

OVERVIEW OF MAJOR ITEM MANAGEMENT

1. Introduction.

a. **Scope and Purpose.** Department of Defense (DOD), in general, has divided its supply inventory into two categories, "major" and "secondary" items. This section will address the philosophy for managing items as major items; the designation of items for major item management; the Army Inventory Management System; Type Classification (TC) and Logistics Control Codes (LCC) assigned to major items; and the assignment and use of identification and control numbers used in major item management.

b. **Major Item Management Concept.** The primary attention by the military departments in the management and control of assets is given to equipment and weapon systems identified as major items. Major items encompass those items such as aircraft, trucks, tanks, weapons, etc., that require centralized individual item management because of the criticality of such items and the dollar investment. The final decision concerning major item requirements and procurement normally is made at Headquarters, Department of the Army (HQDA), the Joint Chiefs of Staff (JCS), or DOD level.

c. **Inventory Management.** The inventory management for major items is assigned to the appropriate Major Subordinate Command (MSC) which, in turn, designates Integrated Materiel Managers (IMM's) for each major item of equipment or weapon system assigned to that command. Inventory management involves several functions, including requirements, procurement, inventory control, distribution, and depot level maintenance, materiel utilization, and disposal. The major item manager's involvement in these functions is explained in paragraph 1-4.

d. **DOD/DA Viewpoint on Major Item Management.** Top-level logistical managers realize that problems encountered in the management of major items procurement, inventory controls, and distribution are different from those management problems realized for their supporting items collectively known as **secondary items**. One of the primary factors involving the segregation of major items from secondary items is the **difference in determining requirements and establishing allowances and objectives**. Major item requirements are based on allowances (Initial Issue Quantity (IIQ)) and the size and shape of the force being studied. Allowances are the quantity of items needed for organizational structures and missions. The objective requirement is obtained by adding operational requirements over and above the IIQ (project stocks/maintenance floats); and the quantity of items needed to replace equipment that is expected to wear out through Fair Wear and Tear (FWT) during mobilization training, or to be damaged or lost under combat conditions. **Major item requirements are worldwide and are compared to worldwide assets**. Secondary item requirements are normally based on analysis of past demands and forecasted future demands, establishing stockage levels through a process known as requirements determination. Secondary items are normally managed by the Automatic Data Processing Systems (ADPS) supporting the item manager, whereas **major items are "manager" managed**. Intensive management of major items is necessary not only from the viewpoint of their high-dollar value, but also for their essentiality for combat or combat support training, or difficulty of procurement or production. **The Secretary of Defense is concerned because major items represent the largest portion of the defense dollar investment and the largest part of the annual procurement funds.**

e. **Funding.** Major items cannot be procured from industry until funds from **Congressional appropriations** become available. The Office of Management and Budget (OMB) apportions these defense funds; the Office of the Secretary of Defense (OSD) releases the programs and funds; the Comptroller of the Army allocates the funds to the U.S. Army Materiel Command (AMC); and AMC suballocates the funds to

its Major Subordinate Commands (MSC's) which are responsible for the procurement actions necessary to obtain major items.

f. **Control and Visibility.** Major items are **issued only to fulfill approved authorizations.** Reports are made of worldwide assets, including those assets in the hands of troop units and held for maintenance float, operational projects, and war reserves.

2. Definition. Major Item. A final combination of component parts and/or materials which is ready for its intended use and of such importance that it is subject to continuing centralized individual authorization and management at all levels of command and support echelons.

3. Designation of an Item as a Major Item (AR 710-1, chapter 9, 9-1).

a. The **minimum** criteria used in designating an item as a major item are as follows:

(1) The **item must be an end item** (a final combination of end products, components, or materials which is ready for its intended use).

(2) The item supports either a **combat or combat support mission requirement.**

(3) The item is of such importance to army operational readiness that **review and control of inventory management functions** (procurement, requirements of distribution, maintenance, disposal, and asset reporting) **is required at all levels of logistical management.**

(4) Requirements are computed and programmed from **equipment authorization and requirements documents** of the approved force structure.

(5) The item has a **unit cost of \$3,000 or more.**

(6) The item is **separately type classified.**

(7) Major items have individual budget lines in the Army budget and are procured using procurement appropriations authorized by Congress.

b. An item meeting all of the above criteria is assigned supply class VII and is assigned an Appropriation and Budget Activity (ABA) code of A through Q.

c. **Items managed as major items without regard to the above criteria are as follows. Exception criteria:**

(1) All **motorized wheeled, tracked, and towed vehicles** for use on highway or rough terrain.

(2) All **weapon and missile end items.**

(3) All **ammunition.**

(4) All **boats and ships.**

(5) All **sets, assemblies, or end items having a major item as a component.**

(6) **Selected construction material** assigned supply class IV with ABA code of A-Q.

(7) **Sets, kits, and outfits which are type-classified and authorized by a Modified Table of Organization and Equipment (MTOE)** or Table of Distribution Allowances (TDA).

(8) Items justified at **OSD or Congressional level**.

4. Department of the Army Organization for Major Item Management.

a. **General.** The management of major items involves key staff elements at both the Department of the Army (DA) level as within the Army Material Command (AMC). In addition to policy and guidance responsibilities, the staff elements at both levels are involved in the procurement and distribution processes related to major items (Figure 1).

b. **Assistant Secretary of the Army (Acquisition, Logistics, and Technology (ASAALT).** The ASAALT serves as the Army Acquisition Executive with senior level responsibility for the development and implementation of Army Acquisition programs. In addition to the central role in acquisition, the ASAALT impacts major items in the following ways:

- (1) Determines procurement policy and provides implementation guidance.
- (2) Provides overall staff supervision for the type classification process.
- (3) Determines those major items requiring DA control.
- (4) Directs ODCSLOG and AMC with approved Program Budget Decisions (PBD) and funding approvals.
- (5) Provide technical details and advise on the major component items and Assisted Support Items of Equipment (ASIOE) to be included in AMIS definitions.

c. **Deputy Chief of Staff for Operations and Plans (DSCOPS).** The DA DSCOPS is the operations and plans element on the Army Staff tasked with developing the necessary plans for the Army to fulfill its mission. In conjunction with its plans responsibilities, the DSCOPS has interest in major item management issues in order to be able to execute its plans. DCSOPS' major item involvement encompasses:

- (1) Sets equipment distribution priorities.
- (2) Exercises DA staff responsibilities for processing and approving the Basis of Issue Plan (BOIP).
- (3) Develop policy for the Army Authorization Document System (TAADS) and manage its execution.
- (4) Approval authority for the OPROJ requirements.
- (5) Readiness oversight of Army Prepositioned Sets (APS).
- (6) Approval authority for equipment requirement and authorization changes.

- (7) Logistics Structure and Composition System (LOGSACS) responsibility.
- (8) Provide policy and guidance for the AAO.

d. **Deputy Chief of Staff for Logistics (DCSLOG).** The DA DCSLOG is the principal logistician on the Army staff. This office has overall responsibilities for setting policies and procedures for centralized inventory management of Army material (major and secondary items). The specific major item responsibilities of the DA DCSLOG are:

- (1) DA staff proponent and coordinator for equipment distribution planning.
- (2) Sets materiel distribution policy and provides staff guidance for distribution and redistribution.
- (3) Serve as the DA staff focal point for equipment distribution planning and execution.
- (4) Provides policy and guidance to develop and maintain preposition sets (PREPO sets).
- (5) In conjunction with the DCSOPS provides guidance, exercises control over the operational projects (OPROJ) stocks.
- (6) Set policies and provide guidance on maintenance issues and programs.
- (7) Monitor and control the policy for Line Item Number (LIN) substitutions.

e. **Deputy Chief of Staff for Personnel (DCSPER).** All personnel related issues are the responsibility of the DCSPER. Although the direct impact on major items is somewhat removed, personnel issues do impact the readiness issues associated with major items. The development of military occupational specialties (MOS) ensuring the proper skills are available to operate and maintain the equipment. In conjunction with MOS development, the DCSPER is responsible for personnel requirements and authorization approvals.

f. **The Commanding General, U.S. Army Materiel Command (AMC).** The CG, AMC provides command and control over the National Inventory Control Points (NICP) which in themselves manage their assigned major items. The key role AMC fulfills is it serves as the Army materiel developer. Additional specific responsibilities include the following:

- (1) Provide wholesale level management of repair cycle float (RCF) assets.
- (2) Prepare policy and procedures for Type Classification (TC) system.
- (3) Control the End item Code (EIC) program.
- (4) Provide guidance and control the Line Item Number (LIN) system.
- (5) Serve as the Executive Agent for security assistance programs.

