements of a particular shipment.

(5) The Air Force's LOGAIR and the Navy's QUICKTRANS programs provide long-term contract airlift service within continental United States for movement of cargo in support of the logistics system for the military services and the Department of Defense agencies. These programs include regularly scheduled routes and time tables.

e. Parcel Post. Parcel post is an economical means of shipping small packages to any point in CONUS by the Post Office Department. The Post Office Department utilizes surface (rail, motor and water) and air to perform this service. Items that are being sent by parcel post are packaged or wrapped and customer destination marked by the depot personnel and moved, normally by conveyor, to a central point for pick up within the depot. Here they are segregaged by destination, loaded aboard post office trucks, and delivered to the appropriate carrier's (surface or air) pickup point.

CHAPTER 11

DEPOT REPORTS

11-1. General

Army depots in CONUS submit a variety of reports. Reports provide the depot commander and higher headquarters with information that is used as the basis for improving depot operations. For example, reports are used as the basis for preparing budget and funding programs, and the justification for obtaining additional depot personnel and equipment. Some reports tell you how much of the depot's storage space is being utilized and if there is sufficient space available to receive and store incoming supplies. Others will indicate how efficiently the depot is being operated. Some of the types of reports that will be discussed in this chapter pertain to supply operations.

11-2. Ammunition Depot Operations Report

Each depot, who performs any ammunition storage function (i.e., receiving, care and preservation, rewarehousing, inventory, location survey, intradepot movement or issue) submits an Ammunition Depot Operations Report. The data contained in this report provides the basis for staff supervision of ammunition operations and the formulation of cost-based budget and funding programs. If the depot has both Army material and Air Force stocks, separate reports are submitted. The report consists of two parts.

a. Care and Preservation—Processing in Storage (Financed), which is submitted on a monthly basis, reflects the amount of ammunition items authorized for processing by national maintenance points and/or national inventory control points. The report will also show the amount of items processed as well as the depot's proposed processing schedule.

b. Care and Preservation—Processing in Storage (Unfinanced), which is also submitted quarterly, reflects ammunition items which require processing in storage. These items are classified as unfinanced, since the authority to process them can not be given until funds or other resources are available to do the work.

11-3. Ammunition Inspection and Lot Number Reports

Each depot having stocks of guided missiles, large rocket ammunition, and conventional (includes chemical/biological and selected) ammunition submits an Ammunition Inspection and Lot Number Report. The report for guided missiles and large rocket ammunition is submitted monthly to the U.S. Army Missile Command. The report for conventional, chemical/biological and selected ammunition is submitted after each fiscal quarter to the Ammunition Procurement and Supply Agency. The purpose of these reports is to use the information furnished to update records and initiate required actions in support of worldwide quality assurance programs. The reports also furnish information concerning material readiness and stock status, and facilitates supply control and commodity center studies. The data reported includes information as to location, type of storage, packaging, degree of current serviceability based on latest inspection information, quantity by lot number and condition code. Detailed information concerning the ammunition inspection and lot number reports is contained in AR 742-10.

11-4. Storage Space Utilization and Occupancy Report

a. One of the keys to a successful storage operation is the availability of adequate storage space. Since reporting of storage space provides the basis for future planning, space must be reported and reported accurately. Each quarter all Army depots in CONUS prepare and submit feeder data for the storage space utilization and occupancy report to the AMC Depot Data Center located at the Letterkenny Army Depot. The data submitted contains information on the total amount of each type of storage at the depot and includes all such space which has been outleased,

licensed, permitted, cross-serviced, or which is otherwise used. It also includes space that is temporarily used for other purposes. In order to report accurate information, the depot must maintain current, accurate, complete and uniform storage space information. One of the methods used in maintaining this information is through the use of a warehouse floor plan called a planograph. This plan shows the division of storage space into receiving and shipping areas, main aisles, cross aisles, fire aisles and for other purposes. It also shows the areas which are occupied with supplies and those areas which are vacant. In other words, a planograph is a scale drawing of the floor space or an outline of the storage area. The data submitted is broken down into several areas. The areas that are reported are:

(1) Gross storage space outleased, licensed, or permitted to private or Government (federal, state, county, local, or foreign) agencies. Space licensed or permitted to other military services or agencies of the Department of Defense or to federalized National Guard units will not be included.

(2) Gross storage space is stand-by status.

(3) Aisles and structural loss.

(4) Net storage space.

(5) Occupied net storage space.

(6) Vacant net storage space.

(7) Gross space gross-serviced.

(8) Gross space assigned for storage of non-department of defense material.

(9) Amount of gross space outleased to private industry.

(10) Amount of gross space licensed or permitted to Government agencies.

b. The AMC Depot Data Center will prepare the storage space utilization and occupancy report for all depots on a semiannual and annual basis and forward them to the U.S. Army Materiel Command Headquarters. These reports are prepared from data available in the data bank and from the quarter feeder reports (*a* above) that are submitted by the depots. Detailed information concerning this report is contained in AR 780–62.

11–5. Depot Operations Cost and Performance Report

Each depot, which performs activities identified with Budget Activity Account 2220, prepares and submits each quarter a Depot Operations Cost and Performance Report. The data contained in the report provides the basis for staff supervision of supply operations at the depot as well as the formulation of a cost-based budget and funding program. The major entries on the various parts of the report consist of such things as the amount of tonnage received and shipped, tonnage processed or to be processed through preservation and packaging, number of sets assembled and disassembled, man-hours expended, and operating cost. Detailed instructions on the preparation of this report are contained in AR 740–6.

11–6. Physical Inventory Performance Report

At the end of each fiscal quarter depots prepare a Physical Inventory Performance Report for physical inventories completed during the quarter. The report contains the results of physical inventory of Category I (sample evaluation inventory) and II (complete inventory) lots. In addition, Category III inventories (special inventories) that were accomplished are summarized by accountable activity and purpose, as identified by the management code, and included in the remarks section of the report. This report only reflects the inventory results and not reconciliation actions with accountable activities. The purpose of this report is to reconcile balances on the accountable records with quantities in storage at the depot. For details on inventories see chapter 15.

11–7. Depot Report of Location Survey

Prior to the discussion of the Depot Report of Location Survey, location survey should be defined. A location survey is a validation of location and management data reflected in the stock location record with those at the storage site, to include the stock number, condition code, location, physical security classification, and unit of issue. The Depot Report of Location Survey is prepared upon completion of all sample and complete location surveys and forwarded to U.S. Army Materiel Command Headquarters to arrive within thirty days following the completion of each survey. The report contains such information as type of survey conducted, lot size, number of items surveyed during the quarter, number of location additions, number of location deletions, changes in unit of issue, total of major and minor variances, and lot accuracy level determined from the survey. This report serves as the basis for verify-

ing location and management data reflected in the stock location record with those at the depot.

11–8. Depot Report of Locator Record Audit

A locator record audit is the validation of management data contained in the stock location record with those reflected in the accountable record (maintained at the national inventory control point). It also includes the verification of the item manager, stock number, condition code, unit of issue and physical security classification. The Depot Report of Locator Record Audit is prepared upon completion of each audit and forwarded to the US Army Materiel Command Headquarters to arrive within thirty days following the end of the audit. The locator record audit report contains such information as the inventory manager, number of items assigned to the location audit lot, number of items audited during the quarter, number of inventory gains and losses, number of changes in stock numbers and unit of issues, inventory manager changes, major variances, and accuracy level of the audit. The locator record audit report serves as the basis for validating the management contained in the stock location record with the data reflected in the accountable record.

11–9. Report of Survey

A report of survey is a document used for recording the circumstances concerning the loss, damage or destruction of Army property. This document serves as, or supports, a voucher for dropping the articles from the property records on which they are listed. It also serves as the basis for determining all questions of responsibility (pecuniary or otherwise) for the absence or condition of articles. For detail information on reports of survey see AR 735–11.

★11–10. Program Status Report

Each depot maintenance activity is required to submit a program status report to the Central Workloading Agency, Major Item Data Agency (MIDA), reflecting the status of production and cost for materiel requirements, the expenditures for maintenance support services, and other related maintenance activities. These feeder data will be the basis for the central workloading activity to accomplish central billing for Army Industrial Funded depot maintenance activities.

PART FIVE

FUNCTIONS RELATED TO SUPPLY

★CHAPTER 12

DEPOT MAINTENANCE

12–1. Organization

a. Prior to the discussion of depot maintenance organization and operation, the term depot maintenance should be defined. Depot maintenance is that maintenance performed on materiel requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their capability and/or capacity. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenace activities. Depot maintenance activities augment the procurement program by repairing unserviceable equipment and returning it to the supply system, thus reducing the need for procurement of replacement items.

b. There are several organizations that control the maintenance functions. However, only those organizations that have a direct influence on depot maintenance being performed in the CONUS depots will be discussed. These organizations are the Deputy Chief of Staff for Logistics (DCSLOG), Department of the Army; the US Army Materiel Command (AMC); and commands and activities of AMC which include the commodity commands, US Army Major Item Data Agency (USAMIDA), and the CONUS Army depots.

(1) DCSLOG has staff responsibility for the maintenance of all Army materiel. The Maintenance Division, ODCSLOG, is the element that carries out this responsibility by performing the following:

(*a*) Coordinates and exercises general staff supervision over the Army maintenance system.

(*b*) Supervises the development and implementation of maintenance policies, procedures, and reporting systems in support of new concepts, plans, or systems.

(*c*) Supervises the development and administration of the Army cost reduction program areas which pertain to initial provisioning and equipment maintenance management.

(*d*) Participates as a member of the Depot Maintenance Requirements Board (DMRB) which exercises final approval authority for the depot maintenance annual program. Specific responsibilities of the DMRB are to serve as the final review in the Department of the Army (DA) over the worldwide depot maintenance requirements; review, approve, and change as necessary, the annual worldwide depot maintenance program for a 5-year planning period; establish priorities as required within funding guidance; review program accomplishments and determine policy and/or actions required; and recommend preparation of, review, and forward to higher authority program change requests for revision to the Five Year Defense Program upon determination that thresholds are restrictive.

(2) AMC is responsible for carrying out the DCSLOG maintenance policy. The direction and control of the planning and execution of the AMC maintenance mission is assigned to both the Deputy Commanding General for Materiel Acquisition and the Deputy Commanding General for Logistic Support. The Deputy Commanding General for Materiel Acquisition is responsible for the computation of requirements for depot maintenance, procurement of repair parts to support the program, and coordination of the

unserviceable asset returns to the CONUS activities. The Deputy Commanding General for Logistic Support exercises operational control over the AMC depots and the US Army Major Item Data Agency and is responsible for the AMC OMA (Operations and Maintenance, Army) budget. The maintenance mission involves the development and implementation of plans, policies, programs, and procedures relative to Army-wide maintenance engineering and to worldwide depot maintenance. The Director of Maintenance, AMC, serves as the director of the AMC OMA, depot maintenance materiel, and maintenance support services program (BP7M).

(3) The AMC commodity commands provide the technical expertise necessary to plan and control the depot maintenance programs. Within the commodity command organization, the Directorate for Maintenance (national maintenance point) (NMP) and the Directorate for Materiel Management (national inventory control point) (NICP) are actively involved in coordinating repair parts and unserviceable assets, controlling funds, administering national maintenance contracts, providing technical publications, and refining priorities.

(4) The Major Item Data Agency is the hub of the AMC depot maintenance coordinating wheel. The majority of information relative to the program is received, stored, processed, and/or generated by the Supply and Maintenance Programs Division of USAMIDA. In addition, application of AMC Program and Budget Guidance and priorities occurs at USAMIDA.

(5) Depot maintenance of Army materiel is being performed by CONUS Army depots. The Directorate for Maintenance, at the Army depot, is responsible for all depot maintenance and associated activities. This includes depot maintenance of all materiel and weapons systems, and operations associated with the depot maintenance function. The depot's maintenance directorate is organized to include, as a mimimum, a depot shop division, production control division, and shop supply division.

12–2. Operation

The maintenance system has been organized to provide maintenance support at all levels in order to provide adequate maintenance support. Maintenance operations are assigned to specific levels of command. The specific levels are based on the primary mission, characteristics, and mobility of the level involved, and the economical distribution of resources. The various levels of maintenance are organization, direct support, general support, and depot maintenance. Organizational maintenance is that maintenance performed by the operators and using organization on equipment in its possession. Direct support maintenance is that maintenance performed by maintenance activities in direct support of using organizations and is limited to the repair of end items or unserviceable assemblies and return of the equipment to the using unit. General support maintenance is that maintenance performed in support of the Army supply system. Normally general support maintenance organizations will repair or overhaul materiel to required maintenance standards in a ready to issue condition based upon applicable supported Army area supply requirements. As previously indicated, depot maintenance activities, through overhaul of economically reparable materiel, reduce or obviate procurement to satisfy overall Army requirements. It also repairs materiel which is beyond the capability of general support maintenance organizations to handle.

12–3. Operating Supplies

Depot maintenance activities, like all organizations, must have operating supplies (repair parts) in order to perform their mission. We no longer run to the corner store for our operating supplies, but we must plan and program so that they are available in the shops at the time maintenance will be performed on an item. Planning and programing for operating supplies is based on a work authorization document that is provided to the depot by the Major Item Data Agency. This document lists all the maintenance operations that will be performed by the depot. To insure sufficient stock on hand to support depot maintenance operations, the maintenance activity of the depot is authorized to maintain a 45-day supply of parts and can have an equal amount on order. This requirement is based on depot maintenance forecasted requirements and on issue and demand experience for depot operation. There are two organizational elements in the maintenance directorate that are responsible for parts management. Production control performs the advance projecting, or forecasting, of parts requirements to support the maintenance program and initiates the necessary supply actions to bring the repair parts into the depot. Shop supply performs the actual requisitioning of

parts and maintains shop stocks, not to exceed 5 days supply, to support line operations. However, when volume programs are being worked and facilities are adequate, a maximum of 15 days stockage is permissible. This may appear simple, but the supply of repair parts is only as good as the plans and programs that are developed.

12–4. Relationship to the Commodity Command Activities

a. The Directorate of Materiel Management and its inventory control points (ICP's) play a vital role in the depot maintenance program. Materiel is not repaired at the depot because items are economically reparable, but because the inventory manager's supply studies disclose that a requirement exists for certain types of items. Each year inventory control points develop the Army Materiel Plan (AMP). The Five Year Defense Programs (FYDP's) are used as the basis for developing the materiel plan. The AMP specifies the gross requirements for each major and secondary item required by the Army. It includes the quantity of unserviceable reparable assets on hand, the anticipated turn-in of unserviceable assets, the number of these unserviceable assets that must be repaired to meet the gross requirement, and cost figures for the repair of these items. The supply studies, performed by the inventory managers, provide this information. ICP's convert the AMP data to specific requirements for each major or secondary item and, in turn, forward these requirements, in a priority stratification, to the Major Item Data Agency. Requirements are received by USAMIDA in the form of work directives. The work directives are the basis that USAMIDA uses in planning, programing, and scheduling depot maintenance.

b. The Directorate for Maintenance (NMP) is a maintenance activity that is responsible for program management of the Army Materiel Plan, Part II (AMP, Part II); specific maintenance management of designated items, families of items, of commodity areas; and is under the jurisdiction of the commodity commands. Each commodity command commander is responsible for establishing NMP operations with his assigned commodity area, directing, and controlling NMP operations, and insuring that NMP functions are accomplished. This responsibility is normally assigned to the Directorate for Maintenance. National maintenance points perform the functions of maintenance management, maintenance engineering, maintenance support planning, maintenance publications, and technical assistance. The details of these functions are outlined as follows:

(1) Maintenance management objectives are to use resources judiciously in order to accomplish maintenance objectives. Maintenance management includes the following:

(*a*) Reviews or analyzes data generated by the Army Maintenance Management System (TAMMS) and takes appropriate action on the trends and problems reflected by such data. Data received pertains to the specific commodities for which the NMP has responsibility.

(*b*) Develops factors for determining resource requirements and costs from maintenance data provided by TAMMS and other source documents.

(*c*) Disseminates essential maintenance information to interested Department of the Army agencies.

(*d*) Provides assistance to commodity managers, project managers, and other DA agencies by recommending reductions in the numbers of varieties of equipment, components, repair parts, tools, and test equipment in the hands of the user.

(*e*) Develops maintenance techniques to reduce maintenance expenditure time. Adapts, where feasible, industrial advances in maintenance management techniques, practices, and controls.

(*f*) Reviews trade, equipment manufacturers, and management publications; and participates in both industry and military symposiums, demonstrations, and conferences to obtain new management techniques and ideas.

(*g*) Determines the adequacy of repair parts stockage and prescribed load lists, authorized stockage lists, and mission load lists.

(*h*) Reviews Tables of Organization and Equipment (TOE) and Tables of Distribution and Allowances (TDA) for compatibility of maintenance organization, tools, and equipment, with equipment supported and recommends changes when necessary.

(*i*) Reviews, revises, and simplifies maintenance inspection procedures.

(2) Maintenance engineering insures optimum maintainability and reliability of equipment and includes the following:

(*a*) Develops maintainability standards, specifications, and criteria; technical standards

and procedures covering all aspects of serviceability, operation, and maintenance of equipment; man-hour requirements for maintenance of materiel; and procedures for modification of materiel.

(*b*) Prepares, reviews, and revises equipment serviceability criteria.

(*c*) Performs maintenance evaluation of new items of materiel to affirm maintainability, determines allocation of maintenance operations by category, and develops operation and maintenance instructions for service test.

(*d*) Performs initial provisioning functions and establishes repair parts allowances, initial guide quantities, unit package quantities, and source maintenance and recoverability codes.

(*e*) Participates in procurement and production of maintenance significant items of materiel, and in determining shop layouts and shop operating procedures.

(*f*) Evaluates the economics of maintenance of equipment; data and information from the field, test facilities, and other sources; and equipment improvement recommendations and similar reports.

(*g*) Determines the necessity for and insures the development of special tools, shop and test equipment, and other auxiliary equipment required for maintenance operations.

(*h*) Strives to improve effectiveness of maintenance operations and reduce support equipment and skill requirements and reduce maintenance costs.

(3) Maintenance support planning provides availability of practical and economical maintenance support in the areas of repair services, parts, tools, test and handling equipment; technical literature, training personnel, and technical assistance for new items of equipment. Maintenance support planning involves initiating and preparing a maintenance support plan for new items of equipment, coordinating the maintenance support plan with all participating agencies, and developing and coordinating the maintenance package for each item of materiel which the commodity command develops or procedures for service test.

(4) Maintenance publications, which are prepared by NMP's, cover the areas of technical operations, maintenance, and repair parts support of maintenance materiel. NMP's strive for standardization of publication format, improvement in effectiveness, and reduction in cost of equipment manuals and other technical publications.

(5) Technical assistance is a program that has been established whereby national maintenance points provide technical advice and assistance, throughout the world, for all levels of equipment operation and maintenance problems.

c. There are eight national maintenance points. Seven are assigned to the various commodity commands and one to The Surgeon General. The NMP's are Electronics Command, Missile Command, Weapons Command, Army Ammunition Procurement and Supply Agency assigned to the Munitions Command, Army Aviation Systems Command, Army Mobility Equipment Command, Army Tank Automotive Command, and Army Medical Department. The various materiels that the NMP's have maintenance management responsibilities for are as follows:

(1) The Electronics Command is responsible for communications equipment, except for specific assignments made to US Army Strategic Communications Command by AR 10–13 for strategic communication security equipment; signal intelligence equipment except for certain specific assignments made to the US Army Security Agency by AR 10–122; aviation electronics (AVIONICS); combat surveillance; photographic and microfilming materiel; IFF (identification, friend or foe) systems, automatic data processing equipment except regulated items of automated data processing equipment, closed circuit computer systems, which are part of a weapons system and fire control computers; radar other than fire direction radar; meteorological and electronic radiological detection; and electric power generation as may be assigned by Headquarters, Army Materiel Command.

(2) The Missile Command is responsible for missiles, guided, ballistic, and target; rockets; air defense missile fire coordinating equipment; related special purpose and multisystem test equipment.

(3) The Weapons Command is responsible for towed artillery, small arms, combat vehicles, aircraft armament, common tools and shop equipment, and fire control equipment.

(4) The Army Ammunition Procurement and Supply Agency is responsible for ammunition, nuclear weapons, chemical, and biological materiel, propellant actuated devices, pyrotechnics; rocket and missile warhead sections.

(5) The Army Aviation Systems Command is responsible for aircraft, drones, and aerial delivery equipment.

(6) The Army Mobility Equipment Command is responsible for construction and services; materials handling; power and gas generating; heating and air conditioning; rail, marine, and amphibious; barrier equipment, including mine warfare and demolition; bridging and stream crossing; petroleum handling and dispensing; firefighting and industrial engines; and water purification.

(7) The Army Tank Automotive Command is responsible for tactical wheeled and general purpose vehicles.

(8) The Army Medical Department provides The Surgeon General with an organizational element having responsibility for the preparation, coordination, execution, and evaluation of maintenance programs for Army medical materiel.

