Army Regulation 700–127

Logistics

Integrated Logistics Support

Headquarters
Department of the Army
Washington, DC
27 September 2007

UNCLASSIFIED

SUMMARY of CHANGE

AR 700–127
Integrated Logistics Support

This major revision, dated 27 September 2007--

- Revises the purpose of the publication (chap 1).
- Updates responsibilities for integrated logistics support (chap 2).
- Reorganizes process, elements, and acquisition strategy into a new chapter (chap 3).
- Adds a figure for the integrated logistics support process (fig 3-1).
- Defines integrated logistics support elements (chap 3).
- Adds performance-based logistics policy (chap 4).
- Reorganizes remaining policy into sections on supportability planning, integrated logistics support management structure, maintenance planning, and supportability considerations (chap 5).
- Adds policy for maintenance support plans, level of repair analysis, design parameters, reliability centered maintenance, and condition-based maintenance plans (chap 5).
- Defines core logistics analysis and updates source of repair and depot planning policies (paras 5-16 and 5-17).
- Adds a figure on depot source of repair determination process (fig 5-1).

PREFACE

Total life-cycle systems management (TLCSM) establishes clear lines of responsibility and accountability for meeting warfighter support performance and sustainment requirements for the life of the system from acquisition to disposal. Under TLCSM there is no longer a transition of management from the program manager (PM) to a sustainment command after production and fielding. The PM is the life-cycle manager (LCM) for assigned program(s) and will retain the responsibility for managing, sustaining, upgrading, and disposing of system(s) throughout the service life. The PM will ensure supportability is equally considered with cost, schedule, and performance throughout the life cycle of the assigned system(s). Throughout this policy, we will refer to the TLCSM as the PM to be consistent with Army acquisition policy.

Headquarters
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27 September 2007

*Army Regulation 700–127

Effective 27 October 2007

Logistics

Integrated Logistics Support

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the Secretary of the Army

History. This publication is a major revision.

Summary. This regulation covers Department of the Army policy for integrated logistics support which includes planning, developing, acquiring, and sustaining well-defined, affordable support strategies for Army materiel. This policy implements key provisions of Department of Defense Directive 5000.1 and Department of Defense Instruction 5000.2.

Applicability. This regulation applies to the Active Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. This regulation is applicable during full mobilization unless otherwise stated.

Proponent and exception authority. The proponent of this regulation is the Assistant Secretary for Acquisition, Logistics, and Technology. The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency of the proponent agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through higher headquarters to the policy proponent. Refer to AR 25–30 for specific guidance.

Army management control process. This regulation contains management control provisions in accordance with AR 11–2 and identifies key management controls that must be evaluated (see appendix C).

Supplementation. Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from the Deputy Assistant Secretary of the Army (Integrated Logistics Support) (SAAL–ZL), 103 Army Pentagon, Washington, DC 20310–0103.

Suggested improvements. Users are invited to send comments and suggested improvements on Department of the Army Form 2028 (Recommended Changes to Publication and Blank Forms) directly to the Deputy Assistant Secretary of the Army (Integrated Logistics Support) (SAAL–ZL), 103 Army Pentagon, Washington, DC 20310–0103.

Committee Continuance Approval. The Department of the Army Committee Management Officer concurs in the establishment and/or continuance of the committee(s) outlined herein, in accordance with AR 15–1, Committee Management. AR 15–1 requires the proponent to justify establishing/continuing its committee(s), coordinate draft publications, and coordinate changes in committee status with the Department of the Army Committee Management Office, ATTN: SAAA–RP, Office of the Administrative Assistant, Resources and Programs Agency, 2511 Jefferson Davis Highway, Taylor Building, 13th Floor, Arlington, VA 22202–3926. Further, if it is determined that an established "group" identified within this regulation later takes on the characteristics of a committee, the proponent will follow all AR 15–1 requirements for establishing and continuing the group as a committee.

Distribution. This publication is available in electronic media only and is intended for command levels C, D, and E for the Active Army, the Army National Guard/Army National of the United States, and the U.S. Army Reserve.

*This publication supersedes AR 700–127, dated 19 December 2005.

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Chapter 1
General

1–1. Purpose

This regulation sets the policy for planning, developing, acquiring and sustaining well-defined, affordable support strategies that meet the war fighter's requirements for Army materiel throughout its life cycle. The policy —

a. Defines a deliberate process that the Program Manager (PM) uses to develop and integrate the support strategy into the system engineering process (SEP) to ensure a design can be supported throughout its lifecycle.

b. Identifies the framework (ten Integrated Logistics Support (ILS) elements) that will be used to develop the support strategy.

c. Assigns responsibilities for developing the support strategy.

d. Sets the policy for developing support strategies in support of Army materiel.

e. Outlines responsibilities for implementing support strategies.

f. Implements total life-cycle logistics requirements outlined in Department of Defense Directive (DODD) 5000.1 and DOD Instruction (DODI) 5000.2.

1–2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1–3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

1–4. Responsibilities

Responsibilities are listed in chapter 2.

Chapter 2
Responsibilities

2–1. Assistant Secretary of the Army (Financial Management and Comptroller)

The Assistant Secretary of the Army (Financial Management and Comptroller (FM&C)) will—

a. Review program and budget requests supporting life-cycle contractor support (LCCS).

b. Integrate weapons systems into working capital funds as appropriate.

2–2. Assistant Secretary of the Army (Acquisition, Logistics, and Technology)

The ASA (Acquisition, Logistics, and Technology (ALT) will—

a. Oversee the research, development, testing, and evaluation of the acquisition of materiel systems (including ILS for these systems) (see AR 70–1).

b. Establish policy and oversee the development and execution of program management.

c. Oversee the acquisition and life cycle logistics management function.

d. Ensure that reliability, availability, and maintainability policies are followed during the acquisition process.

e. Ensure that logistics considerations are incorporated in the war-fighting U.S. Army Training and Doctrine Command (TRADOC) analysis in coordination with the Deputy Chief of Staff, G–4 (DCS, G–4).

f. Approve Type II BCA for Army Category (ACAT) I/II programs and product support strategy packages prepared and submitted by PMs.

2–3. Deputy Assistant Secretary of the Army (Integrated Logistics Support)

The Deputy Assistant Secretary of the Army (Integrated Logistics Support) (DASA (ILS)) will—

a. Develop Army ILS policy and provide oversight of ILS programming, planning, budgeting, and execution (PPBE), to include contractor logistics support (CLS) that supports the materiel acquisition process.

b. Ensure ILS requirements are validated and included in the materiel acquisition process to support full materiel release of programs and systems.

c. Develop policy on performance based logistics (PBL).

d. Serve as the Army acquisition logistician (formerly independent logistician) for new, modified, upgraded, and displaced materiel, except for supply class VIII; medical materiel, and strategic communications systems and provide a supportability position on materiel release of ACAT I through III systems. As the Army logistician, the DASA (ILS) will—

(1) Establish internal procedures and techniques to assess supportability management and execution for all assigned acquisition programs.

(2) Assist PMs in defining support plans in terms of requirement, strategy, cost, and affordability.

(3) Participate in developing capabilities documents, acquisition strategies/plans, Supportability Strategy (SS), test plans, materiel fielding documents, contract and solicitation documents, and other program documentation.

(4) Participate in overarching integrated product team (OIPT), PM integrated product team (IPT)/working integrated product team (WIPT), supportability integrated product team (SIPT), test and evaluation (T&E) WIPT, and HQDA ILSR activities for all assigned materiel systems.

(5) Inform the PM, combat developer (CBTDEV), materiel command, and other program participants of supportability planning deficiencies. Unresolved issues will be elevated to the OIPT.

(6) Monitor market surveys and supportability testing.

(7) Provide available experience or data to the CBTDEV and PM to influence system design and SS development.

(8) Identify and resolve problems and mitigate supportability risks.

(9) Participate in milestone decisions and other program reviews.

(10) Convene and chair HQDA integrated logistics support review (ILSR) for systems approaching a milestone decision review.

e. Establish the HQDA position concerning the deployability and supportability of all acquisition programs.

f. Establish and manage the Life-Cycle Logistics Achievement of the Year awards program to recognize achievements in ILS.

g. Monitor the Army ILS and manpower and personnel integration (MANPRINT) effort, in coordination with other Army staff agencies, to ensure effective implementation in accordance with HQDA and DOD requirements.

h. Serve as the HQDA proponent and chairman for the Army Integrated Logistics Support Executive Committee (AILSEC).

i. Serve as the HQDA functional chief and representative for the life-cycle logistics career field of the Army Acquisition Corps/workforce.

j. Serve as the HQDA proponent for the system supportability analysis process and the resulting Logistics Management Information (LMI) program.

k. Serve as the HQDA proponent for the DOD acquisition logistics standardization program.

2–4. Assistant Secretary of the Army (Installations and Environment)

The Assistant Secretary of the Army Installations and Environment (I&E) will—

a. Ensure that environmental considerations, including environmental compliance, hazardous materiel use, and environmental sustainability, are incorporated into the supportability analyses, in coordination with the DCS, G–4.

b. Establish and maintain an organization to manage environmental assessment and supportability of materiel systems, and coordinate with the ASA (ALT).

2–5. Assistant Chief of Staff for Installation Management

The Assistant Chief of Staff for Installation Management (ACSIM) will—

a. Coordinate facility construction programs.

b. Monitor the ILS process for environmental and facility implications.

c. Perform the necessary analysis, advance planning, and programming for receipt of new, modified/upgraded, or displaced systems, including the environmental analysis required by the National Environmental Policy Act (NEPA), per Part 651, Title 32, Code of Federal Regulations (32 CFR 651), and programming at the gaining installations for new or modified facilities, if any, needed to meet the facility requirements identified in the Support Facility Annex (SFA) by the Corps of Engineers (COE).

d. Participate in DA ILSRs.

2–6. Deputy Chief of Staff, G–3/5/7

The Deputy Chief of Staff, G–3/5/7 (DCS, G–3/5/7) has responsibility for force development and establishment of priorities for the employment of Army forces and will—

a. Ensure the initial production or procurement items of new equipment, including support equipment, are issued to the training base for timely training development and establishment of functional training documentation and procedures.

b. Ensure unit/activity (Modified Table of Organization and Equipment (MTOE))/Table of Distribution and Allowances (TDA) authorization documents are updated to enable timely requisitioning of personnel, supplies, and equipment.

c. Approve Army warfighter Performance Based Agreements (WPBA) for materiel systems utilizing PBL strategies.

d. Participate in DA ILSRs.

e. Serve as the functional manager for the Army operating and support cost reduction (OSCR) program.