g. **AMC, Industrial Operations Command (IOC).** The IOC provides command and control over depot maintenance operations, manufacturing facilities, and is the DOD conventional ammunition manager. In addition, a key responsibility is the management of the Army's Pre-Positioned Stocks.

h. **U.S. Army Security Assistance Command (USASAC).** The primary role of USASAC is in the coordination of major item sales to friendly foreign governments. This responsibility is carried out in conjunction with the major item managers within the respective NICP's. Follow on equipment upgrades and maintenance program for allied owned major items are also within USASAC responsibilities.

i. **AMC, Major Subordinate Commands (MSC) with National Inventory Control Point (NICP)/Integrated Materiel Management Center (IMMC) Responsibilities.** The IMM for major items within the NICP's are the focal point for the management of major items, there are presently six NICP, IMM centers within the AMC. The position of the Item Manager along with a team of related support positions carry out the detailed intricate actions necessary to manage major item assets. The list of responsibilities for the NICP/IMMC is almost endless but some of the main ones are:

- (1) Manage major item assets fulfilling acquisition needs, distribution actions, and maintenance issues.
- (2) Request the assignment of a host of management codes to include EIC, RICC, and SSN.
- (3) Submit cataloging data for NSN assignment and other Federal Cataloging System requirements.
- (4) Develop planned major item repair programs.
- (5) Develop repair cycle (RCF) and maintain operational readiness float (ORF) factors.
- (6) Provide disposition instruction on excess major items.

j. **AMC, Logistics Support Activity (LOGSA).** LOGSA is a logistics products and services organization under the command of AMC. With a very wide and diverse logistical mission, LOGSA provides integrated logistics support, contingency planning, material distribution management, and manages some 66 different data bases or automated logistics systems to mention a few. Specifically impacting major item management, LOGSA is responsible for:

- (1) Policy and guidance on the Army participation in the Federal Cataloging System.
- (2) Prepare and maintain DA component list for sets, kits, and outfits.
- (3) Assign Line Item Numbers (LIN) notifying IMM of their assignments.
- (4) Develop, maintain, and support TAEDP, ATAV, DES, and AWR systems.
- (5) Produce REQUAL and ERPS products to support major item requisitioning.
- (6) Functional management of the Major Item System Map (MISM) network.
- (7) Control and assign Standard Study Numbers (SSN) for all major items.
- (8) Publish SB 700-1-1 and SB 700-20.
- (9) Provide TAEDP products to HQDA for use in the documentation and distribution planning processes.

(10) Ensure the accuracy of the major item Worldwide Asset Position (WWASP).

5. Identification and Control Numbers for Major Items (AR 710-1, chapter 9, 9-2). With the vast number of items being introduced into and maintained within the Army inventory management system, some type of procedure is necessary for control and accountability. The primary method used for the control of Army-adopted items of materiel is through the assignment of the following codes and/or numbers.

a. **National Stock Number (NSN).** The NSN is a number **assigned to each adopted item of materiel used, purchased, stocked, or distributed within the Federal Government.** The MSC's of AMC will **request from the Defense Logistics Services Center (DLSC) the assignment of an NSN for all new items of materiel (major items)** being introduced into the Army inventory system. The MSC will prepare a Federal Item Identification Guide (FIIG) using the Military Standard Item Characteristics Coding Structure (MILSTICCS) format and forward it to DLSC for assignment of the NSN. The NSN is the tool used in the management and control of items and for materiel management functions. **The NSN is a 13-digit number** and is broken down into two major parts: the first part (first four digits) being the **Federal Supply Classification (FSC)** and the second part (last nine digits) being the **National Item Identification Number (NIIN).** The FSC provides, by specific definition, uniform commodity groups and classes for all items of supply. The NIIN is permanently assigned to only one item of supply and remains with that item as long as the item is maintained within the federal supply system.

b. **Type Classification Code.**

(1) **Responsibilities.** AMC is responsible for the preparation of DA policy, guidance, and procedures for type classification of materiel within the Army. The ASAALT has overall Army General Staff supervision for type classification. The Army General Staff elements are responsible for reviewing agenda items and minutes from the Army System Acquisition Review Council (ASARC) and In-Process Review (IPR) Board for pertinent areas of interest when initial type classification decisions are made. TC decisions are made based on the recommendation from the ASARC for major and designated acquisition programs, and IPR for all other systems.

(2) **Objectives.** The two major objectives of the TC system which are:

(a) Identify the **life-cycle status** of an item of materiel by the assignment of a TC designator.

(b) **Record the status of an item in relation to its overall life history;** to increase the combat effectiveness in the Army while simultaneously conserving money and materiel; and serve as a guide to authorization, procurement, logistical support, and asset and readiness reporting.

(3) **TC Designations.** TC designation is **a one-character alpha code** assigned to specific items of materiel. Codes are compatible with those used in SB 700-20; S--Standard, C--Contingency, L--Limited Procurement, O-- Obsolete, E--Exempt from type classification, and N--Nontype Classified. Explanation of codes and their usages in normal life-cycle sequence is:

(a) **S--Standard (STD).** A materiel item determined to **be acceptable for the mission intended,** supportable in its intended environment through Army logistics system, and acceptable for introduction into the Army inventory; or which is capable of being made acceptable, without further development effort, during production. This designation includes items which have been or are being replaced by new standard items but which are still acceptable for the intended mission. Items being introduced into the Army inventory system will NOT be type classified as standard until all major materiel

subsystems, components including computer programs, special tools, training devices, and Test, Measurement, and Diagnostic Equipment (TMDE), to include other support equipment, are qualified for the same type classification, unless special exception is approved by HQDA. When testing is complete on an item, the materiel developer will ensure that an IPR (nonmajor item) is convened or request the ASARC (major items) to consider standard type classification in a single package for the item and necessary support equipment.

(b) **C--Contingency (CON).** A materiel item which **no longer fully satisfies U.S. Army operational requirements**, but which has residual value for training; or as a Mission-Essential Contingency Item (MECI) for Reserve components. Items will not be classified/reclassified contingency unless they are to be replaced, and then, only after the replacement item has been classified standard. When cost to retain an item begins to exceed an item's residual value, it is reclassified as obsolete, and disposal action is initiated.

(c) **O--Obsolete (OBS).** A materiel item which **is no longer required or acceptable for Army use**. A standard item will be reclassified to obsolete when it is no longer required, due to absence of a requirement or it has been replaced by another standard item. An item will be reclassified to Obsolete when it has become uneconomical to repair or support and no replacement is required. Reclassification of an item to obsolete will include all special support equipment as applicable.

(d) **L--Limited Procurement (LP).** LP classification is available for use under **exceptional circumstances**; i.e., items required for special use for a limited time in a specified quantity without further intent of additional procurement under the LP classification. Items designated for limited procurement are those items which at that time do not qualify for adoption as standard, but are required to meet an urgent operational requirement, and there is no type-classified item that could satisfy the requirement.

(e) **Exempt From Type Classification.** Some items that could fall into the category of major items are exempted from type classification. Those items are regarded as commercial-type items costing \$3,000 or more and for which there is no satisfactory standard or adopted counterpart item within the supply system. Even though the item is exempted from type classification, a standard LIN and NSN are assigned. In most cases, major items exempted from type classification are only applicable to TDA units and will be documented in section III of the proponent's TDA. These items are also found in SB 700-20, chapter 6.

c. **Logistics Control Code.** A one-character alpha code assigned to Army-adopted items (LIN-related items) of materiel selected for inclusion in a type-authorization document; e.g., TOE, MTOE, TDA, etc., to provide a **basis for logistical support** as indicated below.

(1) **Responsibilities.** AMC has overall staff supervision for the assignment and use of the LCC. The approving authority of the TC code is also the approving authority for the LCC.

(2) **Objectives.** The assignment of LCC to Army-adopted items of materiel, in addition to the assignment of a TC code, will be used to **identify the life-cycle status of the items and the degree of logistics support to be provided**. The appropriate LCC will be assigned to each major item when it is approved for introduction into the Army inventory and will provide a basis for logistical support decision; e.g., procurement distribution, requisitioning, depot overhaul, and repair parts determination. The LCC will be revised during the item's life cycle to ensure valid support decisions and resource allocation.