12–5. US Army Major Item Data Agency

The Major Item Data Agency has been delegated the responsibility for providing centralized operational control over AMC's depot maintenance programing, scheduling, and reporting activities for those items for which maintenance and repairs are funded. This includes major overhaul, rebuild, modification, renovation, and related maintenance activities. In order to carry out this responsibility, USAMIDA performs the following functions:

a. Develops the AMC organic overhaul program based on the commodity command's statements of requirements, availability of unserviceable assets, priorities, and repair parts support. The overhaul program is adjusted based upon program directions and fund limitations prescribed by AMC.

b. Provides for control of funds certified to work authorization, to include contract and interservice support.

c. Performs review and analysis of depot maintenance programs relative to performance and program deviations in relationship to funds and schedules.

d. Organizes, coordinates, and supports depot maintenance program coordinating conferences.

e. Prepares recommendations for the expansion or contraction of depot maintenance capability at AMC installations and activities.

f. Participates in the development and defense of the Army BP7M budget.

g. Reviews, analyzes, and recommends revision of depot maintenance AIF internal operating budgets and overhead rates.

h. Provides for fund distribution and control of OMA BP7M funds.

i. Provides an AMC logistical data bank for specific materiel status data.

j. Computes gross requirements for PEMA items managed under the gross requirements concept.

k. Evaluates, consolidates, and prepares logistical reports.

l. Schedules a balanced integrated workload into the maintenance facilities and advises the commodity commands on the depot maintenance capabilities.

★CHAPTER 13

PROPERTY DISPOSAL

13-1. Background

a. The Department of Defense disposal program consists of reutilization, donation, and disposition of excess and surplus personal property and constitutes one of the largest business enterprises in the world. In fact, billions of dollars worth of material has been disposed of in recent years through the property disposal program. Several factors have caused this program to grow to the size it is today. Some of these are—

(1) Rapid technical developments of new equipment which rendered some equipment obsolete.

(2) Normal wear-out of equipment.

(3) Deactivation of installations, reduction in items, and modernization of inventories caused by the cost reduction programs.

b. The primary purpose of the disposal program is to insure effective reutilization, conservation, and marketing of Government-owned property. The objectives of the program are to—

(1) Reutilize existing materiel assets to the fullest extent practicable.

(2) Avoid duplication through cross-utilization of capabilities of each military service.

(3) Preclude concurrent procurement in disposal of items within the Department of Defense.

(4) Preclude unnecessary repair or overhaul of unserviceable stock when similar serviceable stocks are available.

(5) Obtain the maximum monetary return from disposal operations.

(6) Conserve the resources of the nation, particularly critical and strategic materiel.

(7) Preclude adverse market impact through disposal actions.

13-2. Organizations Concerned with Disposal

a. The Federal Property and Administrative Services Act of 1949 assigned the responsibility for the supervision and direction over the disposition of excess and surplus property to the Administrator of the General Services Administration. The Administrator of the General Services Administration delegated the responsibility for disposition of excess and surplus property generated by the Department of Defense to the Secretary of Defense.

b. The Secretary of Defense established the Defense Supply Agency (DSA), and assigned responsibility to the Director for the administration of the Defense Personal Property Disposal Program. Subsequently, overall command and management of the Defense Personal Property Disposal Program has been assigned to DSA. In order to carry out its responsibilities in relation to excess and surplus property, DSA established the Defense Property Disposal Service (DPDS) which administers the Defense Personal Property Disposal Program.

c. Responsibilities of the military services are to—

(1) Recommend policy and procedural changes pertaining to the Defense Personal Property Disposal Program which affect the military services to the Director, DSA, for appropriate action. Information copies of such recommendations will be furnished to the Assistant Secretary of Defense (Installations and Logistics).

(2) Provide assistance to the Director, DSA, upon request, in the resolution of mutual problems within the Defense Personal Property Disposal Program.

(3) Furnish to the Director, DSA, mutually agreed upon data necessary to effectively administer the Defense Personal Property Disposal Program.

(4) Promote maximum reutilization of excess, surplus, and foreign excess personal property.

(5) Nominate schools or organizations in the Zone of Interior to the Assistant Secretary of Defense (Manpower and Reserve Affairs) for special interest consideration or service educational activities for approved nominations.

(6)provide support to tenanted Defense Property Disposal Regional Offices and their Residencies; and Defense Property Disposal Offices, and their satellites, in consonance with applicable interservice support agreements (ISSA).

(7) Accomplish the disposal of property not authorized by DOD 4160.21-M for transfer to a disposal account.

(8) Process Congressional/White House correspondence relating to certain donation respon-

sibilities which have been assigned to the military services by legislation.

(9) Exercise authority in consonance with existing DOD policies to designate items as exchange/sale property disposal accounts.

(10) Establish and monitor programs to insure the economical reclamation of silver in consonance with DOD policy.

(11) Identify items requiring demilitarization and, as applicable, accomplish demilitarization of those items which cannot be physically accepted by a DPDO in accordance with DOD policy.

(12) Conduct property disposal training courses (Army only).

(13) Administer reclamation programs and accomplish as appropriate.

(14) Store and reclaim excess complete aircraft (Air Force only).

(15) Administer the reclamation and removal of equipment and repair parts from stricken naval vessels (Navy only).

(16) Establish and administer disposal accounts, as jointly agreed to by DSA and the military services, to support the demilitarization and reclamation functions to be accomplished by the military services.

(17) Report surplus merchant vessel or vessels of 1,500 gross tons or more, capable of conversion to merchant use, to the Office of Administrative Services, Maritime Administration, U.S. Department of Commerce.

d. Most Army depots within CONUS and overseas have a DSA property disposal function normally satellited within the confines of the installation. The primary responsibilities of these Defense Property Disposal Offices are to—

(1) Provide technical assistance (e.g., explanation of turn-in procedures, training in scrap segregation practices) to generating activities whether depot or depot supported.

(2) Receive excess, surplus, foreign excess, exchange/sale, and other authorized turn-ins from serviced generated activities.

(3) Maintain all original documentation supporting disposal accountable records.

(4) Maintain adequate liaison with generating activities to insure visibility of generations, to avoid unmanageable fluctuations in workload.

(5) Inspect and classify property; verify identity and quantity; determine condition and required processing.

(6) Provide adequate storage for property and insure that stored property is adequately protected and secured.

(7) Promote and insure maximum conservation of strategic and critical materials including precious metal.

(8) Effect authorized redistribution/transfer of property to DOD and other Federal agencies.

(9) Segregate, lot, display, and describe property in preparation for donation or sale.

(10) Identify and segregate scrap and manage scrap operations in accordance with recognized practices.

(11) Prepare and submit listings of property for sale and recommend the method of sale when appropriate.

(12) Promote local sale to effect expeditious removal of property not considered appropriate for inclusion in regional or national sales.

(13) Insure that demilitarization or destruction of surplus or foreign excess property is accomplished as required.

e. The host activity (depot) will furnish the DPDO with such equipment and facilities as are necessary for accomplishment of the assigned disposal mission. Adequate materials handling equipment should be provided to facilitate expeditious handling of the property. Truck and railroad scales should be available if required, and all scales should be inspected at least semiannually by a qualified inspector and a record maintained thereof.

13–3. Relationship of the Depot

a. Disposition of excess property stored in Army depots is controlled by the national inventory control point (NICP) which has accountability for the property. When it has been determined that property is excess to the Army's needs, the NICP sends a materiel release order to the depot having the property directing that it be transferred to property disposal. The materiel release order lists the item to be disposed of, the quantity to be disposed of, the location of the Property Disposal Officer (which is normally the depot where the property is stored), and other pertinent data. Prior to the transfer of the property, the depot's Quality Assurance Directorate inspects the items and assigns a condition code. A condition code is the MILSTRIP alphabetical designation indicating the condition of the property. The Property Disposal Officer will not accept property unless it has been

classified as to its condition and coded as to demilitarization requirements. After property has been classified and coded it is dropped from the depot's custodial record, picked up from storage, and delivered to the property disposal activity. The property is then picked up on the Property Disposal Officer's account. The depot then prepares a materiel release order from its accountable records.

b. The disposition of excess property, as described in *a* above, applies to most items. However, there are exceptions.

(1) The following material will not be turned in to DPDO. Procedures for property requiring special handling are contained in chapter VI, DOD Manual 4160.21-M.

(a) Live animals.

(b) Property ordered to be destroyed.

(c) Explosives and ammunition.

(d) Incendiary, poisonous, and irritant products.

(e) Drugs, biologicals, and narcotics.

(f) Waste and refuse having no utilization or sales value.

(g) Classified material.

(h) Radioactive waste, radioisotopes, and other fissionable materials.

(i) Thermal batteries.

(j) Cryptologic material.

(k) DOD inspection approval stamps and devices.

(2) Certain munitions items are required to be demilitarized prior to disposal. The method and degree of demilitarization to be performed depends on the item as set forth in DOD 4160.21-M-1, Defense Demilitarization Manual.

13-4. Disposal Actions

There are several methods of disposing of excess and surplus property. Disposal may be accomplished by donation, sale, transfer, abandonment or destruction.

a. Donation. Personal property, with the exception of foreign equity, exchange/sale, narcotic drugs, and nonappropriated funds, may be donated. Abandoned or lost private property may also be donated when owner, heir, or next of kin has executed a release document to the Federal Government. All other property may be donated to eligible donees after it has been determined, through the utilization screening process, that no Federal requirement exists for the property. Some of the classes of eligible donees are service educational activities, veterans organizations, public bodies, civil defense organizations, public libraries, educational public health institutions, and state and local governments in major disaster areas. The types of property authorized by Congress and the Administrator of General Services is based on the donee. For example, the Boy Scouts of America can only receive property which is usable and necessary for its program. A listing of this property is contained in the Defense Disposal Manual.

b. Sale. Another method of disposing of property is by sale. Personal property can be sold only after reutilization actions have been completed and property has been offered for donation. In other words, reutilization screening action has shown that no Federal requirement exists for the property and eligible donees do not desire the property. Most persons and organizations are entitled to purchase surplus, foreign excess, and exchange/sale property from Department of Defense selling activities. However, there are exceptions when certain persons and organizations cannot buy. For example, persons under 18 years of age, individuals or firms who are listed as debarred bidders, military and civilian personnel of the DOD and Coast Guard whose duties are connected with the property disposal program, and auctioneers under contract to the military to conduct sales cannot buy personal property. Additionally, there are restrictions on the sale of certain commodities; e.g., aircraft, narcotics, explosives, etc. These restrictions are covered in detail in the Defense Disposal Manual. There are five methods of sales.

(1) *Retail sale.* Retail sales are when small quantities of various types of property, which appeal to individual users, are sold at a retail outlet.

(2) *Sealed bid sale.* Sealed bid sales are used to sell large quantities of individual items which have a commercial or technical application and are of interest to divergent buyer groups on a regional or national basis. Scrap and waste materials are also normally sold by this method.

(3) *Spot bid sale.* Spot bid sales are employed to sell a variety of commercial type property when there is a substantial interest and demand by retailers or end users in a local or regional market area. Spot bid sales are normally used when property is of such nature that attendance and competition can be anticipated, and individual lots are small and identical or similar as to type of property.

(4) *Auction sale.* This method is used when a sizable accumulation of commercially desirable

items with comparatively good market appeal is available; e.g., machine tools. Auction sales are employed when property is available in sufficient quantity or is in commercial demand by large numbers of buyers such as wholesalers, dealers, retailers, and end users.

(5) *Negotiated sale.* This method is generally the least desirable and is limited by law to property with an estimated fair market value of not in excess of $1,000.

c. Transfer (Reutilization).

(1) One of the key methods for disposing of property is through transfer. DOD activities and, under certain circumstances, authorized agencies of the Government are authorized to acquire declared excess personal property. This property may be acquired from DPDS, GSA, and direct from DPDO. The following general principles apply to acquiring property from these sources. DOD activities (other than nonappropriated fund activities) must request declared excess property through servicing accountable supply officers. Requesting activities will request only that property which is authorized by parent headquarters or commands. Prior to requesting property, activities must consider costs incident to acquisition, including transportation cost and support and repair cost, etc. Activities will not request quantities of property which exceed authorized retention limits. Requisitions (DD Form 1149, original and six copies) must be prepared and authorized by an accountable supply officer and must contain his account number and the following certification: "This property is required and is authorized by applicable military service/defense agency regulations." DPDO, after issue of the requested property, will mail a copy of the requisition shipping document to the requisitioning accountable supply officer. Standard Form 344, Multiuse Standard Requisition/Issue Document, may be used in lieu of DD Form 1149.

(2) Prior to the submission of any requisition, after the determination that property on a DPDS Declared Excess Property Listing is required, the requestor must first request the servicing accountable supply officer to contact DPDS. This contact is made in order to determine the availability of the property. Contact may be made by telephone, message, speed letter, etc. A requisition document number must be furnished to DPDS in the initial contact. DPDS will advise the reporting DPDO of the requisitioner authorized to obtain the property. If the property is available, a requisition may be submitted directly to the DPDO within 15 days. The requisition, in addition to the general requirements describedabove, must be prepared in accordance with instructions in the DPDS listings. If a requirement develops subsequent to the Military Priority Date (MPD) and transfer control has passed to GSA, the requesting activity may submit a requisition to the appropriate GSA Regional Office on DD Form 1149. Here again contact by the servicing accountable supply officer is required.

(3) For property which is controlled by the DPDO (nonreportable) the requestor, through the servicing accountable officer, prepares a requisition in accordance with the requirements described above and submits it directly to the DPDO.

(4) Nonappropriated fund activities have the opportunity to obtain excess and surplus personal property required for administrative purposes and other purposes from which no direct benefits will be realized by individuals. Nonappropriated fund activities may designate persons authorized to approve requisitions. In no instance will such property be obtained for resale. The acquisition of excess and surplus property by nonappropriated fund activities located in the ZI is subject to consideration and approval or disapproval by GSA. Requests for property should be submitted directly to the GSA Regional Office serving the geographical area in which the property is located. GSA approval will be subjected to regulations and reimbursement requirements prescribed by GSA. Nonappropriated fund activities located overseas may be issued DOD excess and foreign excess personal property without reimbursement. Property acquired by nonappropriated fund activities from disposal sources must be transferred to a DPDO when no longer required and proceeds from the sale of property originally obtained from disposal sources will not be credited to the nonappropriated fund activity.

d. Abandonment or Destruction. Normally, surplus property is not abandoned or destroyed by the DPDO unless it has been affirmatively found, in writing, by a duly authorized official, that such property has no commercial value or that the estimated cost of its continued care, handling, and preparation for sale would exceed the estimated proceeds from its sale. On occasion some property, because of its peculiarity; its potential influence on public health, safety, or security; or its potential influence on private industry, must be disposed of by abandonment or destruction. No abandonment or destruction will be made by the DPDO on any military installation until approval has been obtained from the installation commander as to the method to be utilized.

PART SIX

MANAGEMENT CONTROLS

★CHAPTER 14

FINANCIAL MANAGEMENT

Section I. FINANCIAL MANAGEMENT OF INVENTORIES

14–1. Financial Inventory Accounting

a. Public Law 216 and the 1949 Amendments of the National Security Act required the Secretary of Defense to cause the military departments to account for all inventories on both a quantitative and dollar basis. The Army established a system known as Financial Inventory Accounting (FIA), defined as the act of maintaining monetary accounting records for materiel, supplies, and equipment held on records of property accountability in the Army supply system. FIA required that related items be grouped into manageable groups or categories using the dollar as a common denominator to indicate the size of the groups. The Federal Supply Classification (FSC) groupings reflected in the Federal Supply Catalog were used for the purpose of grouping. The Army further consolidated these categories of supply into one of four major classifications or groupings which relate broad categories of items to the source of funding utilized for procurement. The four major classifications are as follows:

(1) *Principal items, PEMA (Procurement of Equipment and Missiles, Army) financed.* This classification 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 values; 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. After Department of Defense and Headquarters, Department of the Army approval and release for procurement, items in this grouping are centrally managed at the Army Materiel Command (AMC), commodity command, national inventory control point (NICP) levels. Specific and detailed management attention is afforded to individual line items in this group.

(2) *Secondary items (OMA 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 (OMA). 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 OMA grouping when procured for special purposes such as operational projects; for the initial equipping of newly activated or reorganized TOE units; for Modification Work Orders; or the provision of procurement-Army appropriation financed items to non-TOE organizations or activities; for example, furnishing a bulldozer to a Post Engineer.

(3) *Secondary items (stock funded).* This grouping accounts for the largest number 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. Inventory replenishment costs are borne by the Army Stock Fund which retains ownership until the items are sold to the users. The funds available to the consumer are used to reimburse the

Army Stock Fund at the time of issue of an item to that consumer.

(4) *Repair parts (procurement-Army financed)*. The purpose of this classification is to account and report for repair parts, including major components of an end item, that are centrally managed at the AMC, commodity command, and NICP levels. These items are financed from the procurement-Army appropriations.

b. FIA data provide managers with a tool for determining:

(1) Adequacy of assets to requirements at a given point in time.

(2) Procurement and/or disposal of materiel.

(3) The rate at which materiel becomes unserviceable.

(4) The location and proper distribution of assets.

(5) The repair and rebuild requirements with respect to inventories.

(6) The extent to which suppliers support their customers.

(7) The Army's ability to meet peacetime and wartime materiel objectives.

(8) Cost of performance data which is essentially a part of the Army's justification for additional appropriations.

c. There are two FIA reports. The first lists the value of the inventory within each category of materiel, reflecting the opening balance of inventory at the beginning of the report period, increases and decreases during the report period, and the total inventory on the last day of the reporting period. The second report relates requirements to assets and includes such items as reserve and excess stock, input, and types of demands. Each report submitted contains a narrative portion which provides such information as analysis of significant supply and financial results and trends, comments on supply and financial management operations, and the progress attained. These reports provide the manager with the tools required for better management of his stock.

14–2. The Army Stock Fund

a. The Army Stock Fund (ASF) is a working capital fund established to provide a simplified single means to procure, hold, and sell inventory to its authorized customers. It includes common-use items as clothing, subsistence, gasoline and other petroleum products, medical and dental supplies, and many repair parts. Since major items such as armored tanks, aircraft, vehicles, and weapons are not suitable to the concept of stock fund, they are procured and furnished as a free issue through the procurement-Army appropriations.

b. The Army Stock Fund is a revolving fund. The stock fund pays for items procured from commercial sources and is reimbursed by the customers' consumer funds when items are issued. When the stock fund is established, existing inventories of supplies and equipment are given a dollar value and are capitalized as assets of the stock. Cash for working capital by one-time appropriation is provided. This working capital is used by the fund managers to buy stocks according to estimates of future customer needs. As stocks are sold, inventories are converted into cash that can be used to purchase new stocks. In other words, the reimbursement or collections received from the customers are deposited to the stock fund account and are available for reuse. In this manner, the revolving nature of the fund is maintained.

c. Within the Army, the Office of the Deputy Chief of Staff for Logistics is responsible for the overall direction and supervision of the Army Stock Fund. Management and control of the wholesale portion of the stock fund is the responsibility of the Commander, US Army Materiel Command. In addition, the US Army Materiel Command is responsible for one division of the retail portion of the stock fund which is used to support the units and activities and other consumers that may be assigned or attached to AMC.

d. The primary purpose of the Army Stock Fund is to:

(1) Provide a single system for financing, control, and accounting for inventories of consumable supplies and equipment.

(2) Implement financial control over the consumption of materiel by requiring installations and activities to budget and account for the use of such materiel.

e. The advantages of the stock fund can be summarized as follows:

(1) Provides a revolving fund system of cash flow for procurement of stocks.

(2) Insures that obligations are placed in a timely manner.

(3) Allows flexibility to take advantage of favorable prices.

(4) Provides for cross-servicing between military departments.

(5) Simplifies the financing and accounting for materiel, supplies, and equipment procured and held for reserve forces.

(6) Finances the procurement and retention of mobilization reserve stocks.

(7) Promotes greater cost-consciousness, by creating a buyer-seller relationship between the consumer and the inventory manager.

(8) Uses financial data to measure inventory size, consumer demands, and supply effectiveness.

(9) Provides a system for identifying the cost of materiel to the mission it was required for; thereby permitting cost of performance budgeting and accounting.

f. The Army Stock Fund is free of the annual appropriation processing since it operates on the revolving fund concept. Once established, the ASF requires additional appropriations only to expand its scope of operation.

14–3. The Army Industrial Fund

a. The industrial fund is a working capital fund which consists of cash on deposit in the treasury, accounts receivable, stores of supplies, materials, work in process, finished goods, and other assets pertaining to its operations. The assets are subject to all liabilities incurred in connection with operations. The fund also provides for statistical accounting for depreciation of certain capital and fixed assets such as plant and equipment.

b. The Army Industrial Fund (AIF) is designed to:

(1) Provide management with a system for controlling the cost of goods and services produced by AIF activities and a more effective flexible method for financing, budgeting, and accounting for the costs of such goods and services.

(2) Create a buyer-seller relationship between AIF activities and its customers (who budget and order the end products or services) in order to provide incentives for efficient management.

(3) Provide the managers of AIF activities with the financial flexibility required to procure and use manpower, materials, and other resources effectively.

(4) Encourage cross-servicing among military departments and their operating agencies and other elements of the Department of Defense with the aim of obtaining more economical use of facilities.

(5) Support the cost-of-performance budget concept reporting the costs of end products, and thus placing on the customer the responsibility for determining the quantity of end products or services he can afford.

c. The specific objectives of the Army Industrial Fund are to:

(1) Furnish managers of AIF activities with modern management tools comparable to those used by private enterprise.

(2) Provide an incentive for AIF managers to improve cost estimating and control through use of a contractual relationship between the producer and customer.