2–7. Deputy Chief of Staff, G–4

The DCS, G–4 will—

a. Evaluate the effectiveness of logistics supportability using readiness reporting and field assessment results.

b. Ensure that the sustainment functions of readiness, supply services, maintenance, transportation, aviation, munitions, security assistance and related automated logistics systems management are fully integrated and properly balanced between acquisition and logistics for the total system life cycle.

c. Participate in HQDA ILSRs.

d. Participate in Deputy Assistant Secretary of the Army (DASA) ILS Logistics IPTs.

e. Develop logistics systems that support PM information requirements in coordination with the United States Army Materiel Command (AMC).

f. Issue policy guidance to standardize Automatic Identification Technologies (AIT), equipments applications and formats to decrease costs and ensure interoperability.

g. Integrate acquisition training into the career development of the logistics workforce in coordination with the DCS, G–1.

h. Ensure that supply chain principles are considered in the ILS process and supportability analysis.

2–8. Deputy Chief of Staff, G–1

The Deputy Chief of Staff, G–1 will—

a. Ensure maximum utilization of supportability analysis in meeting MANPRINT objectives.

b. Participate in DA ILSRs.

c. Participate in DASA ILS Logistics IPTs as required.

d. Establish and disseminate MANPRINT program policies and guidance and ensure adequate integration of ILS and MANPRINT efforts.

e. Designate a person to serve on the AILSEC.

2–9. The Chief Information Officer, G–6

The Chief Information Officer (CIO), G–6 will—

a. Develop the Army Enterprise Architecture (AEA) and Army Enterprise Infrastructure (AEI) to include logistics domain and logistical data requirements.

b. Ensure that logistics data and logistics domain requirements conform to common data standards, specifications, and protocols to support a Common Logistics Operating Environment (CLOE).

c. Manage IT investment portfolios for logistics.

d. Prepare technical architecture views for integration in the Army Integrated Logistics Architecture (AILA) in support of Joint Capabilities Integration Development System (JCIDS) milestone requirements.

2–10. Surgeon General

The Surgeon General will—

a. Provide advice and consultation to PMs and CBTDEVs on potential health hazards and problems associated with the medical aspects of all materiel acquisition programs.

b. Develop the ILS program for medical (class VIII) materiel, including designation of the logistician in accordance with AR 40–60 and AR 40–61.

c. Participate in DA ILSRs, as appropriate.

d. Participate in DASA ILS Logistics IPTs as required.

e. Designate a person to serve on the AILSEC.

2–11. Chief of Engineers

The Chief of Engineers (COE) has responsibility for the facilities construction program and land acquisition requirements for the Active Army and will—

a. Advise the PM of the facility implications of system design to minimize support facility costs and impact on the Army's facilities standardization program.

b. Identify facility requirements of the materiel system for the gaining Army Commands (ACOM), Army Service Component Commands (ASCCs), and Direct Reporting Units (DRUs), with formal input from the PM, trainer/training developer (T/TD) and CBTDEV.

c. Participate in SIPTs for all facility program requirements and issues.

d. Coordinate facility and real property requirements with the CBTDEV, PM, OACSIM, gaining ACOM, ASCC and DRUs, Army acquisition logistician, and T/TD.

e. Assist in preparation of the SFA to OASIM, gaining ACOM, ASCC, and DRUs of selected supportability strategies, fielding documentation, and applicable test plans; provide formal coordination and update, as necessary, on

the SFA to the supportability strategy; and provide a copy of the SFA to ACSIM (DAIM–MD), gaining ACOM, ARNG, ASCC, USAR, DRUs, and installations.

f. Participate in DA ILSRs.

g. Participate in DASA ILS Logistics IPTs as required.

h. Designate a person to serve on the AILSEC.

2–12. Program manager

The PM is responsible for planning and implementing ILS as an integral part of assigned materiel acquisition programs. The PM will enlist the support of the AMC LCMCs to carry out this responsibility and will—

a. Establish internal procedures and controls to implement this policy.

b. Ensure that passage of a system from one life-cycle phase to the next occurs only when all supportability requirements have been satisfactorily accomplished or fully defined in the SS. This includes a detailed plan to achieve full materiel release prior to FRP decision.

c. Prior to milestone B—

(1) Designate an ILS manager (ILSM) to participate in pre-milestone B activities with the CBTDEV.

(2) Lead the development of the initial SS, and update the SS throughout the life-cycle.

(3) Conduct appropriate supportability analyses with the CBTDEV

(4) Participate in the development of the capabilities documents, and prepare or review all other acquisition program documentation to ensure that all logistics support considerations are adequately defined.

(5) Serve on SIPTs chaired by the CBTDEV.

(6) Prepare, submit and obtain approval of a type I BCA that outlines the requirements and functions of the system and determine whether the system should be developed using PBL criteria.

d. Designate an ILSM to lead the SIPT (at milestone B or when the PM is appointed, if earlier, in accordance with AR 70–1) in the continued refinement and implementation of the SS. The ILSM will establish or assume the chair of the SIPT at that time. The ILSM will also serve as the MANPRINT manager.

e. Ensure that supply chain management principles are considered in the ILS process and supportability analyses.

f. Ensure that PBL is considered as a support alternative and used if it is determined to be economically and operationally feasible.

g. Ensure that supportability issues and concerns are identified and corrected during testing prior to initial system fielding; and ensure that deficiencies discovered during and after initial fielding are corrected.

h. Coordinate materiel fielding requirements with the supporting Life Cycle Management Command (LCMC)/ Logistics Support Activity (LOGSA) to ensure that items required to support system fielding will be available at the time and place agreed upon with the gaining ACOM/ASCC/DRUs (see AR 700–142).

i. Ensure the key logistics design criteria, such as system reliability, maintainability, and supportability meet the system thresholds and are focused on minimizing the logistics footprint of the system. This is critical during the initial system architecture trade off analysis.

j. Ensure tradeoffs are evaluated, supportability is co-equal to cost, performance, and schedule during the development and execution of the system acquisition process. Ensure tradeoffs are documented throughout the acquisition process.

k. Ensure that ILS support planning, design influence to include supportability, environmental engineering, and MANPRINT engineering performance and attributes are critical criteria within the system engineering tradeoff analysis and incorporated during the system engineering and addressed during materiel system design reviews.

l. Coordinate supportability, sustainment and environmental planning, requirements, studies, analyses, and implementation with the ASA (I&E), US Army Environmental Command, CBTDEV, COE, Army logistician, trainer, testers, independent evaluators, and those in supporting commands and other applicable military services and agencies, to include the Defense Logistics Agency (DLA).

m. Coordinate the development and update of the support facilities annex to the SS with the COE.

n. Use standard Army systems to collect and maintain logistics data regarding similar systems for use by SIPT participants in performing supportability analyses. The Logistics Integrated Warehouse (LIW) is the authoritative source for all logistics data and is available at https://www.logsa.army.mil. Ensure SIPT members have access to contractor data to perform these analyses.

o. Ensure the System Training Plan (STRAP) is initiated in accordance with AR 350–38.

p. Prepare and coordinate interservice support agreements, initiate depot program initiation requirements, and determine whether the materiel system has a mobilization or surge requirement and document in the SS, Performance Based Agreements (PBAs), and other program management documentation.

q. Obtain funds necessary to identify, acquire, and implement the SS. If necessary, determine the effects of reduced funds on achieving projected system readiness levels, Life-Cycle Costs (LCC) goals, and overall supportability program execution.

r. Ensure supportability is evaluated and that the acquisition program provides sufficient materiel system prototypes

or commercial/NDIs and production items for the logistics demonstration (LD) and supportability T&E to enable a statistically valid sample and basis for estimating sustainment requirements.

s. Ensure that supportability is evaluated during the LD and user testing and validation, and ensure that deficiencies are identified and corrected prior to initial system fielding.

t. Ensure that the core logistics analysis, core depot assessment (CDA)/Source of Repair (SOR) analyses, and the inter-Service (Joint Depot Maintenance Activity Group (JDMAG)) study are initiated as early as possible to ensure statutory compliance at appropriate milestone reviews.

u. Include MANPRINT requirements in logistics support strategies, concepts, and plans, and document in the SS.

v. Designate a post-production software support (PPSS) activity to ensure ILS principles are also applied to software development; monitor software development to ensure supportability; and plan for software support after fielding.

w. Support HQDA ILSRs.

x. Centralize management of LCCS for TDAs training devices when the devices will be authorized at more than one location. Centralized management includes—

(1) Planning, programming, and budgeting for resources to support LCCS and to upgrade training devices as tactics and associated weapon systems change.

(2) Negotiating, awarding, and administering contracts for LCCS.

y. Employ a Level Of Repair Analysis (LORA) methodology using approved modeling tools (Computer-Adaptive Placement Assessment and Support System (COMPASS), COMPASS Lite, and so forth) to develop the initial maintenance concept. This concept shall be based on economic and noneconomic constraints and readiness requirements; emphasize repair strategy throughout the lifecycle using engineering estimates that will be refined over time with field experience.

z. Coordinate all maintenance allocation charts with the proponent schools.

aa. Apply historical lessons learned from accident experience to minimize total ownership costs.

2–13. Materiel commands

The principal materiel command is the U.S. Army Materiel Command (AMC) including its subordinate Life Cycle Management Commands (AMCOM LCMC, CE–LCMC, JM&L LCMC and TACOM LCMC) and the Logistics Support Activity (LOGSA). Other materiel commands include the U.S. Army Intelligence and Security Command (INSCOM); the U.S. Army Installation Management Command (IMCOM), the U.S. Army Corps of Engineers (COE); the U.S. Army Medical Research and Materiel Command (USAMRMC); and the U.S. Army Space and Missile Defense Command/Army Strategic Command. The commanders, materiel commands will—

a. Establish an ILS/supportability organization to ensure compliance with primary ILS policies and procedures, and provide matrix support to assigned PMs.

b. Assign an ILSM, when requested by the PM, to participate in the SIPT during the development, acquisition, and execution of the SS.

c. Assist the PM throughout the life cycle of the system, applying ILS principles and utilizing data collected during war time, field exercises, and peacetime operations to continue the analytical effort necessary to optimize logistics support and reduce the logistics footprint at the minimum LCC.

d. In addition, the Commander, AMC will—

(1) Support the ILSM with supportability analyses (SA) and LMI.