(3) **Explanation and Utilization.**

<u>Code</u>	<u>Explanation</u>
A	Items which are acceptable for the mission intended , or which can be acceptable during initial production, which will be provided full logistics support until a replacement item is approved or until the requirement is being phased out. This LCC is applicable to an item resulting from developmental effort and new nondevelopmental (including commercial acquisitions or product improved items) determined by an appropriate decision authority (ASARC or IPR) to be suitable to satisfy the Army requirement. This is the item that would be procured and depot overhauled.
B	This LCC is applicable to items which are to be issued in lieu of LCC-A ITEMS. (LCC-B items will NOT be procured if the approved LCC-A item may be procured and deployed in time to satisfy the requirement.) The office which initiates a request for approval to procure an LCC-B item is the official office of record responsible for retention of request/approval documentation.
D	Item/systems undergoing development or nondevelopmental (commercial) items requiring a BOIP and which have not qualified for type classification.
F	Items identified by HQDA as mission essential contingency items for Reserve components only.
N	To be entered only if items will NOT be separately type classified, but must be listed in SB 700-20, in accordance with paragraph 1-9, AR 70-61, and AR 310-49, or nondevelopmental items which are being qualified for type development.
O	Obsolete items no longer required or (ALPHA) supported for Army operational use.
R	Non-LIN-related items not appearing in SB 700-20.
S	Items no longer acceptable for Army operational use, but which have a residual value for training. (Items assigned LCC-S will be supported only from stocks of repair parts on hand or by cannibalization.)
T	Items which will be produced under low-rate initial production to obtain limited quantities for Operational Testing (OT) III prior to introduction into the Army operational inventory.
U	Items which have not qualified for LCC-A, but which will be procured in limited quantities to satisfy DA-directed urgent operational requirements.

d. **Reportable Item Control Code (RICC).** A RICC is a one-digit numeric code assigned to those items of equipment for which **asset reporting is required**.

(1) **Responsibilities.** The Deputy Chief of Staff for Logistics (DCSLOG) has overall staff supervision for the RICC system in the development and establishing of doctrine, policies, standards, and procedures for equipment asset reporting.

(2) **Objectives.** The assignment of RICC's to selected items of Army-owned equipment gives the commodity managers, Army commanders, and the Army Staff a worldwide insight on major and secondary items and assists in the overall inventory management of the item.

(3) **RICC's--Description.**

RICC-2. Items contained in DA-approved authorization documents, designated by National Inventory Control Point (NIICP)/Service Item Control Center (SICC) for centralized control and management, from which asset data are required from all **Active Army** and **USAR** component units, organizations, and installations. (NOTE: Coding of items as RICC-2 will be restricted to those major and secondary items for which Army-wide asset visibility is required.) Selection and designation of RICC-2 is the responsibility of AMC. Items coded RICC 0 do not require asset reporting.

e. **Equipment Readiness Code (ERC).** An ERC is a single alpha code assigned to a LIN and **identify essential items** of equipment necessary to accomplish the primary mission of the unit. U.S. Army Force Management Support Agency (USAFMSA) has responsibility for assigning the ERC.

- (1) **Code P:** Pacing Item.
- (2) **Code A:** Primary weapons and equipment (PWE).
- (3) **Code B:** Auxiliary Equipment (AE).
- (4) **Code C:** Administrative Support Equipment (ASE).

f. **End Item Code (EIC)/the Central Demand Database (CDDB)** was implemented to capture and identify individual **repair parts demands** to a specific end item. The EIC is the data element that allows a customer to relate a part to a specific end item and the CDDB centrally collects this data in a single Army-wide database. An EIC will not change during the total life cycle of major item. **The EIC has three positions:**

(1) The **first place in the EIC identifies the NICP manager and materiel category.** The first place code is a broad, rather than specific description of the item. For example:

Code: A
Meaning: TACOM, combat vehicles

Code: B
Meaning: TACOM, tactical vehicles

Code: C
Meaning: TACOM, trailers

Code: D
Meaning: TACOM, materiel handling equipment

Code: E

Meaning: TACOM, construction equipment

Code: F

Meaning: TACOM, other

(2) The **second place in the EIC gives a general description of the item**. The first two place codes together provide a class of items within the materiel category. For example:

Code: BR

Meaning: 5 ton diesel

Code: BQ

Meaning: 5-ton multi-fuel

(3) The **third place in the EIC identifies the specific NSN**. Combined with the first two codes, the three codes actually apply only to a specific end item NSN. For example:

Code: BRX-2320-01-047-8773

Meaning: Truck, cargo, 5 ton, 6x6 LWB, W/E M924

g. **Line Item Number**. A LIN is a six-character alphanumeric identification of a generic nomenclature used to treat collectively all NSN items possessing the functional capability expressed by the generic nomenclature.

(1) **Responsibilities**. The Commander, AMC, has overall staff supervision of the LIN system, and provides procedural guidance as required. The MSC integrated materiel managers are responsible for the submission of transaction to the **AMC LOGSA for assignment of LIN**. Upon assignment, the LOGSA will notify the managing MSC of the newly assigned LIN. LIN assignments are listed in SB 700-20.

(2) **The Objectives and General Policies**.

(a) Policy and procedures on LIN assignments are in AR 708-1, chapter 9. A LIN is used to provide the machine capability to establish and update authorization documents in **The Army Authorization Document System (TAADS), the Army Maintenance Management System, and the Asset and Transaction Reporting System** and is used in conjunction with the Basis of Issue Plan (BOIP) and for the cataloging of supply management data.

(b) **A LIN consists of one letter and five numerals** and ranges from A00001 through Z99999, excluding O. LIN's A00001 through Y99989 **are assigned to Army-adopted items, TDA items not requiring type classification, and Common Table of Allowance (CTA) items**.

(c) **A "Z" LIN** is assigned to developmental items for inclusion in Required Operational Capability (ROC), in authorization documents prior to classification, and for use in special studies for development data required for classification. All "Z" series LIN's are assigned in the developmental stage. Once adopted as an Army item, the Z will be changed to one of the alphabetic codes A through Y with a corresponding five-digit numeric code.

(d) **LIN's are assigned when the item is to be type classified in an adopted category** and a generic nomenclature conforming to existing policies has been established, or when an item is type classified but not functionally interchangeable with items conforming to a generic nomenclature for an established LIN.

(e) In addition, LIN's will be assigned when nontype-classified procurement appropriation commercial items are required for listing in TDA, or for developmental items to be listed in BOIP's or other DA authorization documents.

(f) Once assigned, a LIN is active as long as an item related to the generic nomenclature remains in the Army supply system. Once the item has been phased out of the system, removed from all authorization documents, and disposed of through disposal channels, the number becomes inactive.

(g) **Only the authorized major item LIN will be issued to requesting unit.** However, if the authorized LIN is not available, a substitute LIN may be reported to maintain unit readiness. The use of authorized substitute items.

does not relieve the unit from having the authorized LIN on hand or on order. Substitute LIN items must be approved IAW SB 700-20, appendix H.

1 **In Lieu Of.** An "in lieu of" item is when a nonpreferred TC Standard (S) LCC "B" item within the same authorized LIN (same LIN different NSN).

2 **Substitute.** A substitute item has a **different LIN than the one authorized.** Authorized LIN is X40009 (Truck Cargo 2-1/2 ton 6 x 6 W/E). For readiness purposes, the unit may report an item from LIN X40146 as an authorized substitute IAW SB 700-20, appendix H. **The unit must have a request in for the LIN they are authorized to have on their allowance document MTOE/TDA.**

h. **Standard Study Number.** The SSN is a unique **11-digit alphanumeric number** used to provide machine capability for the collection of data on items; e.g., requirements, overhaul, procurement, etc., for primary and generating items of equipment and ammunition.

(1) **Responsibilities.** The Assistant Secretary of the Army for Acquisition, Logistics, and Technology (**ASAALT**) has overall staff supervision for establishing policies relative to the SSN system, and identify those items requiring DA control and monitorship. The Commander, AMC provides operational control for development and maintenance of the SSN system. **LOGSA** manages the SSN system and is responsible for the assignment of blocks of SSN's to the individual MSC's for application to their items.

(2) **Objectives and General Policies.**

(a) The SSN system provides a common DA/AMC-approved list of items and a medium whereby collected data on assets, requirements, losses, reconditioning, and procurement can be rolled together and identified to a standard number for various logistical reports/studies; e.g., the Total Army Equipment Distribution Program (TAEDP).

(b) The SSN system will be maintained to support primarily major items/systems of equipment and ammunition. As a minimum, the system will contain the assigned SSN, standard cross-reference data, life expectancy, and maintenance float and replacement factors.