(3) Require alert, forward-looking financial planning at AIF activities by making them dependent financially on reimbursements received for goods and services to customers.

(4) Require AIF managers to control costs in line with workloads actually generated by customers' order. This requires adjusting the labor force and inventories with regard to fluctuations in workload levels and taking into consideration the prescribed wartime capability requirements.

(5) Coordinate 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, with budgeting and cost control.

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

(7) Require ordering agencies to budget, control, and account for the cost of all goods and services ordered. This requirement is designed to instill a greater sense of responsibility and self restraint in balancing the cost of specific goods and services to be ordered against the benefits and advantages of their procurement.

(8) Place ordering agencies in the position of being critics of purchase prices as well as quality and delivery-speed of goods and services ordered.

(9) Provide meaningful bills to ordering agencies, clearly relating the goods and services furnished by a performing activity to the charges rendered, allowing the ordering agencies to assess their procurement practices in full awareness of the costs involved.

(10) Enable ordering agencies to budget and account on an end-product basis, the same as when buying from commercial contractors. This simplifies budget presentations, budgetary control, and accounting procedures for both producers and ordering agencies.

(11) Establish wherever feasible, predetermined prices for goods and services furnished by AIF activities, thus setting standard prices on performance and enabling ordering agencies to plan and budget more confidently.

(12) Encourage management of ordering agencies to improve program planning and scheduling, in response to producers' efforts to negotiate for orders as far in advance as possible.

d. The Army Industrial Fund, a revolving type fund and similar to the Army Stock Fund, was established to provide services to other activities. The revolving fund aspect is achieved by requiring the activities purchasing the services to program and budget for them and, upon receipt, to pay for them. The industrial fund provides the same advantages and controls for industrial and commercial type activities that the Army Stock Fund provides to supply management and control.

e. Industrial funds have been installed at Army arsenals, maintenance depots, traffic management and terminal services, proving grounds, and research activities. The Army has two industrial fund charters. One charter is operated and managed by the US Army Materiel Command and the other by the Military Traffic Management and Terminal Service. Both charters provide uniform policies, procedures, and reporting requirements.

Section II. ARMY MANAGEMENT STRUCTURE

14–4. The Army Management Structure (Fiscal Code)

a. Purpose. The Army Management Structure, through the use of uniform account codes, provides the link that integrates the Army Program System and the Army Financial Management Plan. The Army Management Structure serves as a common denominator and insures that the programing, budgeting, accounting, supply, and manpower data generated within the Army are uniformly classified, are compatible, and comparable. The basic Army regulation relating to the Army Management Structure (Fiscal Code) is AR 37–100. A new activity structure is published for each fiscal year. AR 37–100–XX is the regulation that governs operations during Fiscal Year 19XX. These regulations establish a uniform classification of the activities of the Army for programing, budgeting, maintenance of manpower and performance data, reporting, and reviewing accomplishments in relation to the scheduling and utilization of resources. In addition, the Army Management Structure is the vehicle through which the Department of Defense Five Year Defense Program elements are extended to the installation. The Army Management Structure identifies and establishes the activity levels for which elements of cost and performance data will be maintained and normally will be consolidated for submission to Headquarters, Department of the Army. Subordinate command echelons may further subdivide activities to the extent necessary to meet internal management requirements. However, such further subdivision must be consistent with the provisions of the AR 37–100 series and be capable of consolidation to conform with the basic activity classification. Unnecessary subdivision should be avoided.

b. Objectives. The objectives of the Army Management Structure (Fiscal Code) are to:

(1) Provide a uniform listing of the activities of the Army with standard terminology, definitions, and activity interrelationships.

(2) Establish the official accounting codes and terminology for use in classifying financial and budgetary transactions in accordance with the provisions of applicable public laws.

(3) Identify the activities for which manpower utilization, performance, obligation, and cost information will be reported in accordance with other Army regulations and directives.

(4) Assign and define performance factors for activities susceptible to effective measurement.

c. Use at Installations. The Army Management Structure (Fiscal Code) is based on the appropriation structure and is designed to im-

plement and expand on it. At most installations, the OMA appropriation is used to finance most of the day-to-day operations. The OMA appropriation is broken out into several basic mission budget programs. The activities within each budget program are identified through use of an eight-to-ten digit activity code. Commanders may add digits as necessary for internal control and reporting purposes. The management structure also provides standard performance factors for measuring and evaluating amounts of work accomplished. The link between the Army Management Structure (Fiscal Code) and the various management systems is illustrated and explained in AR 37–100–XX.

d. Maintenance of Data. AR 37–100–XX requires maintenance of manpower utilization, program performance, and program cost data at certain levels designated to the extent that Army regulations require the reporting of such data on internal command requirements. Where no requirement currently exists, such data need not be maintained until directed. Minimum data maintenance and reporting consistent with effective managerial control and the principle of decentralized management is encouraged.

Section III. THE DEPOT COMPTROLLER

14–5. Purpose

Financial management is the utilization of financial data by the manager or commander in making decisions. Financial management as a technique, a tool, or form of management has a definite place in our depot system and can assist all persons at all levels who have a responsibility for making decisions. Its effectiveness as a tool depends upon the financial data obtained, how it is understood, and how it is used (fig. 14–1).

14–6. Role of the Comptroller

a. The defense management system helps commanders at every echelon achieve both effective ness and efficiency by providing management information and management assistance in planning, guiding, and directing operations. The management system establishes procedures for command programing, budgeting, accounting, reporting, and auditing.

b. To facilitate the functioning of the management system and to provide both management information and management assistance to commanders at every level, comptrollers serve on the staffs of major commands, in major activities, and at installations.

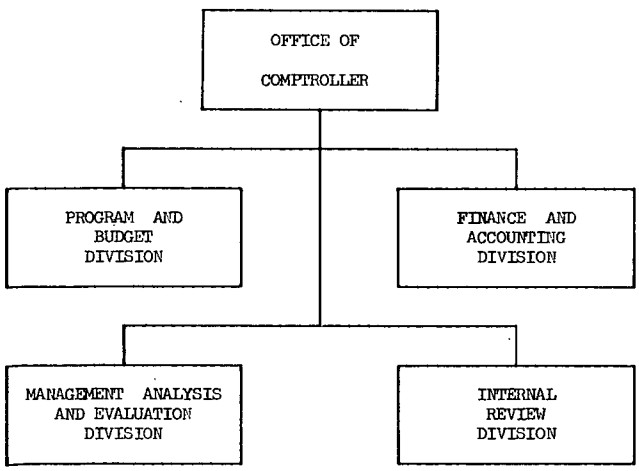


Figure 14–1. Comptroller Directorate.

14–7. The Comptroller's Job

a. Comptrollers are responsible for assisting their commanders and members of the commander's staff in two broad areas.

(1) The comptroller is assigned primary staff responsibility for obtaining, administratively controlling, and accounting for the funds needed to secure resources for the commander.

(2) The comptroller assists the overall management of men, money, and materiel resources and facilities of the command. He participates with other staff members in the establishment of objectives, policies, procedures, and organization of the command, reviewing and assessing them for effectiveness and efficiency in relation to the mission of the command. He is a principal collector and processor of management information for the use of the commander, other staff members, and himself. He serves as management consultant to the command.

b. Utilizing the staff capability assigned to him, the comptroller:

(1) Reviews and correlates resource requirements to assigned mission.

(2) Prepares recommendations for balancing programs and budgets.

(3) Evaluates performance in relation to programed accomplishments and budgeted resources.

(4) Interprets the significance of performance and cost deviations from the program/budget.

(5) Proposes appropriate corrective action where necessary.

(6) Performs systems analyses to improve the planning, organizing, directing, operating, and reporting activities of the command.

(7) Uses operations research techniques to develop recommended solutions to complex management problems.

14–8. Staff Relationships

a. The comptroller is a member of the general staff of his commander and is an active member of the program/budget advisory committee (PBAC) of the command. He is the commander's principal staff assistant on matters pertaining to the overall management of the command and the allocation and application of resources.

b. The comptroller does not relieve other staff members of their responsibilities for functional management of resources and for providing information and analyses in their own functional areas. However, it is the comptroller's responsibility to design, install, and supervise the management information system for the command to provide an adequate and timely flow of information from all relevant sources and areas. He monitors and coordinates the necessary analyses and interpretation of management information to assist the commander in managing the activities of the command in an effective and efficient manner. The comptroller integrates information on the various functional areas into a meaningful composite from the overall viewpoint of the commander.

14–9. Staff Responsibilities

a. Programing/budgeting. The comptroller has a major responsibility for assisting his commander in developing, executing, evaluating, and revising the command operating program/budget. Based on the command's mission and guidance from the commander and higher authority, the comptroller recommends guidelines and instructions to be issued to the PBAC. He assists the PBAC in integrating the various functional inputs (men, materiel, facilities, and services) into a balanced operating program/budget, insuring that it accurately reflects program/budget decisions of the commander as well as resources, policy, and guidance from higher authority. He issues necessary guidance and administrative instructions to initiate subordinate elements' programing/budgeting activities. After it is approved by the commander, the comptroller is responsible for transmitting the program/budget to the next higher authority. When required, he explains it, assisted by other function staff members, as necessary. Approved operating programs/budgets for subordinate elements are issued by the comptroller.

b. Review and Analysis. The comptroller provides a functionally integrated, independent, and continuing review and analysis of all activities of the command. This review and analysis measures and examines the quantity and quality of output in relation to command objectives (effectiveness) and the consumption of resources per unit of output against standards established in the command operating program/budget (efficiency). It identifies deviations from plan and, whenever possible, pinpoints the probable cause of the deviation. Trends are noted and future status, accomplishments, or problems are predicted whenever reasonably justified by the information available. Special statistical analyses on projects, functional areas, or subelements of the command are conducted as necessary to provide management information not obtainable in the normal course of management.

c. Reporting. The comptroller exercises staff supervision over the statistical data and reports initiated or prepared within the command. He fosters the development of responsive data systems which provide accurate, timely, and meaningful coverage of all activities necessary for command control purposes, minimizing the impact on preparing agencies. Automatic data processing capabilities are coordinated with the overall reporting system.

d. Finance and Accounting. The comptroller has general staff responsibility for supervisory finance and accounting services provided to the command. These services include safeguarding public funds, the operation of the integrated accounting system, and disbursing services. In oversea areas, regulating the use of military payment certificates and conversion of United States instruments to foreign currencies are added financial services.

e. Management Analysis. Many comptrollers have general staff responsibility for developing and installing better, faster, simpler, or cheaper ways to carry out the command's mission. Emphasis is placed on aids to decisionmaking and the application of scientific management principles and techniques to problems and working relationships. Studies and surveys are conducted to gather facts for analysis.

f. Internal Control. The comptroller is responsible for the design, implementation, surveillance, and evaluation of the accounting system and related control measures and procedures. Comptrollers normally serve as liaison between the command auditors from higher echelons and supervise the installation of improved controls based on audit findings.

g. Cost Analysis. The comptroller has general staff responsibility for the function of cost analysis. Cost analysis is the process of estimating total and incremental resources required for alternative courses of action that could be taken to achieve a specified mission. Within the broader context of cost effectiveness analysis, cost analysis is an analytical tool used to assist managers in understanding the resource implications underlying their decisions. It does not include a determination of the ability to achieve a specific mission.

★CHAPTER 15

PHYSICAL INVENTORY

Section I. GENERAL

15–1. Purpose

a. The National Security Act of 1947, as amended by Public Law 216 (1949) of the 81st Congress and revised, codified, and enacted into Public Law 1028 of the 84th Congress (1956), directed the Secretary of Defense to cause property records for the Army, Navy, and Air Force to be maintained on both a quantitative and monetary basis. Upon receipt of this law, the Secretary of Defense directed the service secretaries to maintain accounting for each item of supply showing the composition of inventories on a quantitative and monetary basis with respect to condition and purpose for which stocks were held. In addition, all items held in stock would be physically inventoried not less frequently than once a year to insure the validity of accounting. In compliance with the directive issued by the Secretary of Defense, the Army developed AR 740–26, which prescribed the methods of physical inventory to be used by the Army.

b. Current regulations have effected some changes to this earlier directive, the primary ones coming as a result of Department of Defense Instruction 4140.35, "Physical Inventory Control for Department of Defense Supply System Materiel." This instruction provides policies, procedures, performance objectives, and effectiveness reporting for improvement of the accuracy of inventory control and asset information in the supply system of the Department of Defense. The basic elements of the asset control program prescribed by DODI 4140.35 are aimed at establishing:

(1) Uniform and improved practices for maintaining accurate locator records, physical inventory, research of potential inventory discrepancies, and quality control of work processes affecting inventory accuracy.

(2) Comparable measures of performance for cost and effectiveness analysis among the various inventory control systems.

(3) Reporting procedures necessary to measure the effectiveness of physical inventory control at selected points in the DOD supply system.

c. Army Regulation 740–26, "Physical Inventory Control," implements the provisions of DODI 4140.35 within the Department of the Army. This regulation prescribes responsibilities, performance objectives, procedures, and reporting requirements pertaining to inventory, location accuracy, and location record audit to insure the greatest accuracy in inventory accounting.

d. By definition, an inventory is "a physical count of stock, located within a storage activity, for verification of the recorded stock balances." By definition an inventory requires a minimum of two actions; first, an actual count of the stock and, secondly, a comparison of the results of the physical count with balances recorded either at the storage activity or at another location. Experience has demonstrated that several acts or actions are required before, during, and after an inventory, but as a minimum the two actions outlined above are required.

15–2. Inventory Organization

a. The objectives of the physical inventory program are achieved by assigning the program functions to a single specialized depot organization unit: The Inventory Management Division located in the Directorate for Distribution and Transportation. The responsibilities of the division encompass the planning, direction, and coordinated development and operation of inventory programs for mission and depot operating stocks. It schedules, controls, and manages the execution of physical inventories and location surveys; and records, audits, coordinates, and

performs inventories for accountable activities, including inventory control points (ICP's), DOD agencies/services, and the General Services Administration. The division also accomplishes reconciliation of stock discrepancies and records, verification of location survey data, and management and maintenance of custodial balance files. In addition to the above, it maintains surveillance on all functions or practices related to inventory reliability and serves as depot recipient of the Army Master Data File (AMDF), and provides technical assistance on matters related to depot inventory management.

b. There is no prescribed size for the Inventory Management Division due to the fact that depot missions vary from depot to depot. There is, however, a guideline which shows the following organization:

(1) *Office of the Chief.* This office can vary from two to three people based upon the strength of the division. The division can vary from 40 to 90 persons in total strength. If the strength is 40, two people are authorized in the office. If its strength is more than 40, there can be three people in the office. These include the chief, a supply systems analyst, and a secretary stenographer. The mission of the office is to direct and supervise the divisional personnel in their work in inventory, location surveys, and location audits.

(2) *Planning and Control Branch.* This branch's strength is determined by local appraisal, based upon the requirement to complete the assigned mission of planning, controlling, and coordinating the accomplishment of all actions related to complete and statistical sampling inventories, location surveys, and record audits for mission and depot operating stocks, including research actions for discrepancies in receipts, shipments, classification, and reidentification. It also computes inventory capabilities, and coordinates with accountable activities in all actions relating to overall inventory requirements, including development of quality control for inventory functions, establishment of schedules for reconciliation of inventory lost, and purification of custodial records. The branch may or may not require the following skills: Supervisory supply systems analyst, supply systems analyst, program analyst, supply technician, supply clerk, statistical clerk typist, and card punch operator.

(3) *Research and Reconciliation Branch.* The strength of this branch will vary between 15 and 33 individuals, based upon the number of line items researched and reconciled, i.e., 4,000 lines = 15; 7,000 lines = 22; 10,000 lines = 28; and 13,000 = 33. The mission is to conduct detailed and technical research audits, and analyses of documents, records, methods, and procedures related to inventory programs and location surveys and audits. In addition, the branch conducts spot and selected item inventories, investigates potential materiel release denials, and conducts and expedites research in response to requests for stock availability from accountable activities.

(4) *Physical Inventory Branch.* The strength of this branch is determined by the number of tally cards (cards that are one per line item, by location, condition code, etc.) that are produced for inventories during the year. If the number of tally cards is 100,000, 17 persons are authorized. If it is 200,000, 26 persons; 300,000, 32 persons; and 400,000, 34 persons. The mission of the branch is to direct, control, and perform physical inventory functions pertaining to scheduled and special inventories, including statistical sampling, complete location surveys, record audits, and computation and examination of stock to determine discrepancies in material identification, classification, shelf life, and storage methods and practices.

(5) *Logistics Data Management Office.* Based upon the number of lines in storage, the strength of this office may vary from four to seven persons; i.e., 75,000 lines = 4 persons; 115,000 lines = 6; and 150,000 lines = 7. The mission is to serve as depot recipient of the Army Master Data File data. It receives, controls, and updates all master catalog and management data changes from services/agencies having depot stock accountability. It reviews, analyzes, schedules, and coordinates accomplishment of catalog changes to depot management data records, including catalog supply management master data changes, storage item change notices, and interservice management data notification cards.

15–3. Types of Physical Inventories

a. There are four basic types of physical inventories prescribed by the Department of Defense. These four types of inventories are utilized by all the services and the Defense Supply Agency. They are:

(1) *Cyclic.* A scheduled physical inventory which is to be conducted on a group of items within a specified period of time according to an

established plan. The item(s) may be selected on a specific basis such as complete or statistical sampling.

(2) *Special.* A scheduled physical inventory of a specific stock number as a result of a specific requirement (location audit, preprocurement, or any other reason deemed appropriate by the item manager or stock control point). A special inventory may be either an inventory of all condition codes of a specific stock number or an inventory of a specified condition code of a specific stock number.

(3) *Spot.* An unscheduled physical inventory conducted as a result of a partial or total materiel release denial. A spot inventory may be conducted for either specified or all condition codes.

(4) *Selected item.* An unscheduled physical inventory of a specified stock number as a result of a specific requirement (validation of a back order) with insufficient time to include it as a scheduled inventory. The inventory may be conducted for all or specified condition codes.

b. In addition to the four basic types of physical inventories outlined above, a depot may conduct inventories for such reasons as stock found on post and for assigned depot physical property.

15–4. Specific Inventory Requirements

The complexity and size of the Department of Defense inventory (Army depots store many items from other than Army sources) require that an accurate accounting of the assets on hand be maintained; however, the huge size of the inventory makes it impractical to inventory each line item every fiscal year. The impracticability of conducting yearly inventories for each line item is recognized by DOD Instruction 4140.35. The DOD, thus, has established the following policies for DOD components with regard to the conduct of scheduled inventories on all items for which they are accountable:

a. Certain items are specifically excluded from the sample type inventory and are to be completely inventoried not less than once each fiscal year. These are:

(1) High value items, both high unit price and high value of annual demand.

(2) Controlled inventory items. These include items that are classified (loss would be detrimental to the security of the United States), sensitive (narcotics, precious metals, high value, small arms, ammunition, explosives, demolition materials), and pilferable (items of value to an individual, or have resale value, etc.).

(3) Any other items or categories so designated by the Army.

b. On a fiscal year basis, those items not scheduled for a complete inventory under the criteria discussed above, will be subjected to the inventory random sampling technique. As a minimum, one-third of the items not otherwise subjected to any type of inventory during the past fiscal year should be inventoried annually.

Section II. PRACTICES AND TECHNIQUES

15–5. General

Planning and scheduling of inventories is a continuous process and depends to a large extent upon feedback of information obtained through the statistical sampling process. Most depot stocks, as discussed in the previous paragraph, are inventoried at least once each year. However, there are exceptions to this policy. The high value, controlled inventory, and "other" categories may be inventoried more frequently as directed by higher headquarters. Other items may be inventoried less frequently than annually but at least once every 3 years. One thing the Army is striving for is inventory accuracy. The standard level of inventory accuracy to be maintained for Army depot stocks has been established at 95 percent. Normally, physical count of depot stocks during the inventory process will be performed by the single-count method. However, when major discrepancies arise, recounts of stock are required. Prior to taking an inventory, storage activities must prepare stocks and storage areas for physical count by identifying and properly marking stock, packaging stock into unit packages to the maximum extent practicable, and rewarehousing and consolidating stock as necessary. Further, and very important, a location survey should be taken before the inventory begins. (The location accuracy level required in Army depots is 97 percent.) Physical inventory and inventory reconciliation will be accomplished, normally, with issue of materiel restricted to issue priority designators 01 through 08 (Issue Priority Groups I and II). During the actual count period, it is normal procedure to record all issues and receipts so as to

facilitate the reconciliation upon completion of the inventory. When we discuss the physical inventory program, we should keep one thing in mind. The ultimate objective of the entire program is to promote a high plane of efficiency on a daily basis, to the end that stock on hand and recorded balances are in constant agreement within the acceptable standards.

15–6. Inventory Reconciliation

a. After an inventory has been completed, certain actions must be performed by the depot, Prior to discussing these actions the terms "major discrepancy" and "minor discrepancy" should be defined.

(1) A major discrepancy occurs when the total monetary value of an overage or shortage for a Federal stock number exceeds $200.