(2) Provide SA technical assistance as required to ensure that ILS considerations are applied to the design of new and modified/upgraded systems and are considered in the selection of commercial and NDI.

(3) Serve as the DOD SA support activity.

(4) Establish and support military and civilian career development programs for logisticians (ILS managers and specialists) and ILS-related engineers, in coordination with the DCS, G–4.

(5) Provide ILS functional support to the PM through a memorandum of agreement, which will be used to detail the support to be provided.

(6) Participate in the Joint Service Acquisition Logistics Standardization Program.

(7) Provide a representative to the AILSEC.

(8) Provide SA through Army Materiel Systems Analysis Agency (AMSAA) to the Army Evaluation Center (AEC) and DASA (ILS) for the evaluation of logistics supportability of all ACAT level programs.

(9) Provide technical guidance and support to PMs, vendors, and field Army commands on prevention and control of corrosion.

(10) Support the PM in sustaining deployed materiel (hardware and software) to include supplementing CLS plan for support.

(11) Provide industrial base support to ASA (ALT) and the PMs in accordance with AR 700–90.

(12) Assist in the development of a BCA in support of the PBL concept.

(13) Provide input to SS.

(14) Provide Single Army Logistics Enterprise (SALE) architecture support for sustainment of weapons systems.

(15) Integrate best business practices for PBL strategies.

(16) Ensure interoperability through standardization of technical data and common look and feel for electronic technical manuals and interactive electronic technical manual (IETMs).

(17) Provide supportability/ILS planning guidance and software tools.

(18) Participate in DA ILSRs.

2–14. Combat developers

The commander, U.S. Army Training and Doctrine Command (TRADOC) is the Army's principal CBTDEV. The CBTDEV for class VIII (medical materiel) is the U.S. Army Medical Department Center and School (AMEDDC&S). Other CBTDEVs include INSCOM and Network Enterprise Technology Command/9th Army Signal Command. (NETCOM fulfills roles as a combat developer and a direct reporting unit.) CBTDEVs will develop operational and support concepts; doctrine, organization, and force structures; and will determine materiel requirements for equipping these force structures. As user representatives, CBTDEVs will ensure that system developmental efforts consider user requirements. To ensure that the supportability program fulfills the needs of the user, CBTDEVs will—

a. Establish internal policies, procedures, and techniques for implementing this policy.

b. Conduct applicable supportability analyses and tradeoffs as a function of developing capabilities documents.

c. Establish logistics requirements, constraints, system design parameters, and Systems Readiness Objectives (SROs).

d. Conduct an analysis of alternatives to include alternative operating and system support concepts with specific consideration of performance-based options.

e. Develop specific, measurable, and testable support-related materiel requirements or parameters based on required logistics, operational performance, LCC goals, and readiness requirements.

f. Assess the impact of the proposed system on the maintenance capabilities planned for the period in which the system will be introduced.

g. Assess the concept and technology of embedded and or system health management with regard to its ability to facilitate the use embedded diagnostics, instrumentation, prognostics, and similar maintenance enablers.

h. Identify key performance and related support parameters for inclusion in the capabilities documents, to include availability, reliability, maintainability, interoperability, manpower, and deployment footprint, that form the basis of the overall capability of the system to perform and endure in the required mission operational environment.

i. Incorporate net centric Common Logistics Operating Environment (CLOE) considerations into capabilities documents.

j. Incorporate system maintainability, operability, supportability, and Unique Identifier Identification (UID) considerations into capabilities documents.

k. Document the supportability concept and requirements in the initial capability document (ICD), capabilities development document (CDD), and capabilities production document (CPD).

l. Develop a rough order of magnitude LCC estimate that includes all phases of the acquisition process (through disposal) and document it in the ICD. The LCC estimate will be updated in subsequent capabilities documents.

m. Prior to Milestone B (formal program initiation), designate an ILS lead who will—

(1) Form the initial SIPT and prepare the Supportability Analysis (SA).

(2) Develop the initial SS using the SA, and ensure that the Product Support Strategy (PSS) is documented in the acquisition strategy.

(3) Include the appropriate logistics metrics, criteria, and funding requirements in the acquisition program baseline.

(4) Develop supportability testing issues in coordination with the training developer, tester, evaluator, Army logistician, and other program participants; and ensuring the appropriate logistics considerations and test points are documented in the test and evaluation master plan (TEMP).

(5) Participate in the SIPT after a PM and ILSM are assigned to the program.

n. Participate in decision and program reviews, and DA ILSRs.

o. Inform all program participants of changes affecting the supportability and environmental program planning, and fully consider logistics transformation policies.

p. Ensure establishment and implementation of training programs by the trainer to develop the skills needed for the operation and support of newly fielded systems and for sustained support.

q. In coordination with the PM, ensure that user ILS requirements and constraints are coordinated and included in materiel system contractual, solicitation, and source selection documents.

r. Define transportability and mobility requirements in coordination with the Military Surface Deployment and Distribution Command–Transportation Evaluation Agency (MSDDC–TEA) of the materiel system and assess the unit mobility impact during the development process.

s. Establish support conditions and requirements for initial operational capability (IOC) date in coordination with the PM and gaining ACOM, ARNG, ASCC, USAR, and DRUs.

t. Coordinate with the PM in determining the use of contractor support in developing the support concept; and

coordinate, with the supporting and gaining commands, the necessary procedures to implement contractor support, if required.

u. Provide a representative to support the AILSEC.

v. Participate in developing PBL metrics and desired outcomes.

2–15. Commander, Army Test and Evaluation Command (ATEC)

The Commander, Army Test and Evaluation Command (ATEC) is responsible for testing and evaluating ILS for all Army acquisition programs and will—

a. Assess/evaluate operational suitability, to include supportability for all assigned acquisition programs in accordance with DA Pam 700–28.

b. Review and recommend changes to requirements/capabilities documents, acquisition plans, supportability strategies, test plans, materiel fielding documents, and integrated program summaries.

c. Represent ILS and environmental issues at IPT meetings, IPR meetings, and other meetings.

d. Monitor supportability and operational testing to include Logistics Demonstrations (LDs).

e. Identify supportability problems and their impact and assist in finding a resolution; influence system design to enhancing supportability; and elevate unresolved issues to the OIPT.

f. Ensure that the TEMP and evaluation plan adequately address how supportability will be tested and evaluated as part of the performance of the system. Primary system performance suitability metrics will include —

(1) Availability.

(2) Footprint.

(3) LCC.

g. Review and comment on technical data received from manufacturers in regard to the acquisition of commercial and NDI, where these data may be used to satisfy abbreviated or waiver of formal testing.

h. Provide ILS evaluation input to the DASA (ILS) and coordinate ILS and environmental findings and positions if DASA (ILS) agrees with ATEC position.

i. Provide representatives to the AILSEC.

j. Include all applicable support requirements and concepts in T&E programs and plans.

k. Test and evaluate the support requirements/capabilities and concepts in accordance with the approved TEMP.

l. Develop the logistics supportability T&E concept, objectives, scope, and ILS issues (which address the total system including manpower, support item training, provisioning, facilities, test resources, unique concepts, and milestones) and coordinate these with the CBTDEV, the Army logistician, and the independent test evaluator.

m. Provide the PM and other program participants with data on similar fielded systems that could influence the supportability requirements.

n. Participate in the T&E WIPT, OIPT, SIPT, and DA ILSR activities.

o. Provide a copy of T&E plans and reports (except supply class VIII, medical materiel) to DASA (ILS) (SAAL–ZL) and other SIPT members. Provide copies for supply class VIII medical materiel to the U.S. Army Medical Materiel Agency (USAMMA), (MCMR–MMT–E), Frederick, MD 21701–0501. When test reports are not available in time to permit a DASA (ILS) or USAMMA assessment for decision and program reviews, authenticated test data will be provided.

p. Ensure coordination with PM prior to test to ensure that impacts of testing on the environment are considered and documented.

2–16. Director, Military Surface Deployment and Distribution Command–Transportation Evaluation Agency

The Director, Military Surface Deployment and Distribution Command-Transportation Evaluation Agency (MSDDC–TEA) will—

a. Provide transportability engineering assistance, deployability analysis assistance, design guidance, and required approvals to PMs, CBTDEVs, and other participants during system acquisition.

b. Provide transportability and deployability assessments for CBTDEV and PM throughout the acquisition process.

c. Ensure liaison with all services and DLA in all transportability matters.

d. Participate in SIPTs as required.

e. Ensure transport procedures for new systems are covered in MSDCC–TEA guidance.

f. Participate in HQDA ILSRs as requested.

g. Provide a representative to the AILSEC.

h. Provide final transportability approval, or provide corrective actions needed to obtain approval, prior to milestone C. Transportability approval from MSDCC–TEA is required before milestone C.

2–17. Trainer/training developers

The principal Trainer/Training Developer (T/TD) is TRADOC. Other T/TDs include AMC, MEDCOM, INSCOM, and USACE. To ensure the ILS program fulfills T/TD needs, these T/TDs will—

a. Participate in the SIPT.

b. Determine training (including embedded training) and training device requirements in accordance with the Systems Approach to Training (SAT) outlined in AR 350–38.

c. Develop or acquire the training capabilities and coordinate analysis and data requirements with other SIPT members to ensure integration.

d. Provide complete initial and/or follow-on training for operation and support of newly fielded systems and for sustained support of fielded systems.

e. Determine and submit system training plans to HQ, USACE (CEMP–DA) and gaining ACOM, ARNG, ASCC, USAR, and DRUs for development of training facility requirements.

f. Conduct training evaluations to assess compatibility between field operations and training, doctrine, organizations, and fielded systems.

g. Provide evaluation, feedback, and lessons learned to doctrine, training and combat developers, and other appropriate action elements.