(3) **Structure of the SSN.** As previously stated, the SSN is a 11-character identification number assigned by LOGSA to MSC who, in turn, assigns them to items to provide a cross-reference relationship of LIN's, Department of Defense Ammunition Code (DODAC), and associated NSN's. The system is designed to provide the capability of rolling together collected data on requirements, assets, procurement, distribution, and overhaul for primary items of equipment.

i. **Major Item System Code (MIS-CD).** The MIS-CD identifies a system via **eight alpha-numeric characters** and is assigned by the requiring command. The MIS-CD will provide output products capability for overview of major item support identification down to the Associated Support Item of Equipment (ASIOE)/Component Major Item (CMI). In additionally, it will be utilized to produce various output products for the BOIP process. It further provides a capability via cross reference to access the procurement, asset, distribution, catalog, and cost data.

j. **Other Codes and Numbers.** A complete and more detailed listing of codes and numbers used in major item management may be found in **SB 700-20, Army-Adopted/Other Items Selected for Authorization/List of Reportable Items, and SB 710-1-1, Standard Study Number and Replacement Factors.**

6. Requirements/Authorization Documents.

a. **A requirements document, the Table of Organization and Equipment (TOE),** is developed for every different type of Army unit. It **states mission, personnel, and the minimum essential equipment** which military planners deem necessary for successful mission completion. The TOE serves as **a pattern document** to aid each unit in stating its own unique needs by way of the MTOE. **The TOE is not the authority by which major items are issued. It is a planning document and is not used for authorizations.** Proponent agencies are responsible for TOE design, change, and redesign. The TOE states equipment requirements at level 1, level 2, and level 3. The level 1 quantities represent the equipment needed by a unit to carry out its mission continuously in a wartime environment. Level 2 is approximately 90 percent of level 1, while level 3 is approximately 80 percent of level 1. The latest TOE data are incorporated into a computational TOE file maintained by HQDA for use in **Structure and Composition System (SACS)** processing.

b. An authorization document, the Modified Table of Organization and Equipment (MTOE), is fashioned by each Army unit using the basic or unmodified **TOE as a pattern.** It becomes a part of TAADS and it is the **authority for issue of major items.** Changes are initiated by the unit and may be made in response to direction from higher headquarters or to locally recognized needs. When changes are approved by HQDA, the latest data are incorporated into their files for use in SACS processing. The MTOE displays a **required quantity** which is normally identical to the level 1 quantity of an unmodified TOE and expresses **wartime needs.** It also displays an authorized quantity which represents the major items which the unit should currently have on hand or on order (peacetime).

c. Another authorization document, **the Table of Distribution and Allowances (TDA),** states requirements and authorizations for Army organizations which **hire civilians and which are not deployable during wartime.** Examples are schools, depots, commodity commands, etc. This document is very similar in concept to the MTOE. It is created by its designers in the organization, but there is no **"pattern" TDA available for guidance during the design process.** Data from TDA's are also incorporated into the files of TAADS at HQDA for use in SACS processing.

7. Structure and Composition System. Deputy Chief of Staff for Operations and Plans (DCSOPS) is the proponent for the SACS. **The SACS is an automated process which matches Army units to their requirements and authorizations, thereby deriving the Initial Issue Quantities (IIQ's)** needed by these units during mobilization and during peacetime (Figure 2).

a. The **Structure and Manpower Allocation System (SAMAS)** lists by Unit Identification Code (UIC) all of the Army forces at the parent unit level (battalion or separate company). Included are actual units, programmed units, and planned units which are, respectively, units currently in existence, units which are programmed for future existence, and units which are not programmed for future existence but which are needed when larger size forces are being studied. There are about 100 different data elements of management information associated with each unit (higher headquarters, location, readiness condition, etc.), but equipment requirements or authorizations by LIN are not included. The initial step in SACS processing is the extraction of those units in the Army Force Program together with related management data from the SAMAS. The SACS is the only source providing the approved Army force structure with allowances and changes necessary to progress from the current through the budget and Program Objective Memorandum (POM) years. This force has been restricted according to policy and ceiling limitations.

b. **The Army Authorization Document System (TAADS) lists by UIC all the equipment requirements and authorizations found in MTOE's and in TDA's.** The second step in SACS processing is to match the units in the selected force with their requirements and authorizations as stated in the documents under which they are organized.

c. When future activation of Army units is programmed, existing authorization documents may be unsuitable for a requirements projection. If this occurs, requirements and authorizations are determined by matching the standard requirements code of **the unit contemplated for activation with the appropriate (unmodified) TOE as recorded in a computational file maintained by HQDA.** This is the third step of the SACS processing.

d. There are **many new equipment items programmed for introduction into the Army. However, the LIN's have not yet been incorporated into TOE's, TDA's, or MTOE's. Under these circumstances, a Bases on Issue Plan (BOIP)** is developed and incorporated into the BOIP file. This file is simply a list of current LIN's and the LIN's of developmental items programmed as their replacements. By matching the LIN's of the requirements and authorizations which have been recorded through the third step of the SACS processing with the BOIP file, the undesired LIN's are overlaid with developmental LIN's. This is step four of the SACS processing.

e. **The final product of the SACS processing is the Initial Issue Quantity (IIQ) needed by Army forces for war (requirements) or during peace (authorizations).** The data may be displayed by unit, in which case they become useful to commanders, or it may be displayed by LIN, in which case it is useful for national level management of requirements, authorizations, and assets.

8. Major Item Management Processes and Responsibilities.

a. **Introduction.** Various terms are used to describe quantities of an item of materiel required by the Army to be included in the procurement plan. **The two most significant terms are Army Procurement Requirements (APR) and Authorized Acquisition Objective (AAO).** In order to assure a better understanding, consider **that APR is a process for developing requirements, whereas the AAO becomes the acquisition objective to meet the requirements.**

b. APR is a summary term for the process of calculating and analyzing relational requirements information based upon the time-phased force structure plans of the Army. It is the term for the program from which an AAO is developed. **The APR process for major items is a vitally important function in the Army logistics system. It is the means by which the Army determines its wartime needs for major items of equipment.** The APR requirement represents sufficient major items to initially equip a planned force at wartime levels, protect that force against excessive maintenance downtime, and sustain the U.S. Army and selected allied forces for a specified period of time and at a level specified by OSD. **The APR process computes the AAO, which is the sum of the required IIQ's, maintenance floats, Operational Projects (OPPROJ), war reserve stocks for allies (WRSA), and post D-day consumption.** The results of this process impact on depot maintenance and secondary item management. DCSOPS is responsible for policy and guidance governing the computation of the APR. **The Research, Development, and Acquisition Information Systems Agency (RDAISA) does the actual computation of the AAO quantity and provides it to AMC MSC's.**

c. **AAO. The AAO is the grand total quantity of an item of equipment or ammunition required to equip the entire approved U.S. Army force and sustain that force, together with specified allies, in wartime from D-day through the time period prescribed in the latest defense guidance.** The AAO establishes an upper limit of an item's requirement (Figures 3 and 4).

(1) Responsibilities. RDAISA has the responsibility for computing the AAO and provides it to the AMC MSC's.

(2) **Elements of the AAO.** The requirements are calculated by theater or claimant and totaled.

(a) Initial Issue Quantity (IIQ). This represents the required initial allowances of the major item as shown in the SACS for each unit in the approved Army Force Program. **The required IIQ's are those quantities of equipment a unit needs in order to perform its mission in event of war.** It does not include maintaining or sustaining quantities.

(b) **Maintenance Floats.** Maintenance floats are authorized for selected major items. They contain those end items **authorized by DA for stockage at depots, installations, or activities for replacement of unserviceable items** of equipment when immediate repair of the unserviceable equipment cannot be accomplished by the supporting maintenance activity or the equipment requires scheduled overhaul. The exchange of serviceable for unserviceable equipment enables a using unit to perform its assigned mission without **serious disruption of unit readiness.** Maintenance floats are established based on factors which are maintained in the SSN file. Not all equipment or all claimants are authorized floats. **Maintenance floats include both Operational Readiness Float (ORF) (direct support unit) and Repair Cycle Float (RCF) (depot level overhaul).**

1 **Operational Readiness Float (ORF).** The ORF is a mission-essential major item needed for exchange purposes. It is authorized for stockage at installation and/or support maintenance activity and is maintained in a serviceable, ready-to-use condition, insofar as is practical. It is **normally used for unplanned or unprogrammed exchanges.** When a unit experiences an equipment failure which cannot be diagnosed and repaired within the prescribed time limits, the unit exchanges the unserviceable item for the serviceable float so that a good operational readiness posture is maintained.