(2) A minor discrepancy occurs when the total monetary value of an overage or shortage for a Federal stock number does not exceed $200.

b. Upon completion of the inventory, the accountable activity compares its recorded stock balance with the inventory count(s) furnished by the depot. If the inventory balance agrees with the accountable record balance no adjustments are required. However, if discrepancies occur it is necessary that these discrepancies be researched to insure that no actual loss/gain of property occurred and to determine a valid adjustment quantity. Potential adjustments will be researched in accordance with the value of the adjustment and the type of item. The criteria for the depth of research are set forth in appendix B, AR 740–26. Through research, causes will be assigned to each discrepancy for evaluation. Research actions required include, but are not limited to, the following:

(1) Review of transactions to insure that pre-inventory and post-inventory transactions were properly posted and considered during inventory.

(2) Review of card entries to determine if count calculation or keypunch errors were made.

(3) Review of locations counted and recently deleted or established locations, to determine if all locations were counted or errors exist in location/custodial/accountable records.

(4) Review of transaction registers, in relation to posted documents, to identify duplications, erroneous or incomplete reclassification/reidentification adjustments, stock number changes, materiel release denials, etc., which may enable reconciliation of discrepancies.

(5) Review of source documents for unposted transactions such as receipts and adjustments or past issue transactions of differences between the original and posted quantities.

c. Adjustments resulting from inventories will be processed to custodial and accountable records, as appropriate, in accordance with the criteria established in AR 740–26 and AMCR 711–3.

d. The Department of Defense requires that research be performed for all major discrepancies and any discrepancies in classified items or small arms. In addition, pilferable items require a second count if the value of the discrepancy is $100 or more.

CHAPTER 16

AUTOMATIC DATA PROCESSING SYSTEM

Section I. GENERAL

16-1. The System

The Defense Department has a more need today than ever before for faster and more efficient methods of processing information. This is being accomplished through the use of employing automatic data processing systems (ADPS). ADPS includes the recording, filing, computing, data production, and sequential and automatic processes required to employ the equipment in operations involving command control, personnel and administration, financial accounting, logistics, military intelligence, statistical data, and various other applications. ADPS has the ability to digest volumes of information, perform programed operations on this information, make computations based upon established criteria, perform additional tasks as the results of these computations, and at the same time transmit the final information or compilation to the action command. ADPS receives, retains, adds, subtracts, multiplies, divides, compares, sorts, and prints out or displays large volumes of data at electronic speeds. Some of the benefits derived by using ADPS are:

a. Provision of timely data for close control and coordination of the administrative, logistical and operational activities of widely dispersed and highly mobile Armed Forces.

b. Economy through conservation of personnel, material, and dollars, and through reduction of records filing space.

c. Overall improvement in the speed and accuracy of data processing previously effected by manual or mechanical methods.

d. Accomplishment, through the versatile capabilities of the system, of functions never before possible.

16-2. Functional Elements

An automatic data processing system (ADPS) is an interacting assembly of procedures, processes, methods, personnel, and automatic data processing equipment (ADPE) used to perform a complex series of data processing operations. The procedures, processes, and methods which control the operation of the system are commonly called "software," while the ADPE is commonly called "hardware." The ADPE included in an automatic data processing system can be further broken down into six functional elements.

a. Communications is the means for conveying information or data to and from the computer site. Communication links transmit coded information from distant input devices to a centrally located computer and between compatible computers. Information may go through several terminals and be used for any required computer function at any point in the system. This permits the same data to be used for different logical or computational purposes at various headquarters.

b. Input consists of all devices by which information can be entered into the computer. Input systems may utilize punched cards, punched paper tape, magnetic tape, or typewriter keys to create the proper electrical impulses to convey information into the system.

c. Storage is the element of the computer in which information is held until it is needed. The storage element consists of an electronic memory device that will store information received from the input. Each bit of data is retained in a specific location called a "memory address," where it can be retrieved an indefinite number of times. Magnetic cores, revolving magnetic drums, and discs are examples of storage devices that can be used.

d. Control is the element of the computer which interprets instructions and, in carrying out the instructions, controls the operations of all other parts of the computer. The control may be external or internal, or a combination of the two. External control is performed at the operator's console. The operator can control the mach-

ine manually, determine status of circuits, indicate and allow for error correction, display machine or program error conditions, display memory, introduce information into the system, or diagnose failure. Internal control interprets machine instructions, activates the proper circuits, and controls the sequence of operations—the program.

e. Arithmetic and logic is the element of the computer in which calculations are carried out and logic performed. This element is the heart of ADPS, since it is here that the system performs its computations and makes its decisions, based upon information fed into it from the memory device. The unit will perform many mathematical computations in a fraction of a second, and is capable of storing the results in the memory device in accordance with program fed into the machine from the control element. The logic portion of the unit can compare two numbers and, depending on the results, cause the computer to perform a particular sequence of instructions.

f. Output consists of all devices used to obtain results from the computer. The output element consists of a device to convert processed information from the computer's memory unit into a form suitable for other purposes. Output may consist of printed copy, punched cards, punched paper tape, or magnetic tape, any of which may be used again as input to the same or another compatible system.

16–3. Systems Management Responsibility

a. The Assistant Secretary of Defense (Comptroller) is responsible for establishing the policies, criteria and standards governing the selection, acquisition, use and management of automatic data processing equipment. In addition he develops and maintains standard data elements and machine sensible codes. The purpose of this standardization is to promote compatibility among the automatic data processing systems that have been employed within the Department of Defense or will be employed in the future.

b. Within the Army, the senior policy official responsible to the Secretary of the Army for management of ADP is the Assistant Secretary of the Army (Financial Management). Within the Army Staff, the Assistant Vice Chief of Staff is responsible for overall management and control of Army ADP activities. The Director of Management Information Systems within the Office of the Assistant Vice Chief of Staff performs the specific functions concerned with these matters.

★16–4. Project SPEED

a. Project SPEED (System-Wide Project for Electronic Equipment at Depots) was initially established in 1960 within the Army Ordnance Corps. This system consisted of the installation of a standard family of computers, together with automated procedures and formats within the US Army Materiel Command depot complex, for the purpose of integrating depot supply processes with centrally programed standard programs and procedures. By the end of 1965 there were 10 major Army depots operating standard ADP equipment (IBM 1410/1401) using standard programs and procedures produced by Project SPEED.

b. Project SPEED encompassed 20 application areas. Ten of the applications were directly related to the depot's prime mission of supply. The remaining 10 applications automated much of the depot's maintenance production planning and control effort; financial, internal depot supply, and depot management operations.

c. By early 1966, it became evident that the SPEED ADP equipment could not continue to satisfactorily accomplish the total depot job. The expanding requirements of standard Department of Defense military procedures either implemented or planned for implementation, coupled with continuing high processing volumes in support of operations in Southeast Asia, would not permit processing of all SPEED applications. As a result, many of the depot management applications were taken off the computer to allow more time for supply processing. This environment, plus the fact that SPEED ADP equipment had been in operation almost 24 hours a day for nearly 5 years, prompted the Army Materiel Command to develop ADP specifications for third generation equipment—thus, SPEEDEX came into being.

★16–5. Project SPEEDEX

a. SPEEDEX is the acronym for System-Wide Project for Electronic Equipment at Depots Extended. The objectives of SPEEDEX are to extend the basic concepts of project SPEED through the use of third generation computer equipment and its associated software and programing techniques. The SPEEDEX System, which utilizes the Control Data Corporation

3300 computer, is a direct-access oriented system with all major data files residing on disk storage. The remote inquiry system has been expanded to provide a full-scale data processing capability for use within selected functional activities. Remote sites are equipped with the most applicable input-output processing media, including typewriters, visual display units, card readers, card punches, and printers. The disk oriented data base and the expanded remote processing capability, with its supporting software, provide a real-time processing capability for high priority transactions and inquiries for management information.

b. The number of depots operating under the SPEEDEX System has been increased from 10 to 13. The depots added under SPEEDEX are New Cumberland Army Depot; the US Army Aeronautical Depot Maintenance Center; and SAFLOG, the depot recently activated to support the SAFEGUARD Missile System. Present planning also provides for the future extension of SPEEDEX systems and computer capabilities to the six present non-SPEED depots having one or more remote processing sites with direct communication lines to the central computer of a SPEEDEX depot.

c. There are 16 applications identified with SPEEDEX. These can be broadly categorized into three basic systems.

(1) First, the Depot Supply Distribution System which supports the receipt, storage, issue, transportation, and quality assurance functions of the depot. Four applications are identified with this system. They are: materiel release order (MRO) processing, storage management, ammunition surveillance, and quality assurance.

(2) The second, identified as the Depot Maintenance and Financially Oriented System, is principally one large, complex, and highly integrated system. This system supports the maintenance, comptroller, and work measurement activities of the depot. Eight applications are identified with this system. They are: maintenance production planning and control, expense appropriation management/Army industrial fund for maintenance, Defense Integrated Management Engineering System, AMC Installations Division—Stock Fund, procurement history, installation supply accounting, facilities engineering work management, and payroll and leave accounting.

(3) The third, the Depot Control System, includes those applications where the prime objective is management of people or equipment. Four applications are identified with this system. The applications are: calibration, management of installation operating equipment, accounting for in-use nonexpendable property, and civilian personnel management information system.

d. Each of the 16 basic SPEEDEX applications are examined more closely in the discussion below.

(1) *Materiel release order processing.* This provides for the update of stock balance, automated shipment planning, preparation of shipping documentation, control of movement of materiel through storage and transportation, the preparation of shipment status documentation, and various types of managerial reports.

(2) *Storage management.* Storage management encompasses receiving, location, and inventory operations. Receiving and location operations are more closely alined through the development of a new receipt/location control system. This system provides a real-time control of all materiel from arrival at the off-loading dock to its placement in storage.

(3) *Ammunition supply and surveillance.* The ammunition phase of the ammunition supply and surveillance application provides basically the same support for the shipment of ammunition materiel as MRO processing does for general supplies. The surveillance phase of this application provides for the recording and maintenance of related surveillance information. It also provides several managerial reports for use in controlling the day-to-day surveillance operations and for off-depot reporting.

(4) *Quality assurance/quality control.* The quality assurance/quality control application consists of two phases—a quality data feedback system, and a cyclical inspection scheduling system. The quality data feedback system provides for the recording, analysis, and reporting of quality information on in-process operations in both the maintenance and supply areas. The second phase provides for the automated scheduling of cyclic inspections for materiel in storage and the recording and reporting of inspection results.

(5) *Production planning and control (PP&C) for maintenance.* The PP&C system consists of six major phases. These are the initial processing and control of work authorizations, the automated scheduling and loading of projects by shop, control of special tools and test equipment, repair parts management, program status reporting, and a management information system.

(6) *Expense appropriation management/ Army industrial fund.* The expense appropriation management/Army industrial fund system has been redesigned to interface three major financial applications. These are the budget, appropriation accounting, and integrated cost accounting.

(7) *Defense Integrated Management and Engineering System (DIMES).* The DIMES is designed to measure and record depot performance by work center and to prepare various types of reports for both on-depot use and for use by higher headquarters.

(8) *Installation division stock fund/nonstock fund.* Installation division stock fund/nonstock fund application has been redesigned to interface more closely with installation supply accounting and procurement in order to provide visible audit trails through reports and listings.

(9) *Procurement history.* The procurement history interfaces with the installation supply accounting and finance and accounting applications to control all local purchase actions. It provides for the automated preparation of purchase requests and purchase orders. It will also provide a current status of all purchase actions and history of contractor performance. The system provides periodic reports for local management as well as reports for higher headquarters.

(10) *Installation supply accounting.* The installation supply accounting system will maintain all records required by depot property operations. The system provides for the computation of local requirements; the acquisition, receipt, and storage of materiel; and for issue to all post activities.

(11) *Facilities engineering work management.* The facilities engineering system will provide the post engineer with an automated method of controlling and analyzing work in progress and in evaluating completed work. The system will also provide an automated schedule of jobs to be accomplished and an analysis of resources expended.

(12) *Civilian pay and leave accounting.* The payroll system will provide an automated record of all pay and leave information. In addition to the preparation of checks and bonds, it provides information for internal control and external reporting requirements. This includes earnings and leave reports, Federal and state tax reports, and W2 forms. This system has been revised to provide for a daily input of transactions as compared with the biweekly process under SPEED.

(13) *Calibration.* The calibration system will be implemented only at those depots which have a calibration mission with reporting requirements to the US Army Metrology and Calibration Center at Huntsville, Alabama. It will provide an automated inventory of all calibration equipment located at the depot or at other installations for which the depot provides a calibration service. The system provides an automated schedule of calibrations to be accomplished and for the recording of calibration results. The output products from this system are designed for use primarily by the US Army Metrology and Calibration Center.

(14) *Management of installation operating equipment.* The management of installation operating equipment system is designed to provide a centralized control of the utilization and maintenance of all installation equipment. It will maintain an automated record of all mobile and fixed operating equipment used by the depot. The system will provide for the accumulation of equipment utilization information, an automated schedule of required preventive maintenance, and will maintain a history of maintenance services and repairs performed.

(15) *Accounting for in-use nonexpendable property.* Accounting for in-use nonexpendable property is basically an automated property book system. It will provide catalog data and maintain quantities of materiel authorized and in use by organizations. It will also provide periodic reconciliation listings showing the total dollar value of capital and production property which can be used to reconcile dollar value with finance and account ledgers.

(16) *Civilian personnel management information system (MIS).* The civilian personnel MIS expands the personnel system and adds a very complete management information system.

Section II. MANAGEMENT INFORMATION SYSTEM

16–6. The System

a. Prior to the reorganization of the Army in 1962, Management Information Systems (MIS) were many and varied. The then technical services, Chemical, Ordnance, Quartermaster, etc., had their own systems and they were not compatible with each other. When the US Army Materiel Command (USAMC) was organized it

meant taking all plants, people, problems, merchandise, equipment, real estate, closing stock and the logistics responsibilities of the former technical services. Since the first phase was to equip, supply, and maintain the Army, very little was accomplished in the design and building of Management Information Systems. It was apparent that the management problems would not be solved by merging the old management information systems used by the technical services into one system. Therefore, a new system was designed as a component of the AMC Five Year ADP Program.

b. The Management Information System (MIS) has been developed in accordance with the hierarchy of management in USAMC. Each of the major subordinate elements of USAMC has a MIS supporting its own command elements. At the commodity commands the system is called the Commodity Command MIS; at the arsenals it is called the Arsenal MIS; in the Test and Evaluation Command it is called the Test and Evaluation MIS; in the laboratories it is called the Laboratories MIS; and in the depots it has the name Depot MIS. The computer program for all of these systems is common, and can be run on any computer in USAMC. There are two basic computer files in the MIS program. One computer file stores the MIS elements needed for management at an AMC subordinate element. The other file specifies management reporting parameters and how the reports are to be prepared. There are two classes of data elements. One is system common which all managers in a functional area have agreed upon as being needed for proper management. The other is the unique data elements which a single manager has specified he requires for his individual unique management needs. Selected data elements from these subordinate systems are then reported to the USAMC Logistics Systems Support Agency (LSSA), Letterkenny Army Depot, which has responsibility for preparation of the data for HQ, AMC to Management Information Systems called the Programing, Planning and Budgeting Management Information Systems, or PPBMIS. This MIS is designed so that as it grows, it can be used in a real-time mode by remote inquiry from video terminals. The MIS reports which are prepared by the system are produced on microfilm.

c. The Depot Management Information System gets its data from two sources. The first of these is the base level operating systems of SPEEDEX. As transactions are processed in the SPEEDEX systems, tallies are kept of quantities, volume and number of data elements. These specific data elements are then read from the base level operating system into the MIS at specified intervals. The other source of data input is from manual card input for data elements that are not in the base level operating system. The system is dynamic and while there is a hardcore of fixed performance indicators on which reports must be prepared, there is an allocation of space in the file to store unique performance indicators that depot managers may wish to have for the management of their unique installation. The following is a list of the initial performance indicators which the system uses:

(1) Number of receipts processed on time.
(2) Number of materiel release denials reported on time.
(3) Number of materiel release orders processed on time.
(4) Number of materiel release denials.
(5) Number of conveyances of receipts backlogged in the holding area.
(6) Receipt forecast effectiveness.
(7) Shipping forecast effectiveness.
(8) Transit privilege savings.
(9) Set assembly/disassembly workload.
(10) Set assembly AOCN item denial value.
(11) Receipt pieces backlogged.
(12) Number of MROs on pending shipment files.
(13) Receipt processing suspended items.
(14) Receipt processing suspended returns backlogged.
(15) Inventory schedule and adjustment rate.

Note. It is expected that the list of standard data elements will grow considerably as the system is exercised.

16–7. The Army Master Data File

The Army Master Data File (AMDF) is the official source of current supply data for items used by the Army. The AMDF is a uniform means of disseminating supply data which is essential to the acquisition, storage, distribution, maintenance, and disposal of materiel. Actually, this file provides, on a monthly basis, source data regarding cataloging and management data, including application, packaging, and freight classification on all federally cataloged items required by the Army. This information is used by the Army depots, oversea inventory control points, supply centers, Army Class I activities and military assistant advisory groups. The AMDF in-

cludes all end items (major/selected items) and repair parts, conventional ammunition, special weapons, guided missiles and rocket items. The Army Master Data File is composed of five files or sections which are distributed and maintained separately. These files are:

a. Item Data File. This file furnishes management data that are required for supply management, financial accounting, procurement, and preparation and routing of requisitions. This file is an asset to the oversea commands in that it provides the routing identifier code of the national inventory control point of the Defense Supply Center that manages the item. The item data file is designed so that it introduces a new item into the supply system; indicates management of the item through its life; indicates when the item is no longer required; and indicates when the item is obsolete and may be disposed of.

b. Item Identification File. This file contains the item description for each item in the Army supply system. The data contained in this file is used to prepare the station authorized stockage list, descriptive portions of Department of the Army manuals and supply bulletins, and adopted items of materiel publications.

c. Item Application File. The item application file contains the current application for all Army items with 1, 2, 4, and 6 supply status codes and all other items in the Department of Defense Supply System that are a part of an Army selected (major/end) item. The file contains the data required for interchange of item application and allowances, and provides reference data for supply control studies, contingency plans, movement of end items, and preparation of Department of Army technical manuals.

d. Packaging Data File. This file, as the name implies, contains packaging standards and military and Federal specifications, weight, cube, etc., required in the Army procurement packaging and procurement interchange requirements for each item of supply. This file serves the depots, direct support units, and shipping points in the area of regional procurement, storage, care and preservation, packaging and repacking, movement of materiel, transportation planning, and disposal actions.

e. Freight Classification File. The last file, freight classification, contains transportation data for all items in the Army Supply System which have been assigned Federal stock numbers. This file provides transportation data to processing agencies on procurement requests for shipping orders. It is used by transportation and traffic management officers to accomplish effectively the objective in the Armed Services Procurement Regulation and Army Procurement Procedure.

★16–8. Capability Engineering Data Reporting System (CEDRS)

The Capability Engineering Data Reporting System is the automated system used by the US Army Major Item Data Agency (USAMIDA) to generate the information required in the Depot Maintenance Data Bank (DMDB) to centrally workload the depot maintenance activities. It utilizes standardized punched cards to transmit data through AUTODIN to the receiving activity. The system has the ability for continuous updating of data, error and challenge data, exception data reporting, and automation of reports. The system provides for generation and storage of the following information:

a. Unserviceable asset availability.
b. Reparable item file.
c. Repair parts consumption data.
d. Man-hour availability data.
e. Maximum potential maintenance quantity.
f. Work authorization/program status report.
g. Mission essential listing.
h. Economic maintenance production quantity.
i. Organic capability file.
j. Quantitative capability data file.
k. Depot maintenance gross requirements.
l. Commodity command priority stratification information.

★CHAPTER 17

DEFENSE INTEGRATED MANAGEMENT ENGINEERING SYSTEM

17–1. Background

In the United States, the era of management engineering began late in the 19th Century. An industrial engineer of that period, Frederick Winslow Taylor, published "Shop Management," an article which helped stimulate interest in time studies. Taylor formulated three requirements for maximum productivity—task, time, and method:

a. A definite task, determined by study of the job leading to the best sequence of operations.

b. A definite time, established by stopwatch or derived from standard data.

c. A definite method, developed by detailed experiment and recorded on an instruction sheet. The US Army Ordnance Corps introduced Taylor's principles into its operation at Rock Island and Watertown Arsenals. Labor's opposition to Taylor's approach, particularly time studies, caused the Chief of Ordnance to discontinue the engineering approach. In 1916, the Congress included in the Budget Act a prohibition against the use of work measurement within the government. This legislation crippled any effort to apply industrial engineering and similar management concepts in the military departments. It was not unitl 1949 that the Congress removed its prohibition of "time measurement" systems in the Federal Government. This resulted in many efforts to improve managerial effectiveness through the use of previously prohibited techniques.

17–2. Techniques

Industrial engineering techniques available for the management engineering function include:

a. Methods engineering—the analysis and planning of more effective working methods through operations analysis, motion study, production planning, safety, and standardization.

b. Work measurement—time study, time standards, and input-output analysis.

c. Control determination—production control, inventory control, quality control, cost control, and budgetary control.

d. Wage and job evaluation—wage incentive, profit sharing, job evaluation, merit rating, and wage and salary administration.

e. Plant facilities and design—plant layout, equipment design and procurement, material movement, storage, indirect functions, and supporting activities.

Work measurement is the basis for accomplishing the above areas of concern. An integrated management engineering system that is concerned with the accurate measure of work and the relating of that work to the resource systems which support it.