2–18. Commanders, Army Commands, Army National Guard, U.S. Army Reserve, Army Service Component Commands and Direct Reporting Units

Commanders of gaining Army Commands (ACOMs), Army National Guard (ARNG), U.S. Army Reserve (USAR), Army Service Component Commands (ASCCs), and Direct Reporting Units (DRUs) will participate in the ILS process by planning for receipt of new, modified/upgraded, and displaced systems. The commanders of gaining ACOM, ARNG, USAR, ASCC, and DRUs will—

a. Provide advice to the Army logistician, PM, and CBTDEV on matters pertaining to the expected system operational employment and support.

b. Negotiate/sign PBA for materiel systems utilizing PBL strategies.

c. Coordinate with the gaining PM and LCMC, providing signed copies of the PBA of the fielding materiel systems. The PBA will be provided to the Commander, ACOM, ARNG, USAR, ASCC, or DRU; the DCS, G–4 (Logistics Division); and the DCS, G–3 (Force Structure Division).

2–19. Army Integrated Logistics Support Executive Committee

The Army Integrated Logistics Support Executive Committee (AILSEC) provides a forum for representatives of Army organizations to plan, discuss, and resolve ILS policy issues, concerns, and procedures and to provide advice and counsel regarding implementation of the Army ILS program. The AILSEC will—

a. Develop policies and procedures for conduct of the DA ILS reviews.

b. Establish mid- and long-range ILS goals and objectives.

c. Review the ILS process for adequacy and identification of functional requirements, which should be expanded, clarified, or updated to improve the ILS process.

d. Recommend policy and procedures that will improve ILS and assist in their establishment and effective implementation.

e. Prioritize ILS tasks that will improve relationships, processes, and communications among Army commands within the Office of the Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (OASA (ALT)); Headquarters, AMC; Life-Cycle Management Commands (LCMCs); LOGSA; and other Army/DOD activities.

f. Ensure development and coordination of ILS education, training, and career programs.

g. Identify, review, and recommend resolution of systemic logistics support issues.

2–20. Other participants

Other participants in the system acquisition process shall provide timely review, approval, or submission of applicable ILS or ILS-related documents and accomplishments and report on the status of tasks identified in the supportability strategy and associated fielding documents.

Chapter 3
Process and Framework

3–1. Purpose

The purpose of the ILS process is to—

a. Introduce and sustain fully supportable materiel systems in current and projected environments that meet operational and system readiness objectives (SRO) at minimum LCC.

b. Right-size the logistics footprint (demand for logistics).
c. Reduce LCC and cycle times.
d. Reduce duplication of efforts.

3–2. Process

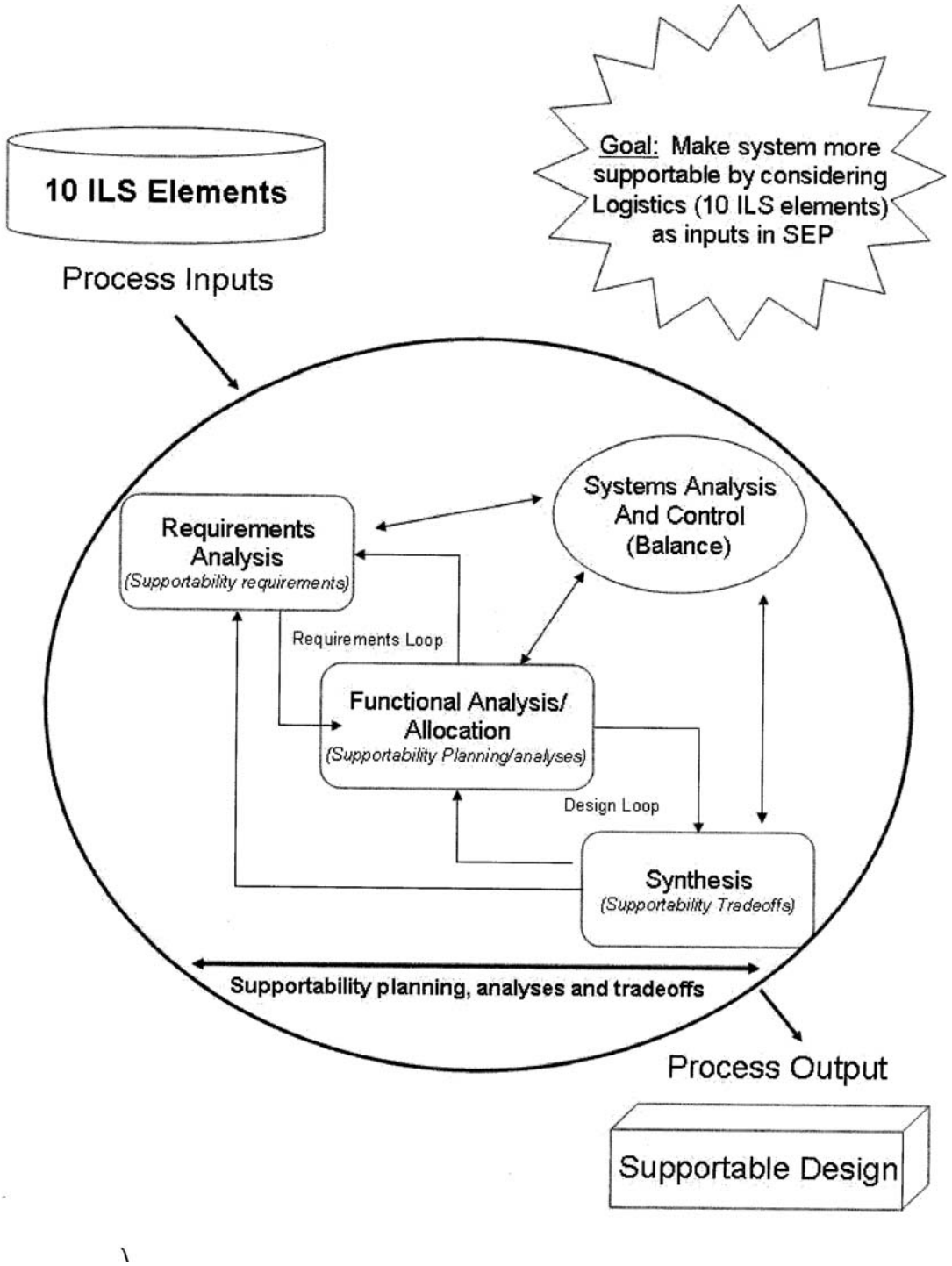
a. The ILS process is a deliberate, unified and iterative methodology used to develop materiel and a support strategy that—

(1) Optimizes functional support elements for a system.
(2) Leverages existing investments in manpower, systems, equipment, training, facilities, and other resources.
(3) Guides the system engineering process using supportability attributes to achieve goals and to —
(a) Identify the support (design the support and support the design).
(b) Influence the best design alternative.
(c) Refine the SS.
(d) Influence test and evaluation (T&E) of both the system and the SS.
(e) Resource and acquire the requisite support.
(f) Provide the support to the soldier.
(g) Improve the support and introduce and support materiel systems.
(4) Ensures interoperability of materiel within the Army, DOD and coalition partners.

b. The ILS process provides a management framework and technical activities needed to —

(1) Influence the operational and materiel requirements/capabilities, system performance specifications, integration of sustainability and maintainability as well as the ultimate design or selection of a materiel system.
(2) Emphasize supportability early during the system life cycle.
(3) Define and refine the required product support during the development and implementation of the supportability strategy (SS) during the system life cycle.
(4) Provide best value product support to optimize system operational effectiveness.
(5) Obtain readiness and LCC improvements in the materiel system and support systems throughout the operational life cycle.
(6) Define the product support requirements best related to system design and to each other.
(7) Implement PBL.

c. Figure 3–1 illustrates the ILS process.



Notes:

[1] The ILS process relies on integrating the ILS framework (process inputs) into the systems engineering model.

[2] The ILS process is a continuous cycle that is updated throughout the lifecycle.

[3] The ILS process is a collaborative process that requires the ILSM to work with other program team members to integrate logistics support elements into the design.

Figure 3–1. Integrated logistics support process

3–3. Framework (Ten ILS elements)

a. ILS is the process that facilitates development and integration of the 10 logistics support elements to acquire, test, field, and support Army systems. The ILS elements are listed in Table 3–1.

Table 3–1
Integrated logistics support (ILS) elements

Element	Description
Maintenance planning	Establishes maintenance concepts and requirements for the life of the system. It includes, but is not limited to, levels of repair, repair times, testability requirements, support equipment needs, training and TADSS, manpower skills, facilities, interservice, organic and contractor mix of repair responsibility, site activation, development of preventive maintenance programs using reliability centered maintenance, and sustainment, and so forth. This element has a great impact on the planning, development, and acquisition of other logistics support elements.
Manpower and personnel	Involves the identification and acquisition of personnel (military & civilian) with the skills and grades required to operate, maintain, and support systems over their lifetime. Early identification is essential. If the needed manpower is an additive requirement to existing manpower levels of an organization, a formalized process of identification and justification must be made to higher authority.
Supply support	Consists of all management actions, procedures, and techniques necessary to determine requirements to acquire, catalog, receive, store, transfer, issue and dispose of spares, repair parts, and supplies. This means having the right spares, repair parts, and supplies available, in the right quantities, at the right place, at the right time, at the right price. The process includes provisioning for initial support, as well as acquiring, distributing, and replenishing inventories.
Support equipment	Consists of all equipment (mobile or fixed) required to support the operation and maintenance of a system. This includes ground handling and maintenance equipment, trucks, air conditioners, generators, tools, metrology and calibration equipment, and manual and automatic test equipment. During the acquisition of systems, program managers are expected to decrease the proliferation of support equipment into the inventory by minimizing the development of new support equipment and giving more attention to the use of existing Government or commercial equipment.
Technical data	Represents recorded information of scientific or technical nature, regardless of form or character (such as equipment technical manuals and engineering drawings), engineering data, specifications, standards and Data Item Descriptions (DID). Technical manuals (TMs), including Interactive Electronic Technical Manuals (IETMs) and engineering drawings, are the most expensive and probably the most important data acquisitions made in support of a system. TMs and IETMs that provide the instructions for operation and maintenance of a system. IETMs also provide integrated training and diagnostic fault isolation procedures. Address data rights and data delivery as well as use of any proprietary data as part of this element. Computer programs and related software are not technical data; documentation of computer programs and related software is computer resources support.
Training and training support	Consists of the policy, processes, procedures, techniques, Training Aids Devices Simulators and Simulations (TADSS) and equipment used to train civilian and military personnel to acquire, operate and support a system. This includes individual and crew training, new equipment training, initial, formal, and on-the-job training and sustainment proficiency training. Though the greatest amount of training is accomplished just prior to the fielding of a system, it must be remembered that in most programs, a large number of individuals must also be trained during system development to support the system test and evaluation program.
Computer resources support	Encompass the facilities, hardware, software, documentation, manpower, and personnel needed to operate and support mission critical computer hardware/software systems. As the primary end item, support equipment, and training devices increase in complexity, more and more software is being used. The expense associated with the design and maintenance of software programs is so high that one cannot afford not to manage this process effectively. It is standard practice to establish some form of computer resource working group to accomplish the necessary planning and management of computer resources support.
Facilities	Consists of the permanent and semi-permanent real property assets required to support a system, including studies to define types of facilities or facility improvements, location, space needs, environmental requirements, and equipment. It includes facilities for training, equipment storage, maintenance, supply storage, ammunition storage, and so forth.
Packaging, handling, storage, and transportation (PHST)	The combination of resources, processes, procedures, design, considerations, and methods to ensure that all system, equipment, and support items are preserved, packaged, handled, and transported properly, including environmental considerations, equipment preservation for the short and long storage, and transportability. Some items require special environmentally controlled, shock isolated containers for transport to and from repair and storage facilities via all modes of transportation (land, rail, air and sea).