2 **Repair Cycle Float (RCF).** The purpose of depot overhaul is to extend the useful life of equipment. The Army has equipment which must be overhauled periodically based upon number of rounds fired, number of miles driven, number of flying hours incurred, number of years in use, or general condition,

etc. The **RCF stored within the wholesale depot system allows Army units to receive new or overhauled equipment to replace the items turned in for depot overhaul.** After the unserviceable equipment which has been turned in has received the necessary maintenance, it can then be used again as RCF's or for some other purpose. The quantities in this float may be serviceable in the depot, awaiting overhaul, in the overhaul process, or in transit to or from depot overhaul facilities.

(c) **War Reserve Stocks for Allies (WRSA).** This equipment is set aside in U.S.-controlled storage facilities and the quantities are those needed to cover wartime sustainment requirements of specific allied forces. The quantities are computed from allied IIQ data and wartime replacement rates and are offset by quantities on hand in allied inventories over their IIQ.

(d) **Operational Projects (OP PROJ).** It is through operational projects that **nonrecurring needs for supplies over and above normal allowances are authorized to support one or multiple Army operations, contingencies, humanitarian assistance, disaster relief, and war plans.** An AROP is owned and controlled by HQDA. AMC manages and accounts for all classes except VIII and III. All materials are added to the AAO as additional requirements. Operational project requirements data are on records maintained by the AMC LOGSA organization.

(e) **Army Prepositioned Sets (PREPO-SETS).** This is a quantity of major items configured in brigade level set with supporting elements identified to meet a specific theater contingency. HQDA has overall approval authority for PREPO-SET establishment and utilization while IOC is responsible for the management of the assets.

(f) **Post D-day Consumption (PDDC).** **The quantity of a major item anticipated to be lost in combat or worn out after the onset of war for a specified period of time is identified as PDDC.** All of the PDDC is included in computation of the AAO for a specified period of time. These quantities represent requirements which must be included in the AAO computations so that equipment will be available to replace these losses.

1 Combat Consumption. This is the quantity of equipment forecast to be lost under combat conditions based on planned deployments in a hypothetical combat situation.

2 Mobilization Training Losses. This is the quantity of equipment forecasted to be worn out after the onset of war by **Army units as they undergo intensive training** or prior to deployment. These represent a very small quantity (less than 1 percent) of the PDDC.

9. Distribution Planning Process.

a. The ultimate purpose of the equipment and ammunition requirements generated from the APR process is to support budget and appropriation requests. However, **distribution planning is based on a different concept, that of making the best use of available major item assets in a pre-D-day environment.** For example, equipment whose purchase was justified as post D-day consumption during the APR process is actually issued as very specifically defined distribution requirements for Army Preposition Stock or other use such as an operational project based on the actual priorities that exist at the time materiel is received. This section examines distribution requirements, asset reporting, Total Army Equipment Distribution Plan (TAEDP), Requisition Validation (REQ-VAL) system, Equipment Release Priority System (ERPS), and actual unit requisitioning.

b. Distribution requirements is the equipment needed to accomplish peacetime missions.

Distribution requirements are different from mobilization needs or wartime needs in that they apply to **forces which are presently in being or which are planned for activation during peacetime**. The calculation of distribution requirements is made for a given force without regard to the asset position. The objective in developing these needs is to obtain the best defensive posture with the AAO quantities of equipment expected to be on hand or due-in during peacetime. The availability of assets is then determined and distribution plans prepared. The **DCSLOG is responsible for the policy and guidance governing the computation of distribution requirements**, reporting assets, planning and programming the distribution of assets, and the major item requisitioning processes. **LOGSA actually computes the major item distribution requirements and provides this data to the AMC MSC's**. The distribution quantity is normally equal to the AAO quantity. The amount of equipment issued or planned for issue to the force itself in peacetime is normally less than is issued under wartime conditions. The difference between the amounts actually issued to the force in peacetime and the assets procured to meet wartime needs is placed in various categories such as decrement, operational projects, or prepositioned sets and are not normally available for actual peacetime use. The assets to be physically distributed to the force are usually based on a reduced IIQ developed during the LOGSACS process. This results in a decrease in issue requirements for other categories of requirements, such as maintenance floats, which are based on a percent of the IIQ. Distribution requirements are calculated by theater or claimant for each element of the distribution requirement and totaled. The various elements making up the distribution requirement are (Figure 5):

(1) **Initial Issue Quantity (IIQ)**. This is the quantity of each major item "**authorized**" in the SACS for each unit of the approved force to initially equip its peacetime authorized level of organization. In calculating the APR, the "required" quantity was used. In distribution requirements, the "**authorized, or peacetime, quantity is used**."

(2) **Maintenance Floats**. These were described in APR. In distribution requirements, the "authorized" IIQ, the equipment to be in the hands of troops in peacetime, is used as the computational base instead of what would have during wartime ("required" IIQ). **Based on specific policy, certain major items or claimants would not be authorized peacetime maintenance floats.**

(a) **ORF**.

(b) **RCF**.

(3) **Army Prepositioned Stocks (APS)** The APS is composed of War Reserve Stock for Allies (WRSA), Operational Projects (OP-PROJ), Army War Reserve Sustainment (AWRS), and Preposition Sets (PREPO-SET's). These stocks are configured into five geographically oriented groups known as Army Prepositioned Stocks APS-1, -2, -3, -4, -5 respectfully.

(a) APS-1 is a CONUS based stock which contains AWRS and OP-PROJ. The AWRS stocks are stored in the depots designated to replace battlefield and mobilization training bases. On the other hand, OP-PROJ stocks could be stored in the depot, or at the installation level.

(b) APS-2 is a European based stock stored in three different geographical regions. These stocks include AWRS, OP-PROJ, and PREPO-SETS. The PREPO-SET's are configured in brigade sets.

(c) APS-3 consists of Afloat assets. Inclusive in APS-3 are AWRS, PREPO-SET's, and OP-PROJ assets. Presently there are 13 ships of various designs supporting this stock.

(d) APS-4 is a Korea/Pacific rim based stock consisting of AWRS, WRSA, PREPO-SET's, and OP-PROJ's.

(e) APS-5 is in the Southwest Asia area and consists of mainly PREPO-SET's. Presently there are three brigade sets.

10. Asset Availability. Once distribution requirements are known, they must be compared with actual assets. **The Worldwide Asset Position (WWAP) is determined by LOGSA based on input from units, CONUS depots, overseas depots, and Logistics Support Activity (LOGSA) for operational projects. The Army's official asset position is produced through a computerized program called the Continuing Balance System—Expanded (CBS-X).** CBS-X provides worldwide visibility on all reportable items in the Army inventory. It is the U.S. Army's equipment accounting system for RICC 2 materiel. RICC 2 items are tracked for all active Army, Army National Guard (ARNG), and U.S. Army Reserves (USAR). RICC classification for materiel is shown in Supply Bulletin (SB) 700-20 and is updated semiannually by LOGSA. CBS-X maintains worldwide visibility for primarily RICC 2 items by LIN and NSN identified to the UIC level.

11. CBS-X Database Update. The actual master file update can now be accomplished on a daily basis at the lowest level of unit detail. The system uses accepted accounting practices, posts supply transactions, and applies overlays, where used, to maintain current equipment numbers at three basic levels. For equipment in the hands of troops, transactions are tracked to the property book and stock record account level identified by UIC. Depot stocks are posted at the purpose and condition code level by specific depot as identified by the depot Routing Identifier Code (RIC). The system also tracks intransit materiel along with identification of the UIC to receive the equipment.