17–3. Definition

The Defense Integrated Management Engineering System (DIMES) is the application of Industrial Engineering/Management Engineering techniques through the maximum economic use of Engineered Performance Standards to provide a basis for performance evaluation, improvement in productivity, and assurance of balance between workload and resources. The principal objectives of DIMES are to:

a. Maximize the economic development and utilization of productivity measurement data.

b. Increase productivity and improve manpower utilization.

c. Establish a basis for developing performance indices relating outputs (production) to inputs (manpower).

DIMES is not a single system, but is instead an "umbrella" approach requiring combining and correlation of common data elements in existing systems to develop and apply those techniques found in the best managed industrial enterprises.

17–4. Applicability

DIMES applies throughout the Department of Defense to:

a. Production or servicing activities, such as supply depots, maintenance depots, inventory control points, terminals, shipyards, and other activities reporting cost and/or production data.

b. Industrially funded activities utilizing standard cost methods and engineered performance standards.

c. Other activities as determined by each DOD component.

17–5. Categories of Personnel Performance

Within the above activities, DIMES is applicable to the measure of personnel performance in the following categories:

a. Direct labor.

b. Indirect labor.

c. Support services.

d. Related clerical operations.

17–6. Policy for Application of DIMES

Application of DIMES requires maximum economic use of labor savings equipment, maximum use of engineered performance standards, methods improvements, system refinement, and annual review and update of high density standards. Specific policy requires that:

a. Man-hour reporting is limited to that required to evaluate the performance of a function or organization, cost of a product or service, or utilization of manpower.

b. Standard data contained in the 5010.15–M series DOD Manuals must be used in developing standards.

c. Monetary savings developed from increased productivity must be reported through the DOD Cost Reduction Program.

d. Performance data must be susceptible to roll-up to succeeding levels for use in determining manpower, equipment, facilities, funding, and material requirements.

e. The objective of the program is attainment of 100 percent coverage of all personnel.

f. The performance goal is 100 percent effectiveness against the established standard.

g. Unless closer tolerances are established, an effective range of 80 percent through 120 percent against time standards is acceptable for control purposes.

h. The work measurement function is organizationally collocated with manpower management functions.

17–7. The Approach to DIMES

As stated earlier, work measurement is the initial basis for DIMES. Work measurement identifies the amount or quantity of work accomplished or to be accomplished, provides a time standard for performing work of acceptable quality, develops a comparison of hours which should have been spent as compared to hours actually spent, and informs management of the effectiveness of the work force. The performance standard is the index for computation of man-hour requirements, and against which actual performance is measured.

a. There are three types of standards—engineered, statistical, and technical estimates.

(1) The engineered standard is the time it should take to produce a prescribed unit of work of acceptable quality by a specified method under specific working conditions. It is derived from a complete, objective analysis and measurement of the task. It is supported by records of standard method or practice followed, observed or synthesized time values used, statistical reliability of the standard, leveling or rating used, allowances, and method of computation.

(2) The statistical standard is the time it should take to produce a unit of work based on statistical analysis of past performance data. It is supported by records of standard method, source data, work unit, point of count, production rate, and details of computation.

(3) The technical estimate is the time it should take to produce a unit of work as forecast by technically qualified individuals. It is supported by a detailed analysis of the components, deviation of time values, all computations, and identification of individuals who participated in development of the technical estimate.

b. The engineered standard is the preferred approach to work measurement, after yielding as much as 30 percent increase in productivity over nonengineered techniques. The statistical standard tends to include past inefficiencies. The technical estimate may deviate considerably from later engineered standards, depending on the degree of expertise and extent of data available to the person making the estimate. A jointly developed technical estimate is normally better than one developed by an individual.

17–8. DIMES Data Generation

Each production, servicing, and industrially funded activity is required to develop reporting procedures to reflect labor distribution, production, and performance reports for use at its own level and for use at higher levels in summary form. Typically, data for these reports are initiated by the section, unit, or subunit reporting hours expended against a cost account, code, or work center. These cost accounts are developed from and roll-up directly to elements of the fiscal codes within the Army Management Structure (AMS) as prescribed in AR 37–100–FY.

a. Consider Operations and Maintenance, Army Program 7—Central Supply and Maintenance, specifically AMS Code 720000.00000—Central Supply Activities. Among others, it includes the following activities:

721111.00000	Supply Depot Operations
721112.00000	Supply Management Operation (ICP)
721113.00000	Central Procurement Activities

The Supply Depot Operations Code includes the following:

721111.10000	Storage and Warehousing
.20000	Stock Control
.30000	Traffic Management
.90000	Overall Supply Depot Support

The Storage and Warehousing Code includes:

721111.11000	Receipt
.12000	Packing and Issue
.13000	Storage Support
.14000	Other Storage Operations
.19000	General Storage and Warehousing Support

The receipt activity includes all functions and subfunctions performed in receiving materiel. These included receiving information, extracting information, opening transportation vehicle, removal of blocking or cushioning materiels, unloading, segregation of materiel, checking, tallying, visual inspection, completion of documentation relating to physical receipt of materiel, palletizing, movement to storage, supervision, clerical effort, and all other activities related to receiving.

b. Within each work center, there are detailed procedures for accomplishing the receiving function. These procedures form the basis for detailed standards which support receiving functions for materiel in trucks, railcars, aircraft, pallets, and several varieties and size of containers. Separate branches, sections, or subunits may receive different modes of transportation. Work center effort in support of branches is quantified and "rolled-up" to the division level for expression of effectiveness and personnel utilization. Data are aggregated for use at directorate and command levels.

c. A typical labor and production report for a work center would contain, as a minimum, the information in figure 17–1.

Cost acct	Std No.	Mode	Units	Standard		Actual hours	Eff %	Actual spaces	Std spaces
				Time	Hours				
.11XXX	XXX1	Rail	1	.915	.9				
	XXX2	Cont	367	.008	2.9				
	XXX3	Truck	27	.315	8.5				
	XXX4	Cont	1444	.012	17.3				
	XXX5	Cont	336	.021	7.1				
	XXX6	Pallet	111	.122	13.5				
	MIS	Sh Ton	91	.552	50.2	125.0	40	15.6	6.3

Figure 17–1. Work center labor and production report.

The receipt of 91 tons of materiel earned the work center 50.2 hours, while it used 125.0 hours, an effectiveness of 40 percent (50.2/125). Should this low level of effectiveness continue, corrective action is indicated—usually in the form of personnel redistribution. Note that the report summarizes labor and production detailed data to the management information system (MIS) level. This summarizing rolls-up data to translate a function to time and personnel requirements for upward reporting. Standard time per ton was .552 hours (50.2/91) while standard spaces was 6.3 (.40 X 15.6).

d. Figure 19–2 illustrates a division level production and effectiveness report.

Branch	Hours		Eff %	Spaces	
	Actual	Std		Actual	Std
Operations	3,316	1,848	56	86.9	46.4
Care and Pres	4,858	3,205	66	121.5	80.2
Whsing	3,491	2,948	84	87.3	73.3
XXX	X,XXX	X,XXX	XX	XX.X	XX.X
Total Prod	26,670	19,947	75	666.7	500.0
Total Non-Prod	3,573	3,573	100	89.3	89.3
Total Division	30,243	23,520	78	756.0	590.0

Figure 17–2. Division labor and effectiveness report.

Receipt activity data from figure 17–1 are included in the Operation Branch line in figure 17–2. Branch level data are provided, usually on a weekly basis to the division, the next higher level in the management structure. The division report reflects actual hours and standard (earned) hours, the percent of effectiveness, and manpower utilization. The division operated at an overall effectiveness of 78 percent (23,520/30,243) with 756.0 people, while needing (by the standard) only 590 (.78 X 756.0).

e. The labor production effectiveness report prepared for use at the directorate level presents the same summarized data oriented to division performance.

Division	Hours		Eff %	Spaces	
	Actual	Std		Actual	Std
Storage	123,458	96,248	78	734.8	573.0
Transportation	13,448	13,196	98	80.0	78.4
Quality Control	6,844	6,895	102	40.7	41.5
Stock Control	2,551	2,025	79	15.1	11.9
Total Production	146,301	118,364	81	870.8	705.3
Total Non-Prod	19,606	19,606	100	116.7	116.7
Total Directorate	165,907	137,970	83	987.5	821.0

Figure 17–3. Directorate labor and effectiveness report.

f. Finally, the command report summarizes directorate activity.

Directorate	Hours		Eff %	Spaces	
	Actual	Standard		Actual	Standard
Command Office	1,573	1,573	100	9.3	9.3
Comptroller	9,307	8,720	94	55.3	52.0
Administration	3,489	3,680	96	22.9	22.0
Services	22,197	20,658	93	130.0	120.9
Dist & Transp	165,907	137,970	83	987.5	820.0
Maintenance	44,749	40,500	91	266.3	242.3
Total Prod	247,582	213,101	86	1,473.4	1,267.0
Total Non-Prod	34,100	34,100	100	202.9	202.9
Total Command	281,682	247,201	88	1,676.6	1,475.4

Figure 17–4. Command labor and effectiveness report.

This report suggests to the commander areas of low productivity for consideration on a management-by-exception basis. He has a clear audit trail through feeder reports for isolation and resolution of problems or resource mismatch. Although the performance objective is 100 percent, all of his elements are within the normal 80 percent to 100 percent range.

g. The last line of the command report may be called forward by DA or DA elements for gross comparison of depots or whatever function is being administered or monitored. As with other

data, DIMES data can and should be integrated into management information systems in whatever detail is desired at any management level. It lends itself to integration in detail or in summary with fiscal and material resources, including the programing, scheduling, status reporting, and other overall management actions without establishing a substantial additional reporting load.

17–9. Staffing for DIMES

As with any other methods improvement function, benefits resulting from the use of time standards should more than offset resources needed to establish the standards after the work measurement activities have had reasonable time to develop and apply them. For areas susceptible to the application of engineered standards, one analyst should be used for each 100 individuals whose work is to be covered by the standards. For areas susceptible to statistical standards or technical estimates, one analyst should be used for each 400 individuals whose work is to be covered by standards. For maintenance of a DIMES program, experience suggests a minimum of three work measurement specialists for a small activity of 500 persons to a maximum of 27 specialists for large activities of 5,000 or more persons.

17–10. Work Measurement

There is no separate report for DIMES generated data. Labor and effectiveness data developed through work measurement is integrated into the various resource management processes and procedures required under the provisions of AR 37–15 (Budget Development and Review), AR 37–110 (Accounting, Reporting and Responsibilities in Army Industrial Activities), AR 37–100 series (The Army Management Structure), AR 570–4 (Manpower Management) and AR 570–3 (Manpower Utilization and Requirements).

a. For DIMES program status reporting, DA reports annually to DOD (RCS DD—I&L (A) 995) in letter format, a Work Measurement Summary Report. This reports the number and percentage of personnel by mission/function or product/service categories currently covered by performance standards, and percentage coverage planned for the succeeding fiscal year. DA agencies and major commands provide feeder reports to Comptroller, DA (RCS CSCAM–107 (R–2)) on DA Form 2975–R. For these reports, spaces covered by standards are divided into four categories:

(1) Category I—Engineered Performance Standards (previously defined).

(2) Category II—Statistical Standards (previously defined).

(3) Category III—Man-hour Allowances, Staffing Patterns and Staffing Ratios. Man-hour allowances are for positions established by management decision, law, or other means, not dependent on volume of production. Man-hours may also be allowed by ratio or related to some other measurable unit. Staffing patterns are hour allowances for positions that are not governed by ratio of production or man-hour expenditures. Staffing ratios are man-hour allowances for tasks which can be reasonably prorated to production or man-hour expenditures.

(4) Category IV—Unmeasured Hours and Other Hours. Unmeasured hours are hours marked for which no standard or man-hour allowance has been developed. Other hours are hours marked for which no type of measurement exists.

b. The extent of DIMES coverage is suggested by the following list of AMS codes and subactivities included in work measurement program status reporting one line entries):

721111.	Supply Depot Operations
721112.	Supply Management Operations
721113.	Central Procurement Activities
722896.Z	Base Operations, Central Supply Activities
722898.	Command
728010.	Second Destination Transportation
728011.	Industrial Preparedness
728012.	Logistic Support
732207.	Depot Maintenance Activities
732896.Z	Total Base Operations Depot Maintenance Activities
732897.	Total Maintenance Technical, Administration, and New Equipment Training
738017.	Total Maintenance Support Activities

For the Base Operation .70000 accounts above, one line entries are made for the following activities:

.B0000	Supply Operations
.C0000	Maintenance of Materiel
.G0000	Personnel Support
.H0000	Base Services
.J0000	Operation of Utilities
.K0000	Maintenance of Real Property
.L0000	Minor Construction
.M000	Other Engineering Support
.N000	Administration

For the .H0000 and .N000 accounts above, one line entries are made for the following:

.H4100	Operation of Issue Commissaires
.H4200	Operation of Garrison Break Bakeries
.H4300	Operation of Central Meat Processing Facilities
.H4400	Operation of Messes
.H4500	Operation of Central Pastry Kitchens
.H4600	Operation of Commissary Stores
.H5100	Army Operated Laundry Facilities
.H5200	Army Operated Dry Cleaning Facilities
.N1000	Command and Staff
.N2000	Command Administrative Services
.N3000	Other Headquarters Services

CHAPTER 18

ZERO DEFECTS PROGRAM

18-1. The Program

The Zero Defects Program is a program designed to inspire individuals to produce defect-free work the first time and to instill in them pride of workmanship. The program is primarily applicable to the development, procurement and production, maintenance, and supply of materiel and services furnished to the user. In order for a Zero Defects Program to be successful at an installation, it must be designed with care, executed with imagination and be supported by top management. We must motivate individuals and organizations to do the job right the first time. Therefore, if the individual is motivated properly he will want to do a good job and will achieve a high degree of perfection in what he does. We might ask ourselves what goal does Zero Defects achieve. Our answer would be to reduce the high cost of defense by the elimination of waste. Zero Defects helps to achieve this goal because it is directed at reducing human error that is a major cause of waste.

18-2. Objectives

The U.S. Army Materiel Command has established certain objectives to be attained by its major subordinate commands, installations, and activities. The principal objectives of the Zero Defects Program are to—

a. Instill pride of workmanship by recognition of individual or group accomplishments.

b. Motivate individuals to reach the highest degree of perfection and craftsmanship in their job performance.

c. Reduce costs through improved individual performance.

d. Improve quality of hardware, technical data, and services.

e. Enhance the dignity, prestige, and public image of the Army Materiel Command in the highest Army traditions of efficiency, accomplishment, and national service.

f. Remove causes of error.

18-3. Establishing a Program

One of the most important factors in establishing a Zero Defects Program, apart from management direction and support, is proper planning. Like most things we do, we perform some type of planning before we do them and Zero Defects is no exception. The first and most important element of any plan is the formulation of objectives. Zero defects objectives are identification of prime targets and establishment of numerical goals. Since the program applies to the total organization, there is a possibility that some areas within the organization will not benefit from Zero Defects. Therefore, those departments, shops, processes, services, etc., that are likely to yield significant rewards, should be pinpointed during the planning stages. After the targets and goals have been established, procedures must be developed for recording actual achievement and for reporting progress. Progress reporting must flow from the various elements of the organization to management and back to the employees. If not, the Zero Defects Program will not be effective. Finally and before initiating the program, you should have delineated in detail the methods by which the causes of errors will be probed, reported to the proper authorities, and removed. The design of Error-Cause-Removal procedures must be accomplished before the Zero Defects Program is initiated.

18-4. Recognition and Rewards

One important part of the Zero Defects Program is official and public recognition of achievement by an individual or a group of individuals. Therefore, procedures should be devised for identifying and evaluating accomplishments which warrant recognition. Each supervisor should be assigned, in addition to his regular duties, the responsibility for initiating action leading to the formal recognition of Zero Defects achievements. Procedures should be established so that the supervisor can properly evaluate potential achievements. If the supervisors evaluation discloses that the achievement warrants formal recognition, it is

then forwarded to a formally organized committee for further review. The use of a committee to evaluate achievements provides two important advantages. Its deliberation will be objective and its actions will not be subject to intraorganizational bias. The most effective method of recognizing Zero Defects achievements is some form of personal commendation. Such personal action has been found to be a more potent stimulant to the program than monetary or other material reward. In addition, suitable publicity should be provided. Well publicized recognition of achievements may be used to a good advantage in assuring continued interest in the program. The Zero Defects Program, like any program, requires careful planning and execution if it is to accomplish its intended purpose.

CHAPTER 19

GROSS PERFORMANCE MEASUREMENT SYSTEM

Section I. INTRODUCTION

19–1. General

a. One means of effecting economy and efficiency without diminishing supply effectiveness is to establish a coordinated program of quantitative measurements for utilization and reporting of warehousing manpower. The Gross Performance Measurement System (GPMS) is such a program. It is an expanded work measurement system based on time and motion studies. This program provides higher headquarters with an effective management tool for decision making. This tool is the basis for making decisions relating to comparisons, review, evaluation, transfer, consolidation and/or distribution of warehousing resources. DOD Manuals 5105.34–M, Volume I and III and 5010.15 1–M are the basic documents for implementing GPMS. Volume I of DOD Manual 5105.34–M is used by the managers and supervisors of warehousing operations and by those individuals who are responsible for preparing warehousing reports. It explains operating methods, work counts or production units and the mechanics of reporting. Most of Volume I is devoted to a description of standard warehousing methods in four main functional areas: receiving, packing, stock selection and loading. Standard methods are the methods recommended for the warehousing operations to attain the desired level of performance under the composite standard. Composite standard provide the necessary time to perform all the work effort associated with the specific production work unit reported by the warehousing activities.

b. Volume III provides for expansion of GPMS concepts to depots assigned an ammunition (conventional) storage and warehousing mission. This volume provides the necessary procedures for implementing GPMS within ammunition (conventional) areas of storage operations to include standard ammunition operating methods and the mechanics of the reporting system.

c. DOD Manual 5010.15. 1–M is used by Department of Defense components (Army, Navy, Marine Corps, Air Force and Defense Supply Agency) and activity technical staffs and is twofold. First, the manual is designed to relate how time values (composite standards) are developed to reflect activity performance in GPMS. Secondly, it sets forth warehousing standards data for use in association with finite standards programs such as DIMES (Defense Integrated Management Engineering Systems) and similar efforts. DIMES is discussed in paragraph 19–4.

d. GPMS provides two things. First, it provides a coordinated program for developing and adopting warehousing standard methods including the quantitative measures for utilization of warehousing manpower. Secondly, GPMS provides for the establishment of production units, earned hours, actual hours and performance invoices which, to the extent practicable, will provide numerical indicators of performance. These data are used for management analysis and budget review of warehousing operations and determination of manpower utilization trends.

e. The data generated by GPMS is used by the U.S. Army Materiel Command Headquarters for the following purposes:

(1) As a basis for providing needed assistance to the Army CONUS depots.

(2) In conjunction with manpower surveys.

(3) As an aid in assignment of workload to the Army CONUS depots.

(4) In analysis of supply performance reports.

(5) In analysis of overtime utilization and overtime requirements.

(6) In evaluating equipment requirements and methods and layout changes.

(7) In personnel performance evaluation.

(8) In evaluating reorganizations.

(9) In determining changes to stock distribution pattern.

19–2. Responsibilities

a. The Assistant Secretary of Defense (Installation and Logistics) has overall responsibility for issuing policy direction in connection with the operation of the Gross Performance Measurement System. In promulgating such policy, he collaborates with the Assistant Secretary of Defense (Comptroller) to assure maximum utilization of the system for budgetary purposes. Similarly, he collaborates with the Assistant Secretary of Defense (Manpower) to assure maximum utilization of the system for manpower productivity measurement purposes. He also colaborates with other elements of the Office of the Secretary of Defense, as appropriate.

b. The Director of the Defense Supply Agency is responsible for—

(1) Managing the Gross Performance Measurement System, as coordinated with the Military Departments, in accordance with instructions received from the Assistant Secretary of Defense (Installation and Logistics).

(2) Developing and revising Gross Engineered Performance Standards and standards for performing warehousing functions in coordination with appropriate military departments.

(3) Reviewing and making appropriate recommendations to the Secretary of Defense, in conjunction with the appropriate military services, with respect to review or adjustments to the Gross Performance Measurement System.

(4) Establishing, in conjunction with the appropriate military services, a method of Department of Defense-wide coordination for implementing the Department of Defense Gross Performance Measurement System.

c. The Deputy Chief of Staff for Logistics (DCSLOG), Department of the Army or his designee is responsible for:

(1) Issuing policy direction in connection with the application and use of the GPMS. In promulgating such policies, DCSLOG will collaborate with the Comptroller of the Army and Assistant Chief of Staff for Force Development. To assure maximum utilization of the system for budgetary purposes and to assure maximum utilization of the system for manpower productivity measurement purposes.

(2) Managing the GPMS in coordination with the Army major commanders operating Army storage depots.

(3) Reviewing and making appropriate recommendations to the Department of Defense with respect to policy, improvement, or adjustments to GPMS.

(4) Promulgating Department of Defense instructions Army-wide on GPMS.

(5) Reviewing, evaluating, and taking such action as deemed necessary to improve GPMS to optimize warehousing functional activities Army-wide.

d. The U.S. Army Materiel Command is responsible for:

(1) Designating a single staff element to coordinate the implementation and maintenance of GPMS requirements. The necessary methods, systems, and engineered standards assistance will be provided by this staff element. The Director of Distribution and Transportation is responsible for the operating program of GPMS and the Management Engineering Division is responsible for the work measurement part of the system.