Table 3–1
Integrated logistics support (ILS) elements—Continued

Design interface	The relationship of logistics-related design parameters to readiness and support resource requirements. Logistics-related design parameters include the following: –Reliability, Availability, Maintainability (RAM) –Human factors –System safety –Survivability and vulnerability –Hazardous material management –Environmental quality factors such as assessment of air, water and noise pollution. –Standardization and interoperability –Energy management – Corrosion –Nondestructive inspection –Transportability These logistics-related design parameters are expressed in operational terms rather than inherent values and specifically relate to system readiness objectives and support costs of the system. Design interface really boils down to evaluating all facets of an acquisition, from design to support and operational concepts for logistical impacts to the system itself and the logistic infrastructure. Design interface includes developing the system to operate in a net-centric CLOE that complies with the Army Integrated Logistics Architecture (AILA).

b. All ILS elements must be developed as an integral part of the system engineering effort and with each other. Tradeoffs may be required between elements in order to acquire a system that is affordable (lowest LCC), operable, supportable, sustainable, transportable, and environmentally sound within the resources available. An ILS checklist is provided in appendix C.

3–4. ILS process in the acquisition strategy

a. All acquisition programs, including highly sensitive classified, cryptologic, and intelligence programs, will use the ILS process as a tool to help develop the acquisition strategy. This process may be tailored to minimize the time it takes to satisfy an identified capability gap. Tailoring will give full consideration to applicable statutes. Applicable logistics statutes include—

(1) Title 10, U.S.C. 2399, Operational test and evaluation of defense acquisition programs.

(2) Title 10, U.S.C. 2460, Definition for depot maintenance and repair.

(3) Title 10, U.S.C. 2461, Commercial or industrial type functions: required studies and reports before conversion to contractor performance.

(4) Title 10, U.S.C. 2464, Core logistics capabilities.

(5) Title 10, U.S.C. 2466, Limitations on the performance of civilian commercial or industrial type functions: requirement of competition (50/50 law).

(6) Title 10, U.S.C. 2469, Contracts to perform workloads previously performed by depot-level activities of the Department of Defense.

(7) Title 10, U.S.C. 2474, Centers of industrial and technical excellence: designation; public-private partnerships.

b. The number of phases and decision points may be tailored to meet the specific needs of individual programs, based on objective assessments, acquisition category, risks, the adequacy of proposed risk management plans, and the urgency of the user. Tailored acquisition strategies may vary in the way that ILS related activities are to be conducted, the formality of reviews and documentation, and the need for other supporting activities.

c. The PM will ensure ILS-related goals, alternatives, decisions, plans, and results are summarized in the acquisition strategy. The acquisition strategy (AR 70–1) will address the following areas:

(1) Logistics support and sustainment concept.

(2) Organizations, roles and responsibilities.

(3) Support related market investigation plans and results.

(4) PBL implementation as applicable.

(5) Contractor support and incentives as applicable.

(6) Technical data rights and access.

(7) Applicable commercial and military standards.

(8) Total ownership cost reduction.

(9) Interface with National Maintenance Program (NMP).

(10) Application of prognostics, diagnostics and training systems.

(11) Application of unique item identifier (UID) and automatic identification technology (AIT).

(12) Application of interoperability, standardization and interchangeability.

(13) Core depot maintenance and depot maintenance transition plans.

(14) Acquisition cross service agreements.

(15) Environment, safety and occupational health.

d. When contracting for ILS, the requirements will be tailored according to the acquisition strategy and included in solicitation documents. The contractor will—

(1) Define the approach used to meet the stated ILS requirements in the proposal developed in response to the solicitation. Military Handbook (MIL–HDBK) 502, American National Standards Institute (ANSI) Government Electronics and Information Association (GEIA) handbook for the implementation of GEIA–STD–0007 Logistics Product Data (GEIA–HB–0007), and Logistic Product Data (LPD) (GEIA–STD–007) should be used as guides for supportability analysis (SA). GEIA–STD–0007, LPD provides guidance on data definitions/formats for data products and options for product support data/LMI which must be acquired to support program requirements and MIL–PRF–49506, Logistics Management Information (LMI) and its related Data Item Descriptions (DID) provides guidance on acquiring this data in performance terms.

(2) Address the ILS program, including related analytical efforts, as an element of program management/system engineering. Progress will be assessed during periodic integrated functional reviews.

(3) Use the work breakdown structure (WBS) as the format for itemized cost data for the ILS program contract items. Program offices may tailor a program WBS for each program using the guidance in MIL–HDBK–881A. When multiple contractors are providing ILS program contract items, their specific responsibilities will be clearly delineated.

Chapter 4
Performance-Based Logistics Policies and Implementation

4–1. Overview

a. Purpose. The purpose of this chapter is to provide Army policy guidance for the conduct and use of Performance-Based Logistics (PBL) as the DOD/Army's preferred product support strategy (PSS).

b. Policy linkage. The Department of Defense (DOD) Directive 5000.1 and DOD Instruction 5000.2 emphasize performance-based strategies for acquisition and sustainment of products and services whenever practical. The Defense Acquisition Guidebook (DAG) states that within statutory limitations, support concepts for weapon systems shall use long-term logistics support based on best value over the system's life cycle, and that support approaches be analyzed to provide a basis for a final decision

c. Process. The PBL process requires that the warfighter and the PM, as the Total Life Cycle Systems Manager (TLCSM), initially agree upon and document performance-based requirements/outcomes for product support in a performance based agreement (PBA). The PBL PSS shall meet the warfighter's operational requirements and be cost effective as validated by a PBL BCA. The PBL BCA process goes beyond cost/benefit or traditional economic analyses by linking each product support alternative to how it fulfills strategic objectives of the program; how it complies with product support performance measures/metrics; and the resulting impact on stakeholders. Ultimately, the PBL BCA is a tailored process driven by the dynamics of the pending PBL investment decision and independently, without prejudice, identifies which alternative provides optimum mission and support performance given cost and other constraints, including qualitative or subjective factors. Key PBL Milestones, Decision Points and PBL Implementation Checklist are located at appendix B.

4–2. General policy

PBL is the preferred product support strategy for weapon system product support that employs the purchase of support as an integrated performance package designed to optimize system readiness. PBL objectives include optimizing total system availability while minimizing cost and logistics footprint.

a. TRADOC and AMC shall participate in the collaboration, validation, verification, and review process to ensure the operational and economic concerns of the warfighter and sustainment community, respectively, are appropriately addressed in the PSS.

b. PBL shall be implemented on all Army ACAT programs where it is operationally and economically feasible and as validated by a Formal (Type II) BCA. PBL may be implemented on systems, subsystems, secondary items, components, assemblies, or subassemblies as well as processes that lead to business process improvements (for example, Lean or Six Sigma improvements on a depot line). PBL shall be considered for implementation on Army ACAT III programs at the discretion of the PM/PEO. For joint programs where the Army is a participant, lead service policies for PBL PSSs shall be followed unless it conflicts with Army requirements or other agreed upon arrangements.

c. Army PBL criteria requires that the PBL PSSs for U.S. Army programs shall possess clearly defined, measurable, product support performance outcome(s) that meet warfighter requirements and expectations. The program shall comply with the new Sustainment Key Performance Parameter (KPP), Key System Attributes (KSAs) and/or at least one of the published DOD overarching TLCSM metrics (or supporting Army metric sub-element(s)). The strategy shall make the best use of Government (organic), commercial or organic-commercial partnership sources to ensure a best

value approach. The support strategy shall comply with the Army's published PBL boundaries and constraints. All programs shall have, or plan to have, the following to be considered a valid PBL application:

(1) Approved and validated Type II BCA.

(2) Product Support Integrator(s) (PSI).

(3) PBA(s).

d. Army PBL Boundaries and Constraints mandates that programs will—

(1) Be operationally executable and not infringe on the commander's ability to execute missions.

(2) Comply with Army policy on contractors accompanying the force set forth in AR 715–9.

(3) Maintain Total Asset Visibility (TAV) of total system to include supporting equipment and spares while providing TAV to the Army In-Transit Visibility (ITV) network. Ensure that contractors feed ITV servers with data in the required format.

(4) Comply with DOD policy to use the Defense Transportation System and DOD transportation hubs where practical and where it meets the warfighter's performance requirements. If other than DOD distribution system is recommended, Department of the Army, Deputy Chief of Staff (DCS), G–4 through the DASA (ILS), shall be notified of any intent to use a different distribution system prior to the decision.

(5) Use standard Army Logistics Information Systems (LIS), formerly known as Standard Army Management Information Systems (STAMIS). These include: Standard Army Maintenance System - Enhanced (SAMS–E), Unit Level Logistics System - Aviation Enterprise (ULLS–AE), Standard Army Retail Supply System - Objective (SARSS–O), Property Book Unit Supply Enhanced (PBUSE) and Transportation Coordinator's Automated Information for Movements System (TC AIMS).