12. Responsibilities.

a. **The DCSLOG will establish policy and responsibilities for developing the official Army equipment position.**

b. **HQ AMC will exercise management control over the operation of CBS-X at LOGSA and MSC's, establishing policies and responsibilities for developing the official equipment position for stocks stored in AMC depots.**

c. **Major Army Commands (MACOM's) will establish command policies and responsibilities as outlined in AR 710-3, chapter 7, and designate Central Collection Activity (CCA) officers, as appropriate, to support complete CBS-X transaction reporting within the command.**

13. The Army Priority System.

a. The basis of the Army priority system is **the DA Master Priority List (DAMPL), which is developed and published by DCSOPS.** To determine the order in which distribution takes place, the DAMPL is incorporated into a **LOGSA-developed set of priorities called the Equipment Release Priority System (ERPS).**

b. A specific scenario is the starting point for the DAMPL generation and normally is described as a force or combination of forces required to support an operational requirement. This scenario is the current high-priority and high-demand scenario. The current operational plan's deployment schedule constitutes a priority listing of units. Subjective considerations of requirements other than those in the basic operation

plan will be added to this listing, resulting in a unique listing of units Army-wide which establishes a priority for the allocation of resources. This listing is continually updated by DCSOPS and distributed to the MACOM's, DCSLOG, AMC, and AMC MSC's. The **DAMPL covers 2 fiscal years, which are the current and budget years.**

14. Distribution Logic. As stated earlier, the **ERPS is used to determine the order in which distribution requirements will be filled.** The ERPS brings together all types of priority guidance from HQDA into a single source used for planning and executing equipment distribution. Included in the ERPS are the DAMPL, ERC considerations, and HQDA-directed decisions from the Army Order of Precedence (AOP).

a. The DAMPL has already been discussed and normally one would assume that the higher the DAMPL priority of a unit or claimant the sooner that unit or claimant could expect to have equipment shortages filled. There are, however, some situations that call for equipment to be distributed in an out-of-DAMPL sequence.

b. Out-of-DAMPL distributions occur for the following special considerations or programs. These shortages are identified and filled first. The current ones are:

- (1) Force modernization items and related ASIOE.
- (2) Minimum Essential Equipment for Training (MEET).
- (3) Immediate release (urgent requirements).

c. In addition to the out-of-DAMPL priorities, a readiness fixing application is made to upgrade unit priorities where those units are **reporting C-4 unit status (not capable of performing a wartime mission) due to specific equipment shortages.** Once these priorities have been made, remaining shortages are prioritized and filled in ERC/DAMPL sequence. Basically, this means shortages in units that have an item as ERC P will be filled in DAMPL sequence, then units that have the item as ERC A will be filled according to DAMPL, then units that have the item as ERC B, and so on until ERC C shortages are filled. This distribution priority logic is incorporated into various systems that allow HQDA and AMC to plan for and execute major item equipment distribution.

15. The Total Army Equipment Distribution Program (TAEDP) is a long-range planning document that brings together requirements, assets, losses, and procurement and maintenance plans. Based on this information, **TAEDP will project equipment distribution over a 10-year period.** It is currently used by HQDA to select alternative scenarios involved with authorizations, priorities, and maintenance or procurement program changes. It is the tool for developing the Force Modernization Master Plan (FMMP) used in the fielding of new equipment and it can also be used to develop proposed authorization changes for units scheduled to receive modernization equipment. Policy and guidance for development of the TAEDP is provided by DCSLOG. **The TAEDP is produced twice a year by LOGSA** and over 70 different formats are available for distribution worldwide. These products are oriented for use by HQDA agencies, AMC MSC's, and Army MACOM's.

16. Requisition Validation (REQ-VAL) System. AR 710-1 requires that requisitions for major items be validated by **theater Materiel Management Centers (MMC's) and installation Director of Logistics (DOL)** supply support activities before being forwarded to the MSC item manager. LOGSA now updates REQ-VAL daily for units on Distribution Execution System (DES) and distributes products for use in validating these requisitions.

a. REQ-VAL products are produced from a system that compiles claimant end item data that is essential for validating requisitions. The products display 2 years of authorization information for unit and non-unit claimants (ORF, etc.). Authorizations are extracted from TAADS files and asset information is provided from the latest CBS-X balance. During system processing, the major functions taking place are a cross-reference of assets to authorizations to determine where excess and shortages exist, computation of "get well" dates, and formatting this information for output.

b. Installations and MMC's will determine if a supported unit's requisition is valid by locating the requestor's Department of Defense Activity Address Code (DODAAC) or project code for non-unit claimant under the LIN for the requested item on the REQ-VAL report and comparing authorizations to assets. Requisitioned quantities are valid for units with negative net positions (on hand is less than authorized quantity) displayed in the REQ-VAL system. In some cases, a unit requisition may be validated when the system shows the item as either not being authorized or quantities on hand are equal to authorizations. This could be done when the unit requisition contains a type requirement code in 55 and 56, which indicates the unit has a valid requirement for the item but the authorization or shortage may not appear on REQ-VAL products.

c. **After passing the installation or MMC validation, the requisition is passed to the Inventory Control Point (ICP), where the Major Item Requisition Validation (MIRV) process of the Commodity Command Standard System (CCSS) uses similar REQ-VAL information and methods to automatically validate the unit's requisitions.** Again, the type requirements codes become important since it could inform the system of recent asset or authorization changes not displayed in the current REQ-VAL. Not only will MIRV validate major item requisitions, **but it will also sequence them along with other valid backorders in ERPS sequence as described below.** The Unit Supply Update and AR 725-50 describe the detailed step-by-step procedures for requisitioning a list of valid type requirement codes.

17. Equipment Release Priority System (ERPS). This is another LOGSA system that provides MSC item managers with a tool that can be used to make equipment release decisions. Unit and non-unit shortages identified in the REQ-VAL system are prioritized on ERPS reports according to the latest DA DCSOPS guidance. Also displayed are projected availability of assets. **As the assets become available to item managers, they are released to the highest priority claimant shown on the ERPS report if there is a requisition on backorder for that claimant.** The ERPS reports, like REQ-VAL products, are updated daily and distributed to non-DES units monthly.

18. Distribution Execution System (DES). This is the newest LOGSA system which integrates the CBS-X, REQ-VAL, and ERPS systems into a single process. It provides visibility and management of class VII equipment on hand and resides on IBM-compatible personal computers at various levels in the Army. It is a decision support system for management and distribution of major items which supports managers at retail and wholesale supply activities. The heart of the system is maintained by LOGSA. Asset and authorization information can be updated by customers on a daily basis. Some of the advantages include the ability to update asset information on a near real-time basis, having the data readily available and easy to use, reducing information lag time, and having identical major item supply information at the retail and wholesale levels.

19. The Total Asset Visibility (TAV) System. This system is a new initiative by DOD which tracks all assets (major and secondary) at both wholesale and retail levels. **The major item data is fed into the TAV from the DES system.**

20. Types of Depot Maintenance Programs.

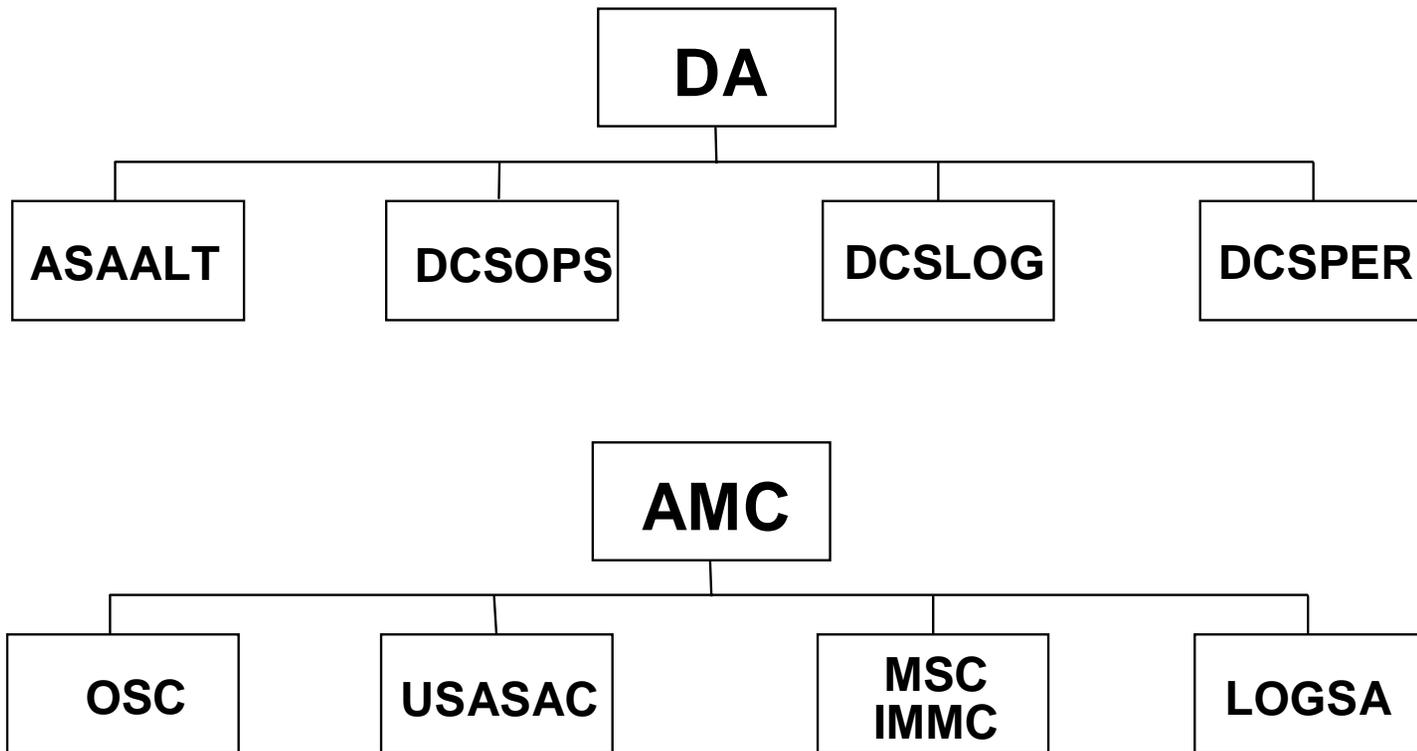
a. Depot level maintenance is accomplished by organic Army facilities, contractors or formal interservice support agreements. The interservice support agreements allow Army terms to be repaired at facilities belonging to other services. Contractor accomplished programs for the depots to acquire the capability to perform the maintenances.