(2) Establishing the reporting systems as specified in DOD Manual 5105.34–M volume I and III, and DOD Manual 5010.15.1–M.

(3) Responding through Department of the Army staff channels to appropriate requests received from the Defense Supply Agency for assistance, coordination, or advice in implementing GPMS.

(4) Designating a representative to serve as liaison with the Defense Supply Agency and to make recommendations through Army staff channels with respect to revision or adjustment to the system.

19–3. Management

The Defense Warehousing Measurement Office (DWMO) and a joint committee composed of representatives from each military service (Army, Navy, Marine Corps and Air Force) and the Defense Supply Agency (DSA) manage the Gross Performance Measurement System. Although the DWMO is assigned to DSA, it manages GPMS for the Department of Defense (DOD) and acts as a service office to the DSA, the military services and DOD. The DWMO, acting as chairman of the joint committee, accepts recommendations from the committee to modify the system. The DWMO also reviews, analyzes, and maintains productivity trends on performance data as contained in the activity reports. Project DIMES, as it pertains to warehousing operations, is monitored by

the DWMO. The members of the joint committee receive, edit, and forward to the DWMO all activity reports, conduct field audits, implement requirements, and conduct special studies.

19–4. Defense Integrated Management Engineering Systems (DIMES)

a. The Defense Integrated Management Engineering Systems (DIMES) is defined as the development and monitoring of programs and procedures encompassing performance measurement based upon the maximum economic availability of Engineered Performance Standards (EPS), production or manpower planning, materiel control, standard cost accounting, and training support designed to increase productivity and to reduce costs. Engineered Performance Standards are time valves (man-hours) expressed as standard time per unit of work it should take an adequately trained individual or group to perform a defined task as determined by a trained technician using time study, rated random sampling, or predetermined standard time data systems appropriately. The DIMES Program is employed DOD-wide and assists in the effective and economic use of facilities, manpower, materials, and equipment resources through the extensive use of industrial management techniques. The specific objectives of the program are to improve manpower utilization and increase inputs to the cost reduction program reporting system. DIMES is being implemented or will be implemented at all Army depots.

b. Close coordination between DIMES and GPMS is important, since these two programs are interrelated and complement each other in the warehousing functional area. The new concept of pyramiding DIMES standards by determining frequencies of occurrence into total standards enables all levels at management to use GPMS. The basic data and the specific standards generated by GPMS may have direct application within an activity, or may be adjusted through the DIMES Program. Dimes is a major effort to establish and improve management engineering capabilities in industrial-type facilities.

Section II. THE SYSTEM

19–5. Accounting Structure

The function code structure, scope of accounts and listing of data elements to be reported under GPMS is contained in DOD 5105.34–M, Volume I and AR 780–12.

19–6. Analysis of Depot Performance

In order to understand the analysis of depot performance the terms "actual hours" and "earned hours" must be explained. Actual hours refer to the time paid for the performance of specific functions and agree with payroll distributions. Military hours expended must be added to civilian hours collected. Earned hours are the hours obtained by multiplying the number of work units produced times the standard hours per work unit. The bar graph (fig. 19–1) shows that the man-hours expended (actual hours reported) out weigh the man-hours earned. The predominant reasons for this differences can be placed in one of four categories. These are labor utilization, methods deviations, facilities differences, and grossness of measurement.

a. Labor Utilization. Labor utilization is the responsibility of the warehouse supervisor. In order to obtain optimum labor utilization the supervisor must accomplish effective planning. Several factors must be considered in planning. However, a few of the fundamental principles of labor utilization are as follows:

(1) *Balanced operations.* A balanced operation is one in which manpower and equipment work without loss of time or motion due to interference or delay caused by other personnel or equipment. Attainment of balance in material handling is an important factor in conducting effective warehousing operations. The attainment of a balanced operation is the responsibility of supervision and requires effective planning in order to overcome the inherent delays caused when two or more people depend upon each other to accomplish an assignment.

(2) *Working planning.* Two principles should be considered in planning for balanced operations. In one, the planning consists of eliminating the dependence of one worker upon another. In the other, the waiting time between workers can either be minimized or excluded by balancing the work elements so that each member of a crew performs the same amount of work.

(*a*) Work assignments resulting in the workers being independent of each other can be accomplished in several ways. One way is to

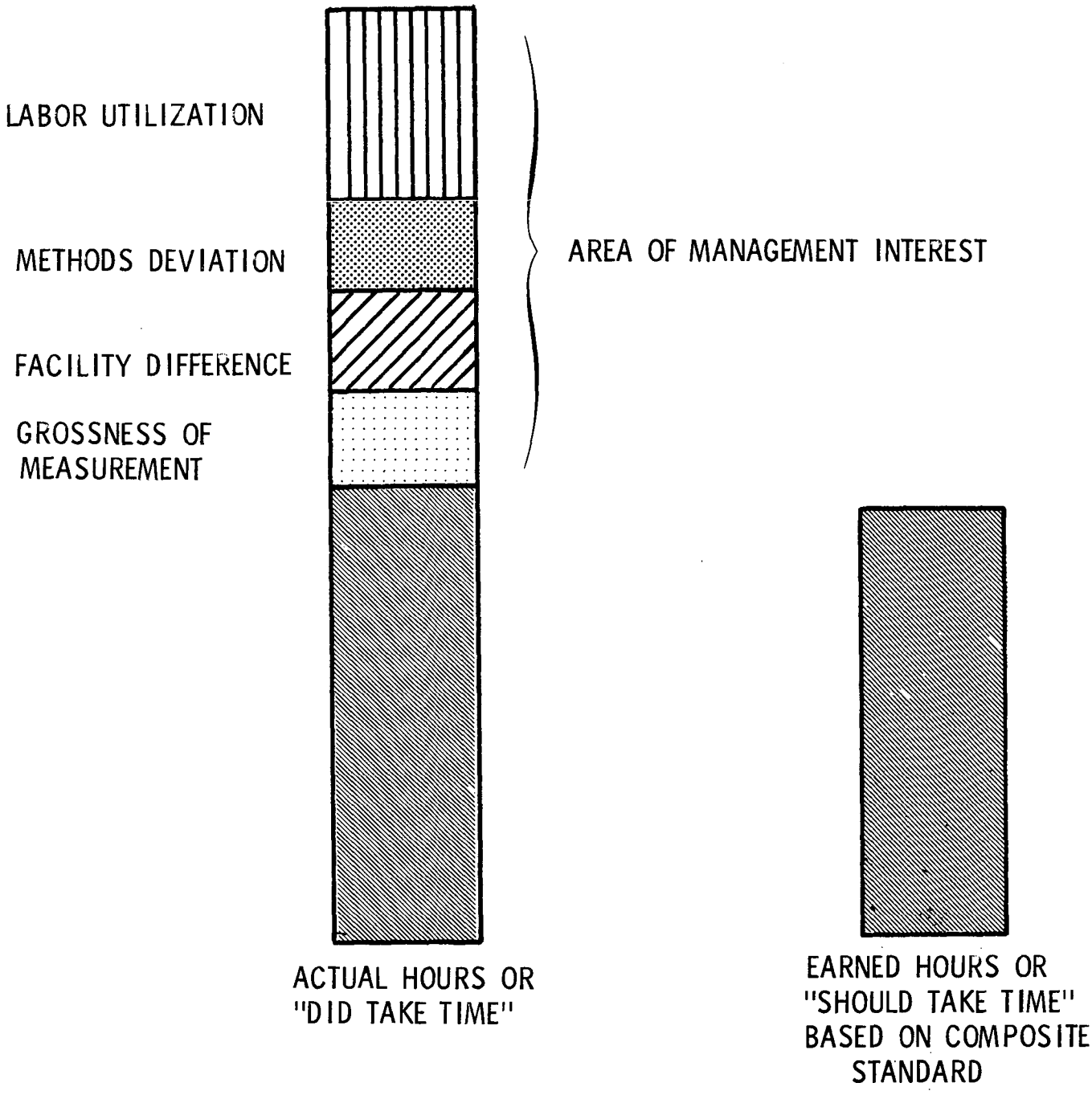


Figure 19–1. Actual and earned hours.

make the operators responsible for broader functions. For example, a forklift truck operator is assigned checking responsibilities in addition to the forklift truck operations. This overcomes having one man driving a forklift truck and another man doing the checking.

(*b*) Another means of minimizing dependence between workers is to operate with banks of work ahead of each operation. As an example, man "A" may have an assignment in which he is able to produce at a faster rate than the subsequent operation by man "B." If man "A" is allowed to work independently, he will produce a backlog of work for man "B." When man "A" has completed his job, he can be transferred to another assignment. Even though there is not necessarily a balance of work time between the tow men, no lost time will have occurred; since they have both been completely occupied. There are also occurrences where imbalance can be eliminated by furnishing additional equipment to the workers. This type of planning should include an evalua-

tion of the equipment cost. Equipment costs can be reduced to an hourly basis for comparison with manual costs.

(*c*) Balancing the work force is still another means. When it is necessary for two more workers to work together, equalizing the time requirements of the men involved in the operation will minimize any potential imbalance. This is done either by realining the work elements themselves or by proper planning of the number of people on each job. The execution of the procedures included in the standard methods descriptions should result in a minimum of imbalance. However, special situations not fully covered by the procedures might arise, when it would be advantageous for supervision to plan realinments in job duties in order to balance the work between operators more equally. There can also be a necessity for adding work assignments to a particular operation in order to create a work balance. For example, the work flow may not be sufficient to provide for his full occupancy. In situations such as this, additional work duties should be assigned to this man in order to fill out his work load. These might be putting on required labels or tags.

(3) *Balanced equipment utilization.* In addition to balancing manual work, it is also important that equipment be utilized to its fullest extent. One way in which maximum equipment utilization can be accomplished is by incorporating manual work done by others into that portion of the work cycle in which the equipment would be idle. An example of this is using laborers to unload freight into pallets at several locations, with forklift drivers transporting the pallets as they are loaded. It is sometimes possible to increase equipment utilization by performing more manual work internal to the machine time. For example, prepositioning and preparation of the next load while a crane is traveling reduces the overall cycle time of the crane.

(4) *Minimum moves.* The least number of moves necessary to accomplish an operation have been specified in the standard methods. Each additional handling can be costly not only with respect to time, but also increase the opportunity for damage from handling.

(5) *Travel distances.* Average travel distances have been allowed in the methods and can be controlled. Vehicles should be spotted as close to the permanent storage location as possible during the loading or unloading cycle. Since a forklift truck is primarily a machine to handle loads, tractortrailer trains should be used for distance beyond approximately 400 feet.

(6) *Flexibility of personnel.* Flexibility in the use of personnel has been assumed in constructing the standard methods. Although this principle is related to the previous discussion on balancing operations, it should be understood that a minimum of specialization by individual operators has been allowed. For example, the method descriptions call for warehousemen-forklift truck operator, thereby eliminating the need for both a warehouseman and a forklift truck operator in many operations. It has also been assumed that if a man is not assigned a full day's work, he will be furnished other work in order to keep him gainfully occupied throughout the day. For example, a methods description may call for laborers to apply blocking and bracing following the loading of a rail car. It is expected, however, that these men would be called upon to perform this function only when the car is ready for this step to be taken.

b. Methods Deviations. Another contributing cause to the overage of actual hours can be contributed to the category of methods deviations. This is simply the difference between earned hours and actual hours. These deviations are caused by two things. First, the methods applied are other than those prescribed in the standard methods. Secondly, equipment other than that specified in the methods description is used to perform the work. This applies only to the equipment used in materials handling operations. The fact that standard methods are not followed is not, per se, bad. You can not expect a depot to give up automation to accommodate the Gross Performance Measurement System. Yet, most deviations will have an adverse affect on earned hours. For example, the use of a specialist in lieu of a generalist usually causes a decrease in performance. In other instances the variance from method may be due to improper training of personnel and working in a manner contrary to the standard method. When this occurs, the supervisor is responsible for taking the necessary action to correct the variance. As mentioned previously, some activities can not follow the standard methods because of mechanization or automation. You can expect mechanized activities to be more effective than those who are not. Money has been spent for the equipment, and it should give a measure of return on the investment. The Department of Defense needs to know the value of mechanization. GPMS will assist in this area.

c. Facilities Differences. The standard methods and associated time standards contained in GPMS are based on a prevalent warehouse. A prevalent warehouse is a 200 by 600 foot single story building which has platform level loading docks for both rail and truck. If the facility is different than a prevalent warehouse, there will be a difference of time to perform a function. For example, it takes longer to unload a rail car from ground level than it does from a rail dock. In other cases buildings are smaller or larger than the prevalent warehouse. However, there is little a field activity can do about their physical facility they occupy. Therefore, it is necessary that the headquarters level credit an activity with an adjustment to the raw index to allow for the facility difference.

d. Grossness of Measurement. Another deviation of earned hours from actual hours can be contributed to the gross measurement systems. Grossness of measurement may be described as the difference between earned hours based on a composite standard and the activities "should take time" when following the standard methods. It is caused by variations in frequency of occurrences. For example, composite standards are derived from sampling the mixes of freight, vehicles, types of pack and other significant factors. The frequency with which these samplings are made and the variations which can exist from one sampling period to another will effect the grossness of measurement.

19–7. Warehousing Methods

At the present time there are 70 standard warehousing methods included in the Gross Performance Measurement System. These methods are related to four functional areas of warehousing: receiving or unloading (19 standards), packing (13 standards), stock selection or issue (15 standards), and loading (23 standards). The standards, which are called method descriptions, list the job to be completed, merchandise handled, location of the operation, the conditions under which the operation is performed, a brief statement of the method, personnel required, equipment required, a narrative of the procedure to follow and a list of special instructions. Figure 19–2 is a method description for unloading a rail flat car. Standard methods are the prescribed ways of performing warehousing operations and provide the basis for the application of man-hour standards. They are based on generally accepted principles of effective warehousing and materiel handling operations, are based on prevalent warehouse facilities, and are practical and attainable, and call for equipment usually available in Department of Defense warehouse facilities. The development of standard warehousing methods for receiving, packing, stock selection, and loading are based on the guidance and principles set forth in TM 743–200, TM 38–230–1, and TM 38–23–20. Additional or clarifying instructions considered necessary to the understanding and application of the standard warehousing methods are contained in DOD Manual 5105.34–M, GPMS, Volume I.

19–8. Composite Standards

a. Composite Standards are a combination of total standards, each representing allowed time for an individual task and weighted according to its frequency to provide one overall standard time for a higher level of production. Composite standards are developed by the use of refined engineering measurement techniques, such as predetermined Methods Time Measurement (MTM) and time study. There are five basic elements used to develop a composite standard and are as follows:

(1) *Basic data.* Basic Data are time values for elements of work which are common to one or more warehousing operations. (Example: close and nail wood box.)

(2) *Extended data.* Extended data combines a series of basic data elements which are common to one or more warehousing operations. (Example: Get empty pallet and position for palletization.)

(3) *Specific standards.* Specific standards are production standards representing normal times, in terms of Time Measurement Units (TMU), required to complete all productive effort of a specific task incident to a total task. (Example: prepare flatcar for loading.) A specific standard is composed of basic and extended data.

(4) *Total standards.* Total standards are production standards representing normal times, in terms of Time Measurement Units (TMU), required to complete all productive effort of an overall task. (Example: load solid flatcar.) A total standard is composed of basic and extended data, plus specific standards.

(5) *Composite standards.* Composite standards combine similar tasks based on their frequency of occurrence and establishes time values for the overall tasks of an activity. For example,

JOB . . . . . Unloading a Flatcar
LOCATION . . . . . Warehouse Platform or Open Storage Area
CONDITION . . . . . Car to Storage Location
METHOD . . . . . Mobile Crane (20 tons or more) unloads and Heavy Duty Forklift moves Material to Storage Location

PERSONNEL REQUIRED:

1 - Forklift truck operator - checker/ warehouseman
1 - Crane operator
4 - Riggers

EQUIPMENT REQUIRED:

1 - Mobile truck crane (20 Tons or over)
1 - Forklift truck (heavy duty)
Pallets and dunnage (as required)
Rigging gear
Tools for removing blocking and bracing

PROCEDURAL METHOD:

1. Documents:
   a. Receive advance documentation from document control

2. Prepare car for unloading (Warehouse/ Personnel)
   a. Receive instructions
   b. Travel to work area
   c. Open warehouse doors (as required)
   d. Obtain tools and safety flags from designated area
   e. Attach safety flags to ends of car
   f. Remove blocking and bracing from car
   g. Forklift truck operator -- checker/ warehouseman removes documents attached to the car

3. Prepare crane for unloading:
   a. Move crane to carrier
   b. Set up crane for unloading
   c. Obtain cable slings and attach to block

4. Handling of material:
   a. Forklift truck operator -- checker/ warehouseman obtains dunnage and places at work area
   b. Two riggers climb on carrier and rig cable sling to material
   c. Crane hoists and swings material from car
   d. Two ground riggers place dunnage and guide load to temporary stack and release cable sling
   e. Forklift truck operator -- checker/warehouseman lifts and moves the material to storage and stacks (as required)
   f. Two ground riggers assist in stacking operation (as required)
   g. Forklift truck operator -- checker/warehouseman tallies and makes a visual check of the material during unloading

5. Annotate and finalize documents incident to receiving operations:
   a. Annotate receiving document
      (1) Date received
      (2) Sign document
   b. Annotate government B/L
   c. When material is damaged, short, etc., prepare necessary documentation

6. After unloading (Whse personnel)
   a. Clean car and work area
   b. Remove safety flags
   c. Return tools and safety flags to designated area
   d. Close warehouse doors (as required)
   e. Proceed to next assignment or to office

7. Prepare crane for movement: (crane crew)
   a. Remove cable slings from hook and place on crane
   b. Lower and secure boom of crane for travel
   c. Proceed to next assignment or to office

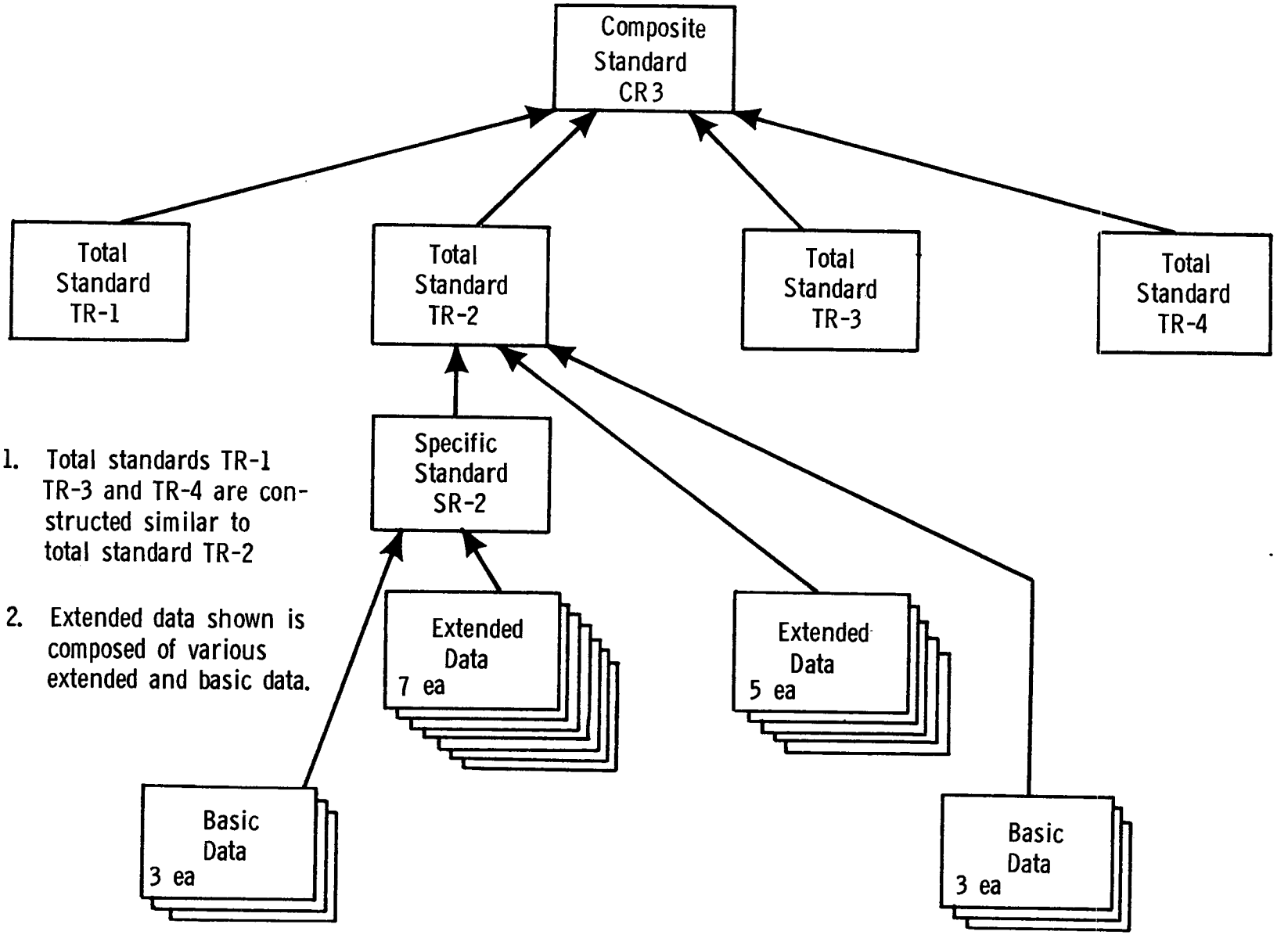
SPECIAL INSTRUCTIONS:

1. Damaged material should be set aside for inspection to determine the responsibility.

2. Special storage aides, such as a special pallet, may be required for the handling and storage of heavy items

3. Visual inspection should be made prior to unloading to determine if any damage is evident.

Figure 19-2. Method description.