(6) Transition seamlessly to the Global Combat Support System - Army (GCSS–A) when accepted, and interface completely with the Single Army Logistics Enterprise (SALE) as it develops at the business process/ operational architectural level.

(7) Be compatible with emerging doctrine for sustainment operations such as two-level maintenance.

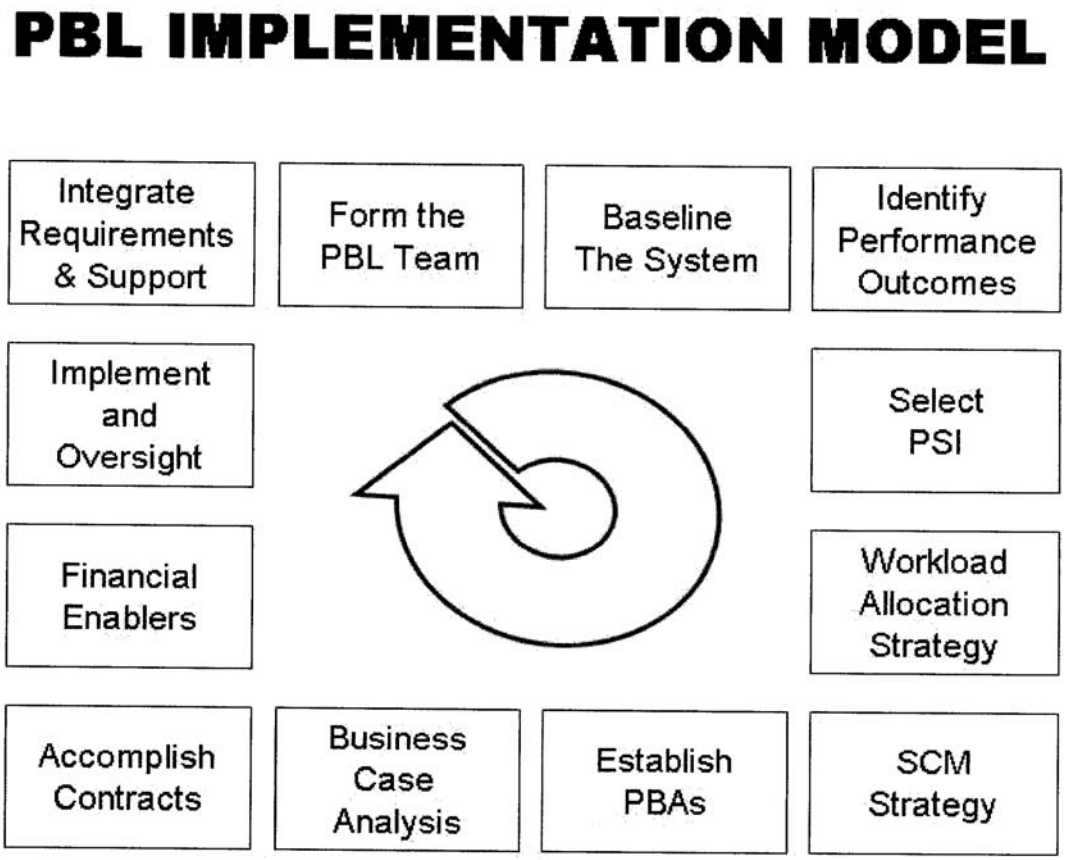
e. A program's PBL strategy shall be addressed at each Milestone Decision Review (MDR) and is tailored for each individual acquisition system with specific performance goals, roles, responsibilities that shall be detailed in PBAs prior to system fielding.

f. PBL shall be executed through PBAs with the warfighter, PSI, and Product Support Providers (PSPs). See paragraph 4–5.

g. A basic tenet of PBL is the use of high-level metrics that measure support outcome(s). See paragraph 4–9.

h. The PSI(s) shall be assigned to integrate product support for a system under a PBL strategy. See paragraph 4–10.

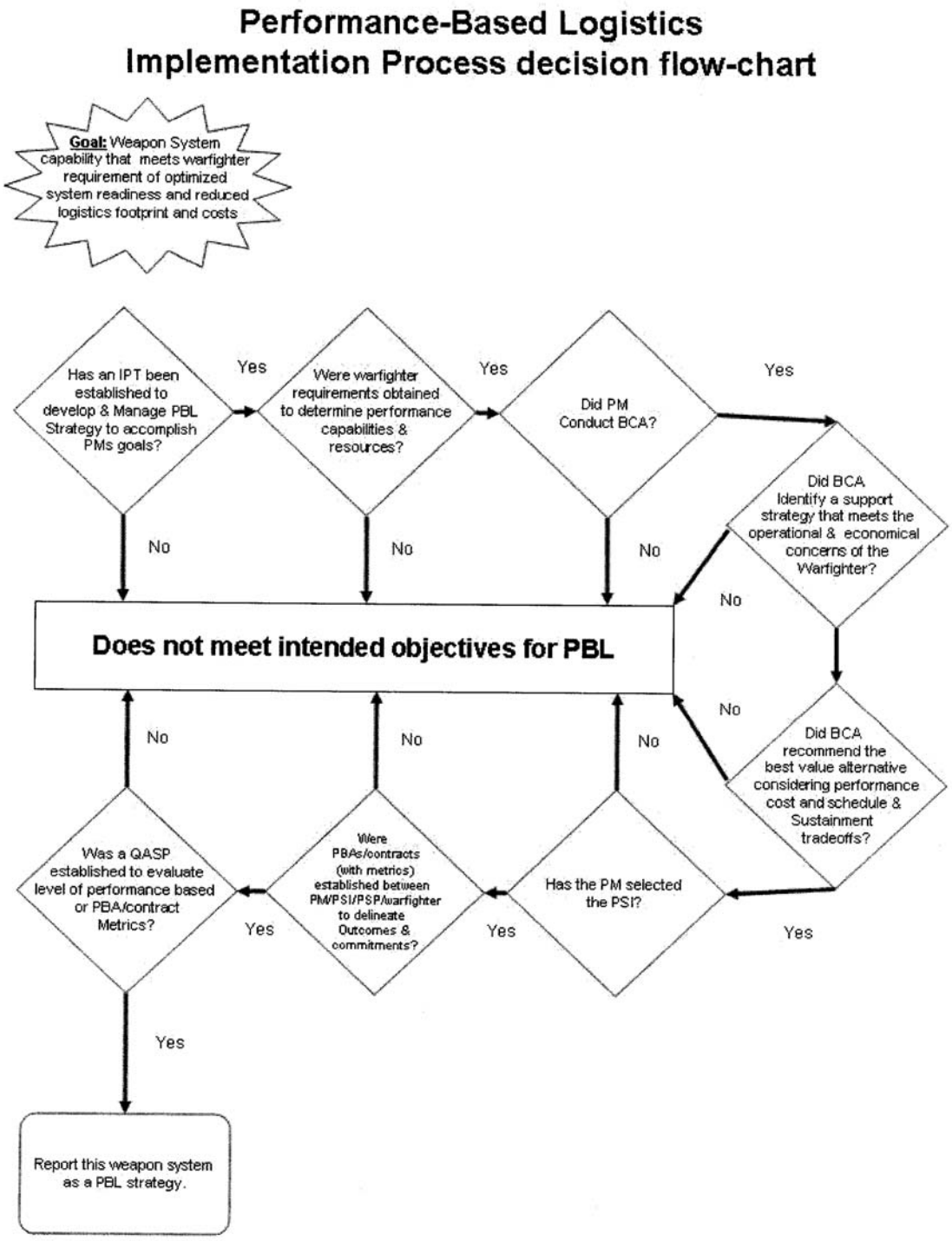
i. The Army's PBL policies and the layout of this chapter follow the Department of Defense (DOD) PBL Implementation Model shown in figure 4–1.



Notes:
[1] The different implementation model actions are not necessarily sequential but shall be synchronized and integrated across and within Army programs and the acquisition and sustainment communities.

Figure 4–1. PBL implementation model

j. Figure 4–2 outlines a PBL Implementation Process Decision flowchart with key Milestone/Decision Points to determine if a PSS meets the requirements to be a PBL.



Legend for Figure 4–2;
QASP = quality assurance surveillance plan

[1] Use to determine if the product support strategy meets the requirements of Performance-Based Logistics.

Figure 4–2. PBL process decision flowchart

4–3. Integrate requirements and support

a. An effective PBL implementation begins in the Joint Capabilities Integration and Development System (JCIDS) process by focusing capabilities needs on overall performance and linking supportability to performance.

b. Understanding warfighter needs in terms of performance is an essential initial step in developing a meaningful support strategy. The PM consults with the ASCCs and organizations that support the warfighting combatant commanders. The ACOM/ASCC/DRUs are generally the weapon system customers. Their capability needs shall be translated into performance and support metrics that shall be documented in PBAs and serve as the primary measures of support provider performance.

c. The JROC endorses the implementation of a mandatory availability KPP with supporting key system attributes of materiel availability, reliability and ownership cost for all major defense acquisition programs (MDAPs) and select ACAT II and III programs

d. As scenarios change and the operational environment evolves, performance requirements may also change leading to a change in the supportability strategy and PBL methodology. Meeting warfighter needs and remaining in close alignment with warfighter requirements and logistics personnel is an essential and continuous process for the PM.

e. To achieve this needed flexibility, PBL strategies shall be implemented through PBAs (for example, contracts, Memorandums of Agreement (MOAs), Memorandums of Understanding (MOUs), Service Level Agreements (SLAs)) that specify a range of performance outcomes and corresponding metrics sufficient to accommodate changes to resources, OPTEMPO, or other usage requirements. To the extent that they can be defined, the PBAs shall be aligned across various tiers of support, from peacetime training to wartime surge levels and shall occur with minimal contract exclusions, mitigating the need to amend or redevelop the PBL agreements. However, significant variations in usage may not be able to be defined, and may be accommodated by incorporating language for "over and above" services in the agreements.

f. The initial step of determining operational feasibility for PBL for all ACAT systems shall require active participation and collaboration by PEOs, PMs, AMC LCMCs, TRADOC School/Centers, TCMs, Combined Arms Support Command (CASCOM) Maneuver Sustainment Combat Developers, and other stakeholders.

g. PBL strategy requirements also include:

(1) Preservation of the organic industrial base core capabilities and 50/50 requirements, as mandated by statutes 10 USC 2464 and 2466.