b. **Responsibilities.** The DCSLOG is responsible for providing depot maintenance policy and guidance. The item managers at the MSC's determine the requirements for maintenance. The Industrial Operations Command is responsible for programming the organic requirements through negotiation with the maintenance depots under their command. Contracts for maintenance and interservice support agreements are written by the Commodity Command requiring the depot maintenance support.

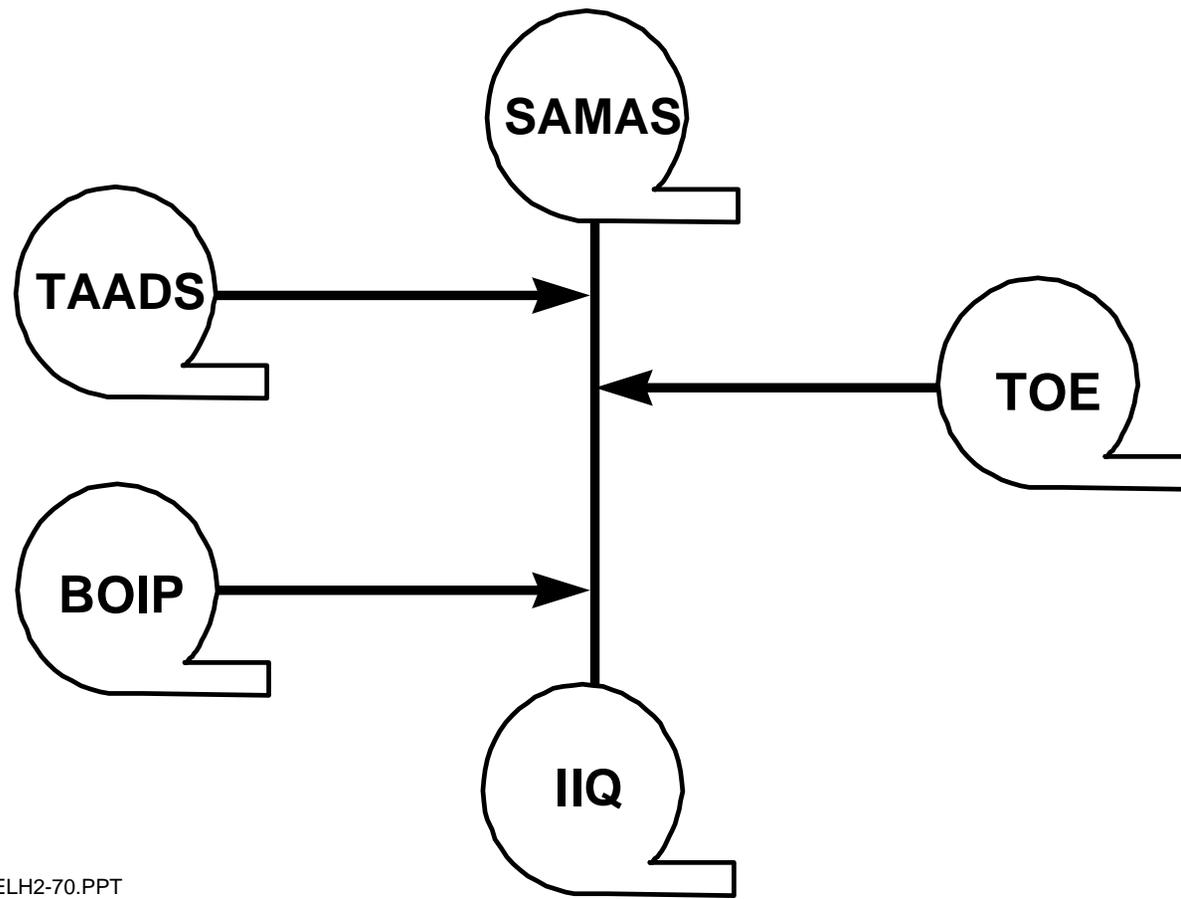
c. **Depot Maintenance Requirements Determination.** Each year item managers utilize a number of data sources to forecast current year/budget year and 5 out-years of maintenance requirements. These sources include: historical data on the unserviceability of the items they manage; forecasted changes in density or operating tempos, databases such as the Combat Vehicle Evaluation and Aircraft Condition Evaluation Programs; and reimbursable program information. Once a forecast is made of anticipated unserviceables, a set of criteria are applied to determine eligibility of these forecasted unserviceables for repair. Those that are eligible for each year of the forecast are entered into a system called the Maintenance Data Management System (MDMS) where funding guidance is applied to determine the funded quantities and unfunded quantities for each year of the planning period. These quantities are provided to the IOC on an Operational Summary Form 29 (OPS-29) and is used to program the requirements with the applicable depots.

d. **Depot Maintenance Execution.** Major item depot maintenance is funded with Operation and Maintenance, Army (OMA) funds that are appropriated each year. As these funds are made available to the Commander, the MSC requests through MDMS the prioritized programs to be accomplished based on the funds available. Throughout the execution year, there is close coordination between the MSC's, IOC, AMC Headquarters and the depots to ensure all appropriations are obligated, the highest priority programs are accomplished and programs are closed out in a timely manner.