NOTE: 1. Total standards TR-1 TR-3 and TR-4 are constructed similar to total standard TR-2

2. Extended data shown is composed of various extended and basic data.

Figure 19-3. Composite standard construction.

an activity receives 50 solid gondola cars, 100 forty foot solid boxcars, 25 solid 50 foot refrigerator cars, and 25 flat cars. Gondola cars would be weighted 1/4, solid boxcars 1/2, and flat cars 1/8. Taking the total standard for each of these rail cars, the composite standard for solid rail cars would be based on 1/4 the allowed time for gondola cars, 1/2 the time for boxcars, and 1/8 the time for 50 foot refrigerator and flat cars. Other composite standards are developed in a similar manner. The composite standards used by GPMS are developed from 127 items of basic data, 124 items of extended data, 31 specific standards, and 53 total standards. These five basic elements represent nothing more than a pyramiding (fig. 19–3) of small individual motion patterns of doing work into the broad yardstick needed to evaluate significant factors to make top management decisions based on scientific principles.

b. In order to understand a composite standard you must study its construction in detail starting at the top of the pyramid or the composite standard level and work down to the most basic data element. This is done by going to the total standard, then to the specific standard, then to the extended data, and finally to the basic data. Listed below are the various elements of a composite standard and how each element is developed:

(1) The composite standard, Receiving Solid Rail Cars, is the highest level of standards in GPMS. This standard is made up of four Total Standards. In other words, at this activity over half of the solid rail cars received are box cars; and another one-third are flat cars. This workload mix is depicted in the weighted ratio column, which is based on the frequency of occurrence and will vary among reporting activities. After all activities start to report, it will be possible to group activities or assign them to a Composite Standard for each subfunction which may be shared jointly by numerous activities. It is intended not to let this variation in grouping exceed a .05 level of confidence, even if it requires separate composite standards for each activity. At this point in time, it looks encouraging that the entire range is covered by 15 composite standards for each subfunction. A 15 percent allowance has been granted for PF&D (personnel time, fatigue, and delay) and is allowed only at the composite standard level. At this activity 5.56515 man-hours (1 TMU = .00001 man-hour) are allowed to unload the average solid rail car. GPMS defines solid and mixed rail cars on trucks as: one line item only is solid, more than one line item mixed. Therefore, a solid vehicle may have 500 pieces or it may only have one; but as long as there is only one line item, it is considered solid. On the other hand, if a vehicle has two pieces which comprise two or more line items, it is considered mixed.

COMPOSITE STANDARD

Operation: Receiving—Solid Rail Cars Code CR–3

Report Function Code: 3010

Four total standards are weighted to provide an average standard time to receive solid loads of material via rail. The term "solid" applies to all rail car vehicles received containing only one line item of material, regardless of quantity.

Included in this standard are the average times to perform tasks detailed in the following total standards. The weighted ratios are based on work units reported by four pilot activities during a 3-week sampling period and are subject to updating as additional data is made available.

Total standard	Standard title	Normal TMU time	Weighted ratio	Weighted TMU allowance
1. TR–1	Unload solid boxcar	669,741	.581	389,120
2. TR–2	Unload 40 foot solid reefer	759,436	.030	22,783
3. TR–3	Unload solid flatcar	136,122	.372	50,637
4. TR–4	Unload solid gondola car	232,622	.017	3,955
	5. Total weighted measured TMU time (1 + 2 + 3 + 4)			466,535
	6. Carrier cleanup TMU Allowance			20,000
	7. PF&D TMU Allowance (15%)			69,980
	8. Average standard TMU time (5 + 6 + 7)			556,515

9. TMU conversion to man-hours: 5.56515
10. Unit of measure: Solid rail car
11. Time of count: After completion of physical unloading
12. Point of audit: Receiving document against which count can be audited

(2) The first step down in the construction of this composite standard is the total standard level. Total standards are production standards representing normal times, in terms of Time Measurement Units (TMU), required to complete all productive effort of an overall task, subsequently weighted with similar tasks to produce a composite standard. For the purpose of explanation the total standard, TR–1, Unload Solid Boxcar will be used. The time performance for this operation is 669,741 man-hours. It can be seen that it takes approximately five times the labor effort to unload a solid boxcar as it does to unload a solid flat car. This standard is illustrated below. The source for this standard comes from specific standards (identified by the first letter of SR–1), extended data (identified by the first letter E), and basic data (identified by the first letter B). The frequencies in this standard are wide and range from 1 to 1497.

TOTAL STANDARD

Operation: Unload Solid Boxcar/50-foot Refrigerated Rail Code: TR–1

This standard includes all the time necessary to unload a solid load (one line item) of material from a boxcar or 50 foot refrigerator car. The standard begins with the preparation of the rail car for unloading and ends with the unloaded material palletized and placed in a permanent storage location.

Element	Source	Element time	Frequency	Normal time
Prepare car for unloading	SR–1	74,870	1	74,870
Place empty pallet in car	EMEP	549	40	21,960
Palletize material	EHPS	238	1497	356,286
Move pallet load out of car	EHFP	1,875	40	75,000
Move pallet load to storage location	EHTT	2,150	40	86,000
Stack pallet	BHFS	957	40	38,280
Document processing—per B/L	ECRB	1,105	1	1,105
Document processing—per pallet	ECPR	406	40	16,240
Total normal TMU time				669,741

(3) The second step down in the construction of the composite standard is the specific standard level, Prepare 50-foot Reefer/Boxcar for Unloading. Specific standards are production standards representing normal times, in terms of Time Measurement Units (TMU), required to complete all productive effort of a specific task incident to a total task. The man-hours or normal time to complete this task is *.74870* man-hours. As distinguished from composite and total standards, specific standards do not represent final production units. The specific standard is based on a combination of Basic and Extended Data. Specific standards are not subject to the degree of variation that is prevalent at the higher standard levels. This does not mean that specific standards will not be adjusted or that new ones will not be required, but that they are relatively stable and are not subject to as many outside influences. For example, regardless of the contents of the rail cars or the number of rail cars unloaded, each rail car still has to be prepared for unloading and the time required to accomplish the task is going to be nearly constant. This standard is illustrated below:

SPECIFIC STANDARD

Operation: Prepare 50-foot Reefer/Boxcar for Unloading
Code: SR–1

This standard includes all the time necessary to prepare a 50-foot refrigerator car or standard boxcar for unloading mixed or solid loads. This standard begins with the workers receiving instruction and includes travel to work area; opening the railroad car doors; removal of shoring and ends when the car is prepared for unloading. The elements listed below do not necessarily represent the sequence of operations followed during actual car preparation.

Element	Reference	Element time	Frequency	Normal time
Receive instructions	Est.	1,667	3.0	5,001
Travel to work area (90 paces/1 way) and return	*BWNO	1,387	4.0	5,548
Mount/dismount forklift truck	BEMD	666	1.0	666
F/L travel to work area and return (225 feet/1 way)	*EHTT	2,360	1.0	2,360
Remove seal and open carrier doors	*BMDO	725	2.0	1,450
Climb on and off dock	BMCG	297	2.0	594
Walk to other side of car and return	*BWOB	955	1.0	955
Remove packing list from carrier	BMPL	178	1.0	178
Remove door shoring	EMHD	10,188	2.0	20,376
Remove internal shoring	EMSL	10,962	1.0	10,962
Get empty pallets	EHFE	2,740	4.0	10,960
Dispose of door shoring	EHFU	6,234	1.0	6,234
Dispose of internal shoring	EHFU	5,384	1.0	5,384
Verify car seal number	ECVS	143	2.0	286
Get and return dock plate	EHFB	3,543	1.0	3,543
Open and close warehouse door	BMMD	745	.5	373
Total normal TMU				74,870

*Compute time for local use from tables.

(4) The third step down in the construction of the composite standard, Receiving Solid Rail Cars, is the extended data level. Extended data are time values for a series of basic data elements which are common to one or more operations. The extended data element selected to study is Get and Return Dock Plate. All events occur on a frequency of one or are repeated, if the event occurs more than once. For example, Pick up Dock Plate occurs twice and is listed twice. This extended data element uses both basic data and other elements of extended data. The Travel to Dock Plate time comes from extended data for the operation of a forklift truck and represents a round trip of up to 30 feet in one direction. The actual Pick up of the Dock Plate is a separate element of basic data. It should be noted that the element times are getting small. (27.8 TMU's = one second.) Therefore, the entire operation should take only a little over 2 minutes. This standard is illustrated below:

Operation: Get and Return Dock Plate-Forklift
Code: EHFB

This element includes all the time necessary to obtain and position a dock plate between a platform and a carrier with the use of a forklift truck; and subsequently to remove the dock plate with the use of a pinchbar and a forklift truck, and the return of the dock plate to storage with the use of a forklift truck. The element begins with a travel to the dock plate in storage and ends when the dock plate has been dropped in the storage location and the forklift truck has returned to the carrier.

Element	Reference or analysis	TMU
Travel to dock plate	EHTT	570
Pick up dock plate	BHFP	408
Position dock plate between platform and carrier	BHFS	392
Walk to/from pinchbar	BWNO	194
Get and set aside pinchbar	BMPS	155
Pry up dock plate*	F17	454
Pick up dock plate	BHFP	408
Travel to storage area	EHTT	570
Drop dock plate in storage	BHFS	392
Total normal time		3,543

*Computed on basis of operator holding plate up until forklift picks up plate.

(5) The fourth and final step down in the construction of the composite standard is the basic data level. Basic data are time values for elements of work which are common to one or more operations developed from approved or universally accepted work measuring techniques. For purposes of the system, basic data development was restricted to pertinent elements of warehousing functions. A pinchbar that weighs 35 pounds must be picked up and later set aside. This operation requires 155 TMU's to perform and is illustrated below:

BASIC DATA

Operation: Pick up and Set Down Code: BMPS

This element includes all the time necessary to obtain control of an object that requires special handling, due more to physical size rather than density. The element begins with a reach to the object and ends with the object being set down. The time values assigned include the time for lifting an object whose total weight ranges from 35 to 70 pounds.

Element	TMU For Weights To:				
	35 lbs	45 lbs	55 lbs	65 lbs	75 lbs
Pick up object	78	94	99	164	171
Set down object	77	82	87	91	97
Total normal time.	155	176	186	255	268

c. The purpose of basic and extended data is to provide efficiency in standard setting by eliminating the need for repeating basic motion analyses. Once the complexity of a task to be measured is determined, the measurement of the task is simplified through the application of this data. Basic and extended data are common building blocks that can be used to create local finite standards (DIMES) as well as gross measurement standards. The primary difference between the two are frequencies or occurrences, material densities, distances, etc. In GPMS, average occurrence, densities and distances are used (obtained initially from the pilot studies); while finite (local) standard programs use actual condition and occurrences. Although the two programs are designed for different purposes, both can and should be developed from the same bases. Thus, the basic and extended data in DOD Manual 5010.15.1-M can be used in developing local engineered time standards and finite standards for use in the DIMES program. This was one of the primary reasons for publishing this backup data. To adequately reflect a composite standard based on workload, a Frequency Questionnaire is prepared by each reporting activity before entering into the system and then updated twice a year. This questionnaire provides a minimum of production data required to sustain the development of Composite Standards.

19–9. Reporting

One of the most important aspects of GPMS is the reporting system. The reports generated by the system enable the Department of Defense to evaluate the gross warehousing performance of individual installations or to make system-wide evaluations. The data collected from the reports provides the basis for evaluating the performance at all management levels. They also provide guidance for improving warehousing operations either in broad or specific categories as required. At the end of each quarter, each depot prepares and submits data submission cards (fig. 19–4) to the AMC Depot Data Center. These cards contain GPMS data on the subject of man-hours, production, costs, and narrative analyses for warehousing operations. Based on the data submission cards received from the depots, the AMC Depot Data Center will mechanically produce and forward to USAMC Headquarters seven reports; an Individual Installation Report, AMC Consoliport, DWMO Management Report, and GPMS Analysis Report, AMCGPMS Management Report, DWMO Management Report, and GMPS Exception Report. The Army Materiel Command Headquarters will prepare the Production and Actual Hour Summary, DD Form 1533, (figs. 19–5 and 19–6) and a narrative analysis and forward them thru the Office, Deputy Chief of Staff for Logistics, Department of the Army, to the Director, Defense Supply Agency. As mentioned previously, the reports provide a basis for management control through evaluation of installation and activity performance. The reports will also point out those installations that need greater intensification of management effort.

TITLE: GPMS DATA SUBMISSION CARD

CARD FORMAT

FIELD TYPE	DOCUMENT IDENTIFIER CODE	ROUTING IDENTIFIER CODE (TO)	ROUTING IDENTIFIER CODE (FROM)	FY CODE	FY QTR CODE	LINE NUMBER	REMARKS INDICATOR	PRIME COUNT	PIECE/UNIT COUNT	DIRECT MAN-HOURS (M/H)	INDIRECT MAN-HOURS (M/H)	LINE ITEMS, PACKAGES, CONTAINERS, PIECES	SHORT TONS (STON)	MEASUREMENT TONS (MTON)	LEAVE HOURS	OVERTIME HOURS	LABOR COSTS
	1-3	4-6	7-9	10	11	12-13	14-15	16-22	23-29	30-35	36-41	42-48	49-54	55-61	62-67	68-73	74-80

DATA SUBMISSION CARDS ARE PREPARED ON GENERAL PURPOSE CARD FORMS.

A. COMPLETE CARD COLUMNS 1 THROUGH 13 OF EACH CARD SUBMITTED, AS FOLLOWS:

CARD COLUMNS	EXPLANATION
1-3	ENTER "BGB" TO IDENTIFY GENERAL SUPPLY REPORT. ENTER "BGA" TO IDENTIFY AMMUNITION REPORT.
4-6	ENTER "BK4."
7-9	ENTER THE ROUTING IDENTIFIER (RI) CODE OF THE REPORTING INSTALLATION LISTED IN APP II-2, 725-50. (RIO VISTA USE SHARPE RI CODE WITH AN "11" OVER-PUNCH IN CARD COLM 11.)
10	ENTER THE LAST DIGIT OF FISCAL YEAR OF THE REPORT (E.G., 9 FOR FY 69).
11	ENTER A "1," "2," "3," OR "4" TO DESIGNATE THE QUARTERLY PERIOD OF FISCAL YEAR. (MAY CONTAIN AN "11" OVERPUNCH FOR R10 VISTA.)
12-13	ENTER LINE NUMBER FROM APPENDIX B FOR GENERAL SUPPLIES OR APPENDIX C FOR AMMUNITION.

B. PREPARE AND SUBMIT REMARKS CARDS, AS NECESSARY, TO CLARIFY ANY REPORTED DATA ELEMENT WHICH REFLECTS AN EXTREME OR QUESTIONABLE VALUE. IDENTIFY REMARKS CARDS BY ENTERING "01" IN CARD COLUMNS 14 AND 15 FOR THE FIRST CARD OF A PARTICULAR REMARK AND "02," "03," ETC., FOR EACH SUCCEEDING CARD FOR THE SAME REMARK. ENTER REMARKS IN CARD COLUMNS 16 THROUGH 80.

C. ENTER DATA FIELD QUANTITIES IN CARD COLUMNS SHOWN, AS FOLLOWS:

CARD COLUMNS	EXPLANATION
16-22	ENTER THE PRIME COUNTS PRODUCED. DO NOT REPORT FOR AMMUNITION.
23-29	ENTER THE PIECE/UNIT COUNTS PRODUCED.
30-35	ENTER DIRECT MAN-HOURS (M/H).
36-41	ENTER INDIRECT M/H.
42-48	ENTER CONVENTIONAL WORK UNITS PRODUCED AS APPLICABLE.
49-54	ENTER SHORT TONS (STON).
55-61	ENTER MEASUREMENT TONS (MTON).
62-67	ENTER LEAVE HOURS.
68-73	ENTER OVERTIME HOURS (USE THESE CARD COLM TO REPORT NON-CONVENTIONAL AMMUNITION HOURS, LINE 34 OF THE AMMUNITION REPORT).
74-80	ENTER TOTAL 1.1 APPLIED M/H COSTS TO THE NEAREST WHOLE DOLLAR.

D. REPORT ALL PRODUCTION/LABOR FOR PARTS I AND II, IN CARD COLUMNS 30 THROUGH 80.

E. REPORT ALL PRODUCTION/LABOR FOR PART III, IN CARD COLUMNS 16 THROUGH 41.

F. IN ACCORDANCE WITH THE LEGEND SHOWN IN APPENDIX B FOR GENERAL SUPPLIES OR APPENDIX C FOR AMMUNITION ONLY DATA ELEMENTS DESIGNATED "R" WILL BE REPORTED. ELEMENTS "S" AND "C" NEED NOT BE REPORTED SINCE REPRESENTATIVE DATA WILL BE AUTOMATICALLY ENTERED IN COMPUTER RECORDS OR DEVELOPED BY SUMMARY COMPUTATION AT THE CENTRAL DATA BANK.

G. WHERE NO UNITS ARE PRODUCED OR HOURS EXPENDED, ZERO-FILL THE QUANTITY FIELDS. WHERE A POSITIVE VALUE ENTRY IS REQUIRED, RIGHT-JUSTIFY THE QUANTITY FIELD AND ZERO-FILL THE UNUSED CARD COLUMNS.

PRODUCTION AND ACTUAL HOUR SUMMARY *(WAREHOUSING)*	1. REPORTING ACTIVITY CODE	2. REPORT PERIOD ENDING	*REPORT CONTROL SYMBOL DD-DSA(Q) 531 (DWMO)*
FROM *(Reporting Activity)* :	VIA:	TO:	

PART-I COSTS OF OPERATIONS SUMMARY

A. REPORT ALL LEAVE IN COL. F
B. REPORT OVERTIME WORKED IN COLS. D, E, G, AND AS MEMO NON-ADD ENTRY IN COL. H
C. * INDICATES MEMO NON-ADD ENTRY

REFERENCE CODES			MANHOUR COSTS					TOTAL LABOR COSTS
LINE a	COST CODE b	OPERATION OR FUNCTION c	DIRECT LABOR d	INDIRECT LABOR e	LEAVE f	TOTAL MANHOURS g	OVERTIME (MEMO) h	j
1	1.1	STORAGE AND WAREHOUSING						

PART-II MANHOURS AND PRODUCTION BY FUNCTION

REFERENCE CODES			MANHOUR DATA			PRODUCTION DATA CONVENTIONAL WORK UNITS i		
LINE a	COST CODE b	OPERATION OR FUNCTION c	DIRECT LABOR d	INDIRECT LABOR e	TOTAL k			
2		SUMMARY ENGINEERED FUNCTIONS						
3	1.13	STORAGE SUPPORT	*	*	*			
4	1.131	CARE OF MATERIAL				LINE ITEMS	SHORT TONS	MEAS. TONS
5	1.132	REWARE-HOUSING				LINE ITEMS	SHORT TONS	MEAS. TONS
6	1.133	PRESERVATION & PACKAGING				PACKAGES		
7	1.134	CONTAINER ASSEMBLY				CONTAINERS		
8	1.135	UNIT/SET ASSEMBLY				PIECES		
9	1.136	INVENTORY				LINE ITEMS		
10	1.137	TRAINING						
11	1.139	GENERAL STORAGE SUPPORT						
12	1.14	OTHER STORAGE OPERATIONS	*	*	*			
13	1.141	BULK FUEL						
14	1.142	CUSTOMER SERVICE STORES						
15	1.143	QUALITY CONTROL						
16	1.144	TRANS-SHIPMENT (TRANSFER)				SHORT TONS	MEAS. TONS	
17	1.19	GENERAL STORAGE & WAREHOUSING SUPPORT						

REMARKS

SAMPLE

DD FORM 1 JUN 67 1533 REPLACES EDITION OF 1 MAY 65 WHICH IS OBSOLETE

Figure 19–5. Page 1 of DD Form 1533, Production and Actual Hour Summary (Warehousing).

PART III MANHOURS AND PRODUCTION BY ENGINEERED FUNCTIONS

LINE a	COST CODE b	OPERATION OR FUNCTION c	PRIME COUNT m	STD n	PIECE COUNT o	STD p	EARNED HOUR TOTAL q	DIRECT HOURS d	INDIRECT HOURS e	TOTAL HOURS k	NIP r
18		SUMMARY ENGINEERED FUNCTIONS						*	*	*	
19		SUMMARY ENGINEERED DIRECT					*	*			
20	1.11	RECEIPT TOTAL					*				
21		RECEIVE TRUCKS SOLID									
22		RECEIVE TRUCKS MIXED									
23		RECEIVE RAIL SOLID									
24		RECEIVE RAIL MIXED									
25		RECEIVE PARCEL POST									
26		RECEIVE DOC. L/1									
27		SHORT TONS									
28		MEAS. TONS									
29	1.12	PACKING & ISSUE SUMMARY						*	*	*	
30	1.121	PACKING TOTAL					*				
31		CP-1									
32		CP-2									
33		CP-3									
34	1.122	BULK ISSUE									
35	1.123	BIN ISSUE									
36	1.124	SHIPPING TOTAL					*				
37		SHIP TRUCKS SOLID									
38		SHIP TRUCKS MIXED									
39		SHIP RAIL SOLID									
40		SHIP RAIL MIXED									
41		PARCEL POST									
42		DOC. L/1									
43		SHORT TONS									
44		MEAS. TONS									
45	1.129	PACKING & ISSUE SUPPORT									

SAMPLE

Figure 19–6. Page 2 of DD Form 1533, Production and Actual Hour Summary (Warehousing).