(2) Compliance with all existing statutory, DOD, and Army funding policies and financial guidelines.

(3) That an inherently governmental function shall be performed by Government personnel. (Reference: 31 USC 501 note, Section 5 (2) (A) of Public Law 105–270; see also 10 USC 2383).

h. Only Army industrial base organizations that are funded by Army Working Capital Fund (AWCF) can compete (that is, submit a proposal) in a public private competition under OMB Circular A–76 or Competition for depot maintenance as set out in 10 USC 2469. See Section 8029 of Public Law 109–148. The procedures of 10 USC 2469 shall be observed when there is consideration of competition depot-level maintenance and repair (see 10 USC 2460) when the function is currently performed in an organic depot and the value of the workload exceeds $3 million. If any change in mode of performance, other than in depot level maintenance and repair over $3 million that affects more than nine DOD civilian employees, A–76 provisions need to be considered.

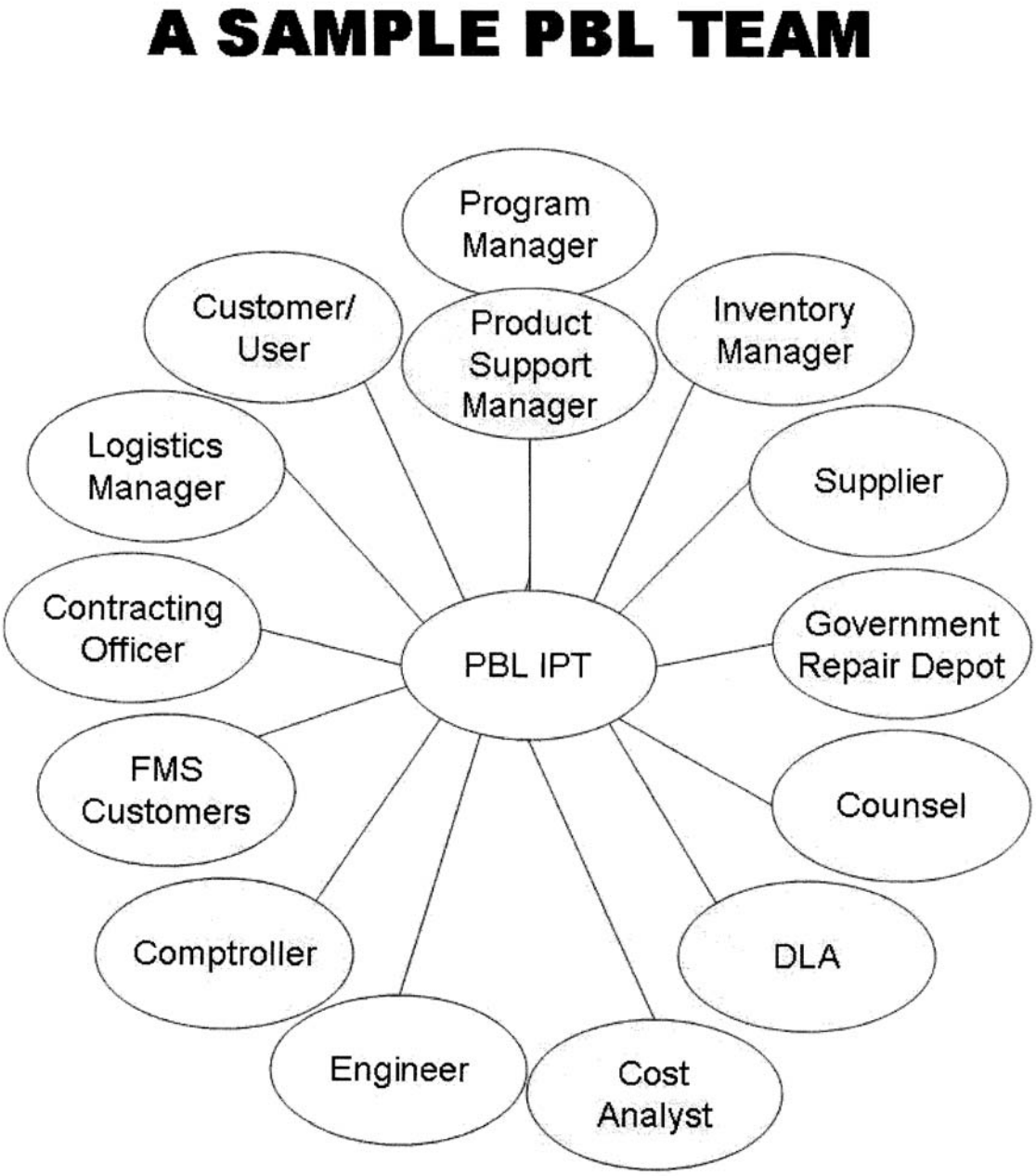
4–4. Form PBL team

A PBL team should be formed to manage the PBL effort.

a. The team, led by the PM or the PM's designated product support manager (PSM), shall consist of Government and private-sector functional experts and shall include all appropriate stakeholders, including warfighter representatives.

b. The structure of the team may vary, depending on the maturity and the mission of the program

c. Figure 4–3 shows a sample PBL Team set-up using an Integrated Product/Process Team (IPT) construct.



Notes:
[1] A team should include representatives from a component command headquarters and logistics representatives from supply, maintenance, and transportation staffs. It could also include representatives from ACOM/ASCC/DRU or defense agencies, as well as engineering, technical, procurement, comptroller, information technology organizations, and contract support. After the team is organized, the members establish their goals, develop plans of action and milestones, and obtain adequate resources.

Figure 4–3. Sample PBL team

4–5. Establish Performance-Based Agreements (PBAs) – PBA policy

a. Documentation of a PBA is required in any PBL implementation. Documented PBA(s) between the PM, product support integrator (PSI), and warfighter(s) that define the system operational requirements (for example, readiness, availability, and response times) are essential. PBAs shall define and include the required support metrics necessary to meet the system performance requirements.

b. PBAs shall be used to implement an approved PBL strategy on systems, subsystems and components, including secondary items. PBAs shall be binding agreements with specific performance metrics and resource commitments between PBL parties. PBAs shall also include incentives/disincentives, responsibilities, dispute resolution, and termination processes.

c. As performance requirements flow from the warfighter to the PSP(s), a PBA may be executed at each of three levels:

(1) Between the warfighter and the PM organization (PM–Warfighter).

(2) Between the PM and the PSI organization(s) (PM–PSI).

(3) Between the PSI(s) and PSP organization(s) (PSI–PSP).

d. A PBA shall be an agreement between organic organizations, a contract with a commercial entity, or an Industrial Base Support Agreement (IBSA).

e. In order to plan for funding fluctuations, PBAs shall be negotiated with a range of performance outcomes dependent on commensurate funding levels. PBAs shall include a clause to allow review and renegotiation on a periodic basis in the event of fluctuations/instability of funding.

f. All PBAs shall be updated at least every 5 years or in the event of a major programmatic change. Revisions to PBAs that incorporate major changes to program metrics, support strategy, Army enterprise objectives and/or financial resources shall be approved in accordance with this policy.

g. The following responsibilities for PBA coordination shall ensure that clear lines of authority and accountability are maintained, broad enterprise considerations are evaluated, and flexibility is provided to meet specific program performance requirements.

(1) *Warfighter agreements*. A PBA with the Warfighter shall be prepared by the PM and coordinated with all PBL stakeholders as an essential element of the acquisition and milestone decision review process. The PM and Warfighter (or designated representative) shall be signatories to this type of PBA. The Warfighter PBA shall be approved by the HQ, Department of Army (HQDA) G–3 and G–4 to ensure HQDA staff oversight and pan-Army considerations.

(2) *Contract-type agreements with a PSI or PSP*. A PBA contract with commercial entities shall follow existing FAR/DFAR rules and DOD acquisition processes for preparation and coordination. Signature authority for these agreements shall rest with the applicable acquisition officials (contracting officers) authorized for each specific program. (See para 4–6.)

(3) *Organic-type agreements with a PSI or PSP*. An MOA/MOU/SLA/IBSA-type agreement between organic organizations shall be coordinated within the applicable LCMC/PEO, and signed by the PM and the senior PSI/PSP organization officials for performance commitment. See figure 4–4.

Organic PBA Outline (Example)

1.0 Introduction
2.0 Purpose
3.0 Scope
3.1 Focus
3.2 Requirements
3.3 Evaluation Criteria and Methodology
3.4 General Boundaries and Constraints
3.4.1 Funding Constraints.
3.4.2 Higher level policies and decisions.
3.4.3 Real world situations.
4.0 Metrics/Performance Outcomes
5.0 General Terms and Conditions
5.1 Terms and Conditions
5.1.1 Business Case Analysis (BCA) Plan and Results
5.1.2 PBA Organizations
5.1.3 Type of PBA
5.1.4 DoD Integrated Customer Support Team (ICST)
5.2 Funding
5.3 Reviews and Revisions
5.4 Incentives
6.0 Constraints, Boundaries, and Exceptions
6.1 External Influences
6.1.1 Core Logistics Capabilities
6.1.2 50/50 Rule
6.1.3 Public/Private Competition
6.1.4 Centers of Industrial and Technical Excellence (CITE)
6.2 Product Support Boundaries
6.3 PBL Boundaries and Constraints
7.0 Roles and Responsibilities
8.0 Funding
9.0 Period of Performance
10.0 Conflict Resolution and Exit Criteria
10.1 Exit Criteria
10.2 Data Rights
10.3 Conflict Resolution
Appendix A Acronyms
Appendix B References

Figure 4–4. Organic PBA outline

h. LCMC Commanders have AMC signature authority for any PBAs involving their organization in a PSI or PSP role. An LCMC Commander may elect to delegate signature authority within their command to an agent acting on their behalf. If the PM designates an AMC organization as a PSI or PSP, the signature of the LCMC Commander (or designee) on the agreement commits the LCMC to achieving the performance parameters delineated in the PBA.

i. To assist in generation of PBAs, a software tool is contained within the SYSPARS application and includes an interactive PBA guide. Register and download SYSPARs at the following URL: https://www.logsa.army.mil/alc/logpars/.

4–6. Award contract — contracting policy

a. All organizations/entities that develop and execute PBL contracts and/or organic agreements along with all other PBL stakeholder shall adhere to the guidance specified here and the responsibilities outlined in the PBL Contracting Guide at https://www.us.army.mil/suite/doc/6840702 (requires AKO login).

b. Contracting clauses for implementing PBL are contained in the FAR and DFARS clauses. Unique PBL clauses are not required, but may be incorporated if needed to tailor the PBL strategy to the warfighter requirements.

c. All solicitations for implementation of a PBL strategy shall identify the availability of Army maintenance activities to enter into PPPs for performance of work in connection with the solicitation.

d. Government rights or access to item-level logistics and technical/product data (that is, data rights to the Technical Data Package (TDP)) shall be incorporated into all PBL strategies. Any associated costs for data shall be negotiated up front and included in the PBA contract.

e. Dispute resolution clauses are required within any PBA. It is incumbent upon the parties entering into such agreements to determine how disputes will be resolved and to include those conditions within the PBA.

f. An exit strategy will be included in the event that the performance metrics are not met, the needs of the Government change, or the PSI is unable/unwilling to continue to perform the function. The contract or agreement will contain language requiring "continuity of service" that mandates:

(1) Uninterrupted support during the transitional phase.

(2) Exchange of information and/or data.

(3) Interaction between the incumbent and the new partner/organization.

4–7. Financial enablers — financial policy

a. AWCF secondary items.

(1) Focus PBL candidates on—

(a) Army managed, stocked items, having high dollar value and high demand.

(b) DLRs.

(c) Items with Diminishing Manufacturing Sources and Materiel Shortages (DMSMS).

(2) A Type I (Feasibility) BCA, (see paragraph 4–13) shall be performed to justify PBL PSSs for AWCF secondary items. For DLA procurement actions, PBL efficiencies shall be obtained via consolidation of like items into long-term contracts with incentives tied to performance outcomes in accordance with existing acquisition regulations. Full Government access to item-level demand and return data shall be incorporated into all PBL contracts/PBAs. Surge production capability shall also be included in both repair PBAs and in procurement contracts.

(3) The PBA shall include accurate, quantifiable, relevant, and defensible baseline metrics for use in gauging the success of the PBL strategy as well as incentives and/or disincentives for achieving the selected metric(s). For secondary items, key metrics include stock availability, logistics response time, reduction in procurement lead-time, reduction in overall backorders, reduction in backorders of mission essential items, and overall inventory costs. Cost-per-unit usage and other application-specific metrics may also be applicable. Comparison of baseline to current performance metrics shall be an iterative process over the term of the PBL strategy. The PM/LCMC shall ensure that performance metrics chosen for AWCF secondary item PBL arrangements support and contribute to the PBL performance metrics for the weapon/materiel system they support. Refer to the Metrics Guide for additional metrics that may be approved.

(4) The LCMC designates a PBL coordinator to submit a report on PBL implementation for the AWCF secondary item inventory. The LCMC shall prepare this report in accordance with the Army's PBL Criteria and Reporting Requirements policy (see para 4–14) and in coordination with the PM and other stakeholders. The report shall list the number of candidate DLR items, the number being considered for PBL feasibility, the number involved in active BCA consideration, and the number currently on PBL contracts for procurement and for repair.

(5) Any PBL strategy for Class IX items shall be structured so as to not adversely impact the solvency of the AWCF–Supply Management, Army (AWCF–SMA) account. If the secondary item has a National Stock Number (NSN), Army policy requires that the first source of supply for the PEOs/PMs is the Army supply system.

(6) Optimization of a specific system shall not suboptimize the overall Army enterprise (that is, optimizing a single system/item will not generate problems for other systems/items within the overall Army enterprise). At a minimum, the following areas shall be considered when conducting a BCA concerning revenue and expenses:

(a) Timing. To ensure the solvency of the AWCF–SMA business activity, it is imperative that all expenses incurred and recorded under a PBL strategy also generate and record revenue during the same accounting period, which is generally 1 year. Revenue and expenses shall be balanced within each fiscal year.

(b) Revenue-to-expense ratio. For any BCA prepared for a DLR in a PBL arrangement, a revenue-to-expense ratio shall be calculated for at least the first 5 years of each proposed alternative. The revenue-to-expense ratio shall be greater than or equal to 1.0 in all years. If the ratio is less than 1.0 in any year, a coordinated agreement between the PM and the AMC item manager that addresses the planned cash recovery for each year less than 1.0 shall be included in the BCA documentation.

(c) NSN pricing level. Pricing policy requires that the latest acquisition cost serve as the basis of the standard price. Any costs included in a PBL strategy that would normally be a component of the commodity cost recovery rate (for example, storage, transportation, item management, and so forth.) will be captured for use in adjusting the cost recovery rate, as well as for use in the annual price update process.

(7) When executing a PBL strategy for secondary items, the PBA shall specify the Government rights or access to item demand/return and valid up-to-date technical data. If ownership rights are required by the Army (due to an acquisition plan/strategy), and there's an identified need for follow-on procurements and/or maintenance actions, these needs shall be contractually addressed. The BCA estimates shall provide for up-to-date technical data (for example, drawings, specifications, tolerances, and so forth) to support alternative options using either the public or private sector. This should enhance follow-on competition among potential providers and assist with a smooth transition shall the service provider arrangements change due to termination of the agreement/contract or as a result of a competitively awarded contract.

(8) Each LCMC will review the operational and economic feasibility of all support strategies addressed and evaluated within any BCA that is aligned with their business base. All analyses shall be validated by the appropriate LCMC, to include the local LCMC cost analysis office prior to the BCA being forwarded to the PEO/LCMC Commander. Validation will be subject to review by the HQ AMC G–5.

(9) Each secondary item BCA will be submitted to the HQ AMC G–5 for coordination/review at least 30 days prior to signature. The HQ AMC G–5 shall coordinate/staff the BCA with the appropriate HQ AMC staff elements (HQ AMC G–3 and G–8) for an independent review. All BCA documentation shall be retained by the LCMC.

b. Use of hardware obligation authority ((HW OA) and pricing of Army secondary items under PBL PBAs. Defense Finance and Accounting Service (DFAS) -IN Regulation 37–1, Finance and Accounting Policy Implementation addresses the use of HW OA and pricing of Army secondary items under PBL PBAs. It also addresses the use of Supply Management HW OA to fund services and costs, which are part of PBL PBAs and directly related to the acquisition or overhaul of hardware. HW OA policy—

(1) Does not restrict the use of PBL PBAs to acquire product support, but sets guidelines for the use of Supply Management Army (SMA) HW OA as a funding source.

(2) Establishes pricing policy for AWCF-managed secondary items that are acquired or overhauled through PBL PBAs.

(3) Requires PBL PBAs funded by SMA HW OA shall not be finalized until BCAs have been reviewed and validated by the Assistant Secretary of the Army for Financial Management and Comptroller (ASA (FM&C) (SAFM–BUR–S)). ASA (FM&C) (SAFM–BUR–S) shall review the BCAs for—

(a) The impact on AWCF cash.

(b) Full recovery of AWCF costs.

(c) The impact on customer buying power.

(4) The BCAs shall list the specific National Item Identification Numbers (NIINs) for the AWCF-managed secondary items, any services procured in conjunction with the physical inventory of items, and the funding source and amount for each service.

4–8. Baseline the system — management analysis policy

a. Management analysis. PEOs/PMs shall arrange for an operational feasibility analysis of each system together with their TRADOC and AMC counterparts. The analysis shall be conducted at the weapon system, subsystem or major assembly level and consider system supportability requirements including combat employment and PBL boundaries and constraints. PEO/PMs shall facilitate the analysis, gather data and prepare a report in the following format (and submit to higher headquarters as requested).

(1) Program/project/product management office name.

(2) Program/system/subsystem/major assembly.

(3) ACAT level.

(4) Assessment results.

(5) Plan for completing a Type I and Type II BCA.

(6) Rationale for pursuing (or not) pursuing a PBL approach.

b. Management analysis criteria. PMs will also use the following criteria to analyze and determine the feasibility of applying PBL as a PSS for their program:

(1) Whether the program is currently supported via traditional sustainment strategy through organic or commercial means.

(2) Programs involving minimal logistics requirements, such as 'wooden round' armaments or products under commercial warranties, will maintain existing support strategies.

(3) There shall be a minimum of 5 years useful life expectancy for the system in the DOD inventory.

(4) The warfighter's stated capabilities shall be achievable and maintainable under the PBL approach with a high level of potential in achieving an increase in system performance.

(5) The cost per operational unit of performance (that is, cost per flight hour) shall be capable of being reduced through the application of a PBL approach. Cost reduction potential shall be assessed though application of cost estimating tools, simulations, or cost models.

(6) The risks associated with implementation of a PBL strategy shall be determined to be low to minimum.

(7) All costs associated with completing the formal BCA shall be considered an investment to attain future savings.

4–9. Develop performance outcomes – metrics policy

a. Metrics are used by Army acquisition and sustainment leadership, along with DOD, to evaluate the success and maturity of a PBL effort. Reference the PBL Metrics Guide at https://www.us.army.mil/suite/doc/6840728 (requires AKO login).

b. Current overarching Life Cycle Metrics include: Operational Availability, Mission Reliability, Cost Per Unit Usage, Logistics Footprint, Logistics Response Time, and Total Life Cycle Cost per Unit Usage. The Joint Requirements Oversight Committee (JROC) also approved the implementation of a mandatory Sustainment KPP (Materiel Availability) and two mandatory supporting KSAs (Materiel Reliability and Ownership Cost), along with Mean Down Time, which shall be developed for all Major Defense Acquisition Programs (MDAPs) and select ACAT II and III programs. Materiel Availability is addressed in the Operational Availability section of the PBL Metrics Guide. Materiel Reliability and Ownership Cost are addressed in the Mission Reliability and Cost per Unit Usage Sections of the PBL Metrics Guide, respectively.

c. In addition to the use of JROC-mandated KPP and KSAs, use of at least one of the overarching metrics shall be considered. However, if a subelement is better suited for use in evaluating a PBL strategy for a particular system, use of that element is acceptable as well. The metric or subelement selected will