ORGANIZATIONS WITH MAJOR ITEM RESPONSIBILITIES



FORCE STRUCTURING BASIC, EQUIPMENT STRUCTURE AND COMPOSITION SYSTEM MODULES



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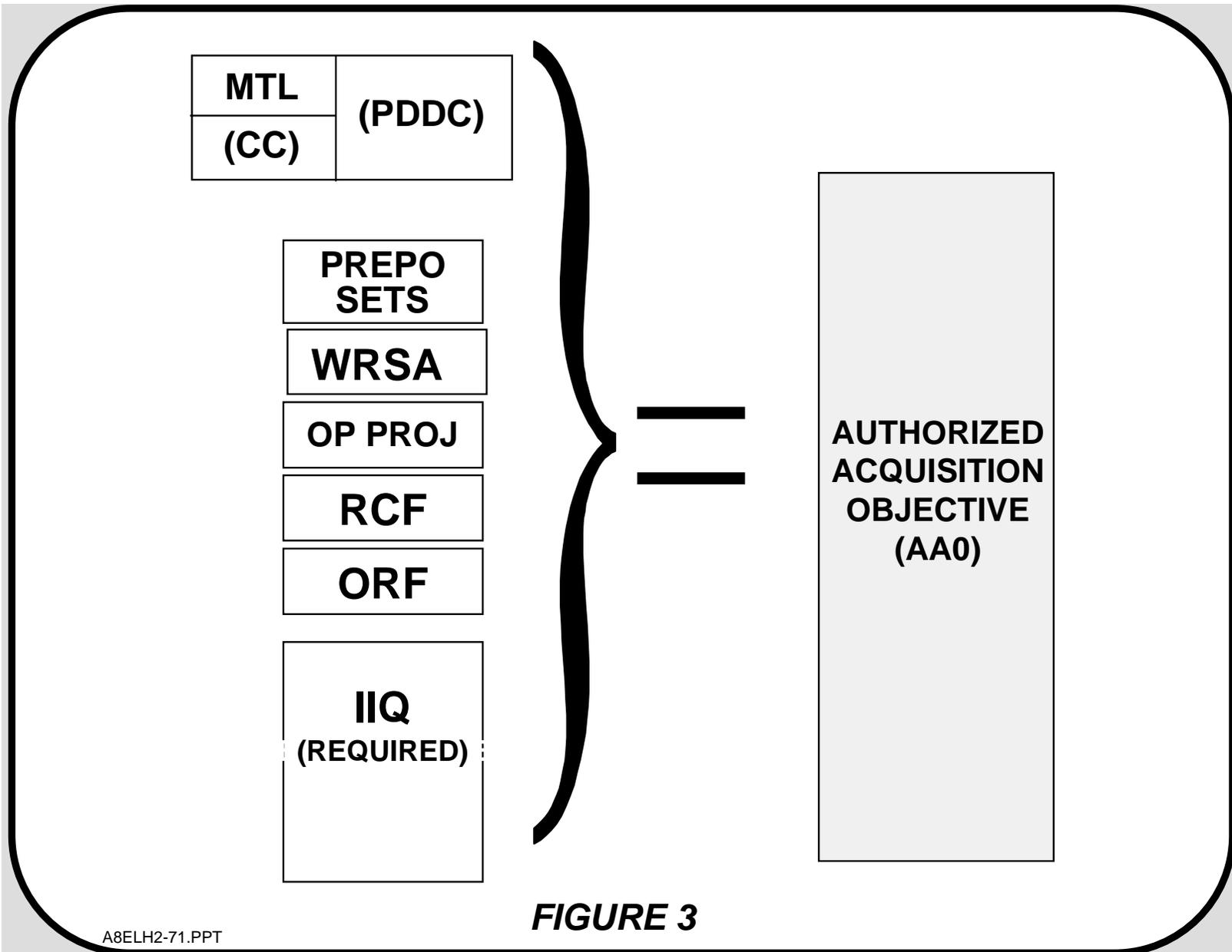
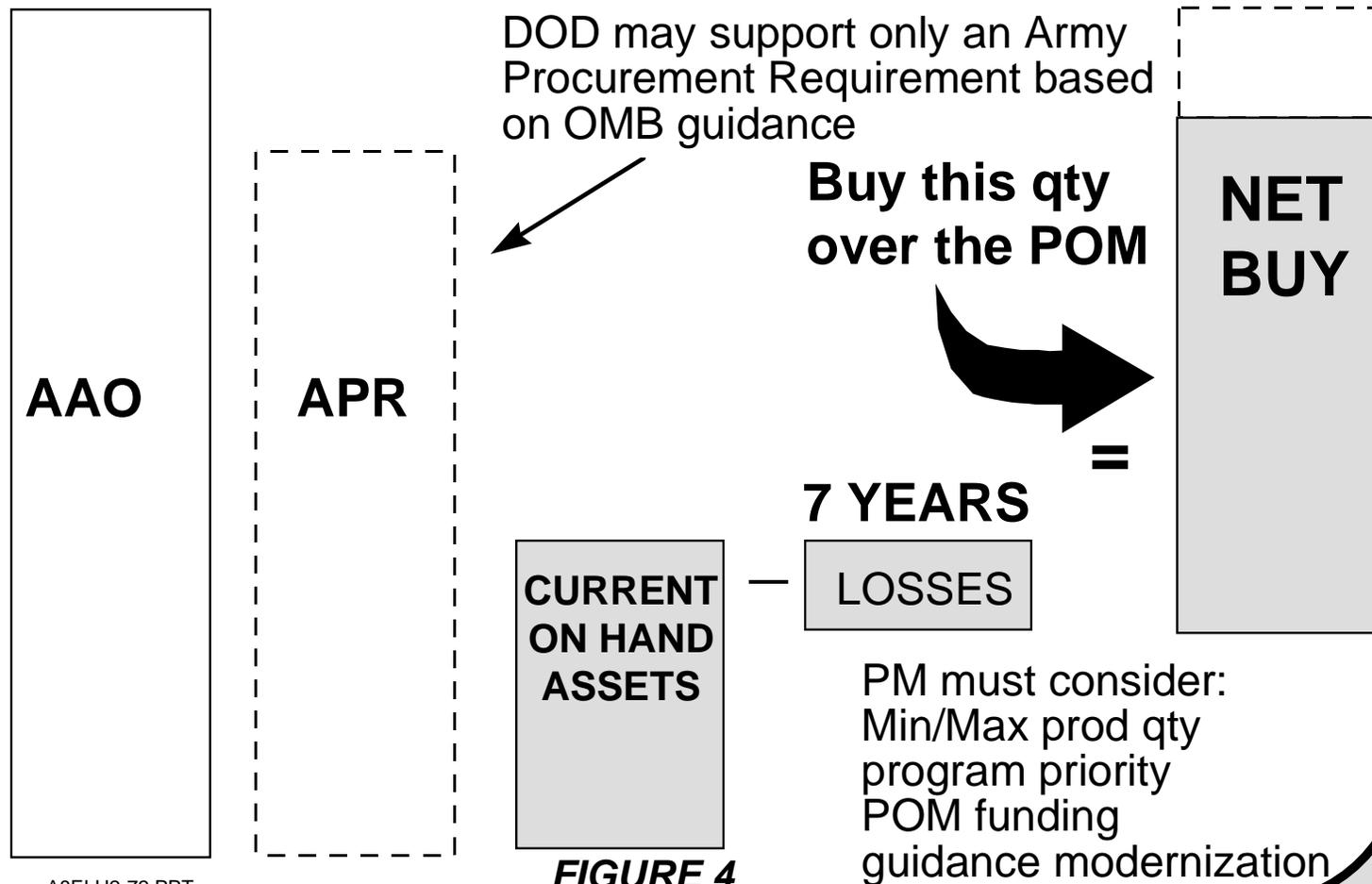


FIGURE 3

DETERMINING PROCUREMENT REQUIREMENTS



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FIGURE 4

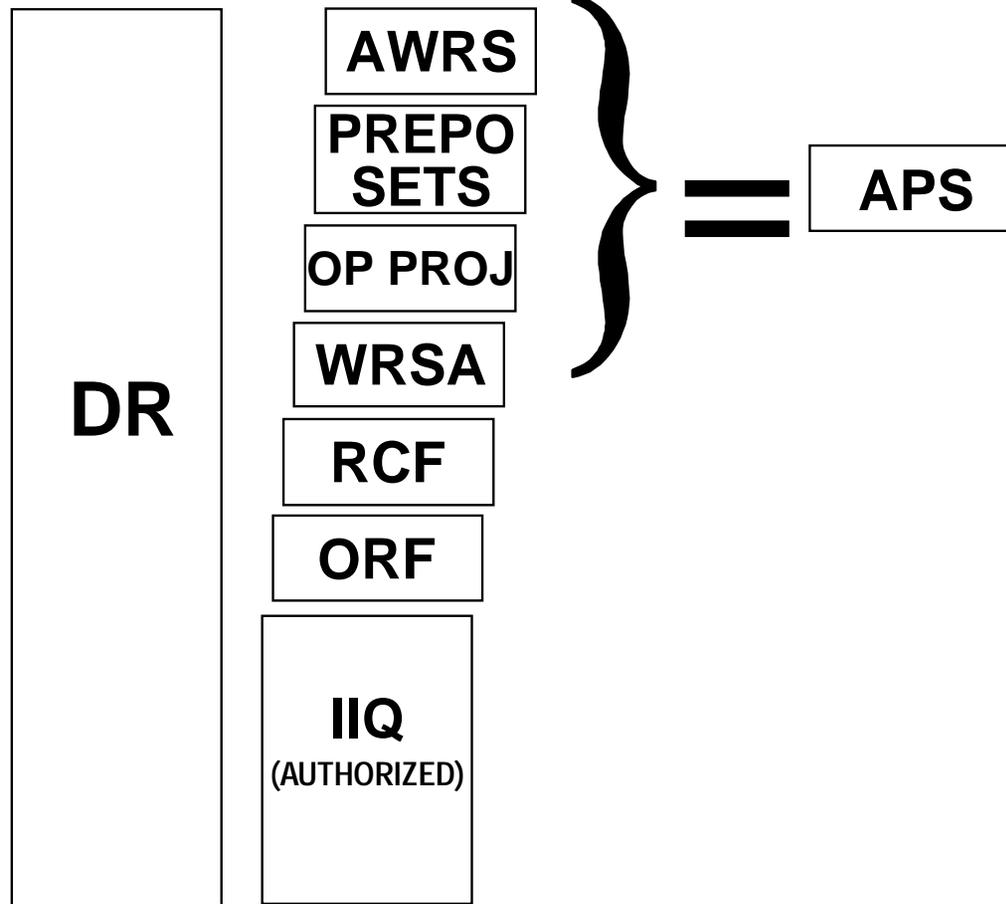


FIGURE 5

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