APPENDIX A

REFERENCES

A-1. Department of Defense Directives

4000.4	DOD Materials Conservation Policy.
4100.14	Uniform Preservation, Packaging, Packing, and Marking of Items of Military Supply.
4100.32	Controlling the Entry of Items into the Military Suppy System.
4100.36	Cargo Unitization.
4145.19	Storage and Warehousing Facilities.
4150.7	Pest Control Operations at Military Installations.
4500.32-R	Military Standard Transportation and Movement Procedures (MILSTAMP).
5010.15	Defense Integrated Management Engineering Systems (DIMES) in DOD Industrial-Type Activities.
5105.22	Defense Supply Agency.
5105.31	Defense Atomic Support Agency.
5126.22	Assistant Secretary of Defense (Installations and Logistics).
5158.1	Organization of Joint Chiefs of Staff and Relationships with the Office of the Secretary of Defense.
5160.53	Single Manager Assignment for Military Traffic, Land Transportation, and Common-User Ocean Terminals.
7000.1	Resource Management Systems in the Department of Defense.

A-2. Department of Defense Manuals

4160.21-M	Defense Disposal Manual.
5010.15.1-M	Materials Handling Standard Time Data.

A-3. Military Standards

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129	Military Standard Marking for Shipment and Storage.

A-4. Army Regulations

10-1	Functions of the Department of Defense and its Major Components.
10-5	Department of the Army.
10-7	United States Continental Army Command.
10-11	United States Army Materiel Command.
10-12	United States Army Combat Developments Command.
10-13	United States Army Strategic Communications Command.
11-8	Principles, Objectives, and Policies of the Army Logistics System.
37-100	The Army Management Structure (Fiscal Code).

37-110	Accounting, Reporting, and Responsibility for Industrial Funded Installations and Activities.
40-61	Medical Materiel Policies and Procedures.
55-203	Movement of Nuclear Weapons, Nuclear Components, and Related Classified Nonnuclear Materiel.
55-355	Military Traffic Management Regulation.
210-30	Selection of Sites for Army Installations.
310-3	Preparation, Coordination, and Approval of Department of the Army Publications.
380-5	Department of the Army Information Security Program.
385-10	Army Safety Program.
385-30	Safety Color Code Markings and Signs.
672-20	Incentive Awards.
700-2	Defense Supply Agency (DSA).
700-15	Preservation, Packaging, and Packing and Marking of Items of Supply.
710-1	Centralized Inventory Management of the Army Supply System.
725-50	Requisitioning, Receipt, and Issue System.
735-5	General Principles and Policies and Basic Procedures.
735-10	Principles and Policies; Accounting for Lost, Damaged, and Destroyed Property.
735-11	Accounting for Lost, Damaged, and Destroyed Property.
740-1	Storage and Supply Activity Operations.
740-6	Depot Operations Cost and Performance Report.
740-22	Care of Supplies in Storage, Inspection, and Reporting.
740-26	Physical Inventory Control.
740-30	Commercial Warehouse Service Plan for Department of Defense Agencies.
742-9	Ammunition Advisors and Specialists.
742-10	Ammunition Inspection and Lot Number Reports.
746-1	Color, Marking, and Preparation of Equipment for Shipment.
750-1	Army Materiel Maintenance Concepts and Policies.
755-1	Reporting, Utilization, and Redistribution of Installation, US Army Materiel Command, and Oversea Command Excess Personal Property.

A-5. Field Manuals

9-6	Ammunition Service in the Theater of Operations.
38-1	Logistics Management.
38-2	Logistics—Inventory Management.
38-5	Logistics—Maintenance Management.
38-6	Logistics Management Controls.
38-8	International Logistics Management.

A-6. DA Pamphlets

570-566	Staffing Guide for US Army Depots.

A-7. Technical Manuals

5-803-4	Planning of Army Aviation Facilities.
38-230-1	Preservation, Packaging, and Packing of Military Supplies and Equipment: Preservation and Packaging (Vol I) (DSAM 415.2, Vol I; NAVAIR 15-01-1; AFP 71-4, Vol I; MCO P4030.31).

38–230–2	Preservation, Packaging, and Packing of Military Supplies and Equipment: Packing (Vol II) (DSAM 4145.2, Vol II; NAVAIR 15–01–2; AFP 71–4; MCO P4030.21A).
55–600	Transportation Services at Continental United States (CONUS) Installations.
743–200	Storage and Materials Handling.
743–200–1	Storage and Materials Handling.
743–200–2	Storage Modernization.

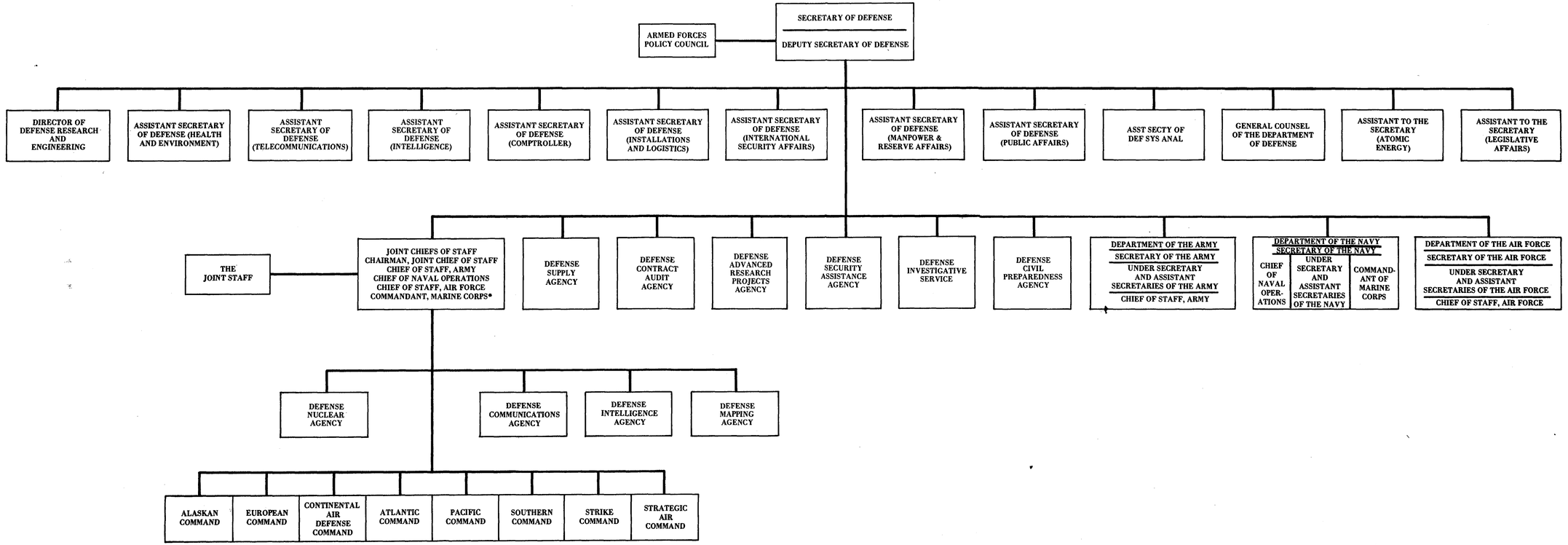
A–8. Supply Bulletins

740–1	Storage and Supply Activities, Covered and Open Storage.

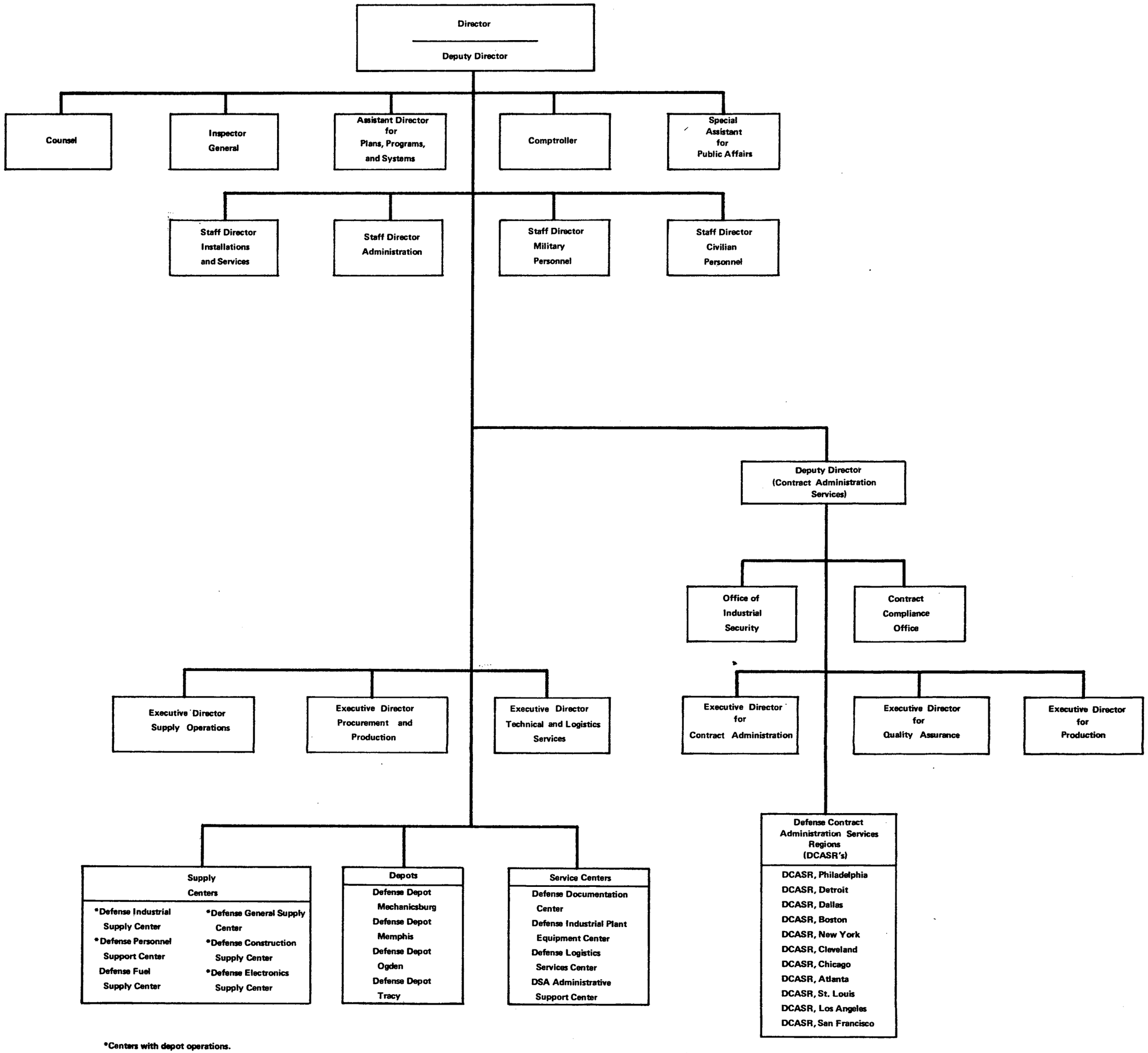
A–9. Civilian Personnel Regulations

CPR 990–2	Hours of Duty, Pay and Leave, Annotated.

INDEX



*WHEN RETAINING TO MARINE CORPS MATTERS



★*Figure 3–1. Defense Supply Agency.*

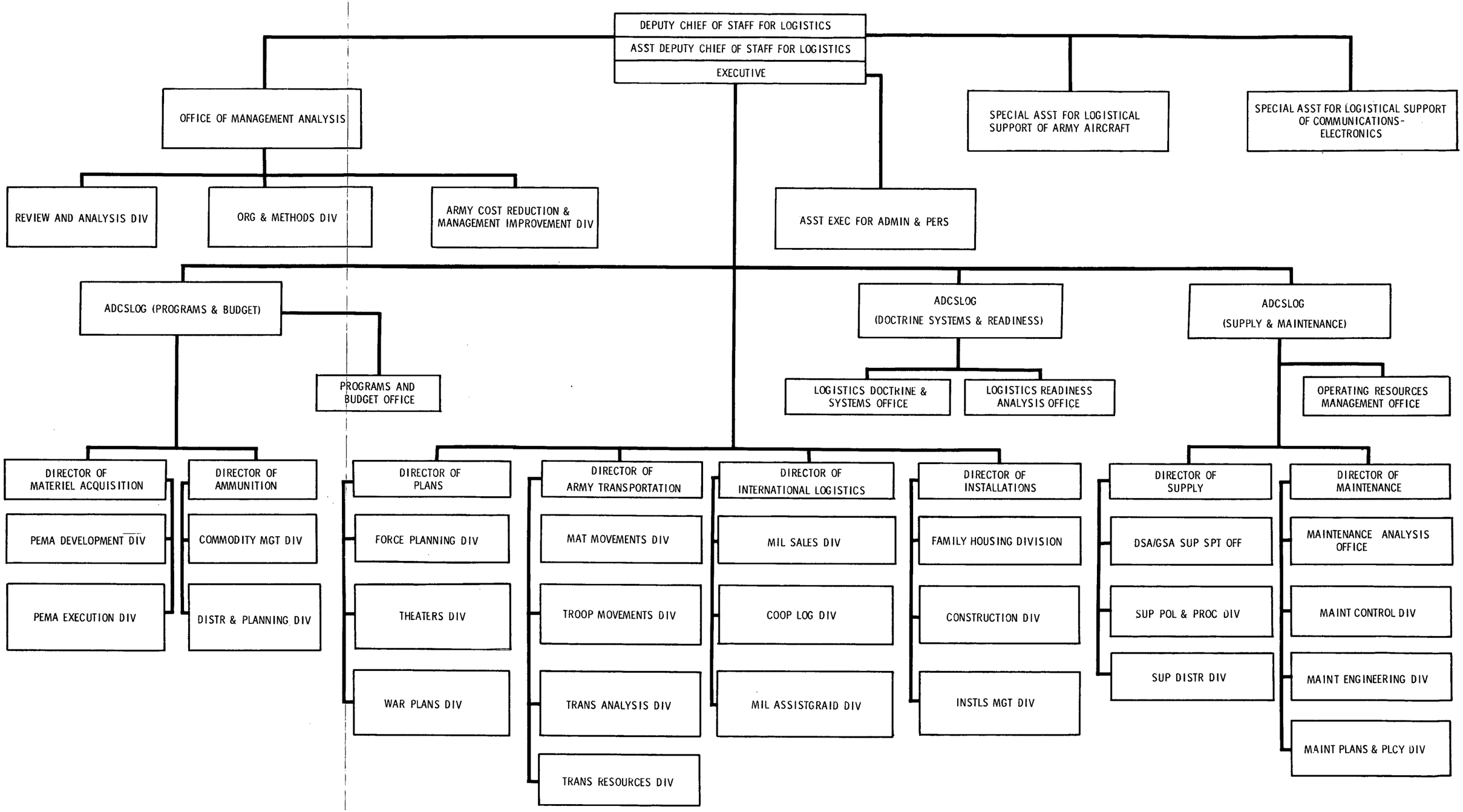
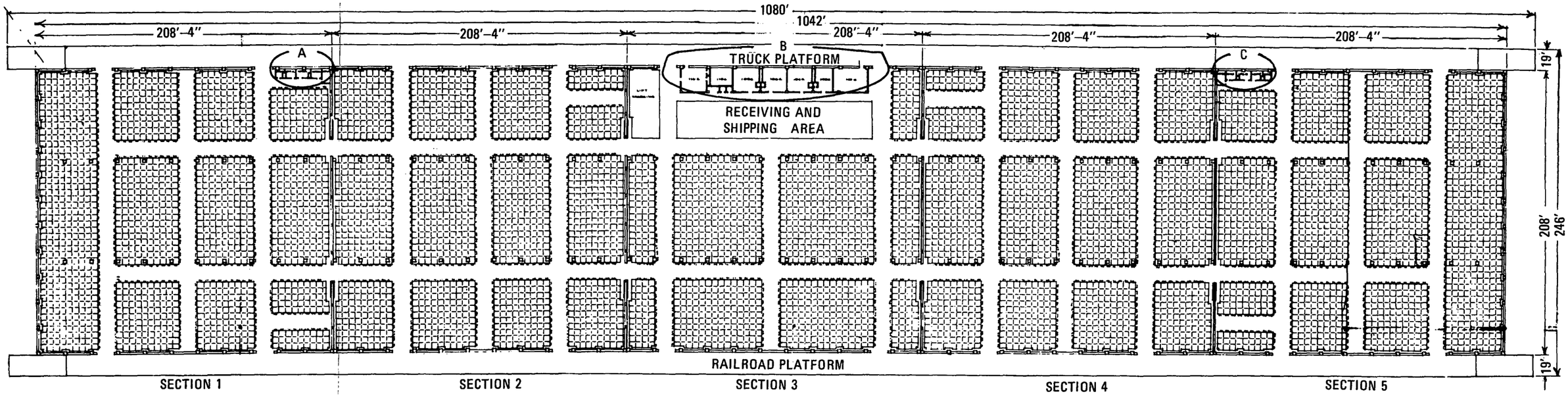


Figure 4–1. Office of the Deputy Chief of Staff for Logistics.

Figure 8–3. Warehouse floor plan—typical layout.

Figure 8–3.



DETAIL A

101A	102A	103A	104A	105A

SPACE NO	SPACE ASSG
101A	WOMEN'S RESTROOM
102A	WOMEN'S RESTROOM
103A	MEN'S RESTROOM
104A	MEN'S RESTROOM
105A	VALVE ROOM

LEGEND

MEDIUM LOT STORAGE

DETAIL B

101B	102B	103B	104B	105B	106B	107B

SPACE NO	SPACE ASSIGNMENT
101B	OFFICE
102B	BOILER ROOM
103B	MEN'S RESTROOM
104B	MEN'S RESTROOM
105B	WOMEN'S RESTROOM
106B	WOMEN'S RESTROOM
107B	REST AREA, LUNCH ROOM

DETAIL C

101C	102C	103C	104C	105C

SPACE NO	SPACE ASSG
101C	VALVE ROOM
102C	MEN'S RESTROOM
103C	MEN'S RESTROOM
104C	WOMEN'S RESTROOM
105C	WOMEN'S RESTROOM

	LIMITED TENURE OF STORAGE		FAVORABLE STORAGE		SHED OR OPEN STORAGE		UNKNOWN STORAGE		OVERSEA AIR SHIPMENT		OVERSEA WATER SHIPMENT		OVERSEA CONTAINERIZATION SHIPMENT		OVERSEA PARCEL POST	
	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing	Pres-Pkg	Packing
Shipments from contractors or other supply sources in CONUS to:																
a. CONUS requisitioners for immediate use w/no redistribution	C	C														
b. CONUS depots for storage and redistribution to:																
(1) CONUS requisitioners			B/C	B/C	A	A	A	A								
(2) Oversea requisitioners			A/B	B	A	A	A	A								
c. CONUS contractors for assembly (GFP)	C	C	B/C	B/C	B	B										
d. Oversea requisitioners																
(1) In support of combat operations																
(a) For immediate use									A/B	A/B/C	A/B	A/B	A/B	A/B/C	A/B	B/C
(b) Storage and redistribution anticipated			A/B	A/B	A	A	A	A	A/B	A/B	A	A	A/B	A/B	A/B	A/B
(2) Other than combat operations																
(a) For immediate use	B/C	B/C							B/C	B/C	A/B	A/B	A/B	B/C	B/C	C
(b) Storage and redistribution anticipated			B	B	A	A			A/B	B	A/B	A/B	A/B	B	A/B	B

NOTES: 1. When a choice of levels is indicated, selection will be based on the following criteria:

a. Level A
   (1) Ultimate destination is unknown; or
   (2) Duration or condition of storage is unknown or cannot be determined; or
   (3) Unfavorable transportation or handling conditions are known or anticipated; or
   (4) Open or shed type storage is known or anticipated; or
   (5) The item/shipment is known or anticipated to require the maximum degree of protection.

b. Level B
   (1) Ocean shipments are intended for immediate use and favorable transportation, storage, and handling conditions are known to exist; or
   (2) Short term favorable storage and movement which do not involve ocean transportation; or
   (3) Storage tenure will not exceed the level B package shelf life when established by specifications.

c. Level C
   (1) Movement, storage, and handling conditions are known to permit this level; or
   (2) Shipments moving via other than ocean transportation are for immediate use at the first receiving activity.

2. In selecting levels based upon transportation media, consideration will be given to the additional modes of transportation and type of handling to which the item/supplies may be subjected.

Figure 9-2. Guidelines for selection of minimum levels of protection.

Figure 9-2.

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12–11 requirements for Logistics Management, Supply Operations at the Depot.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1969—356–288/20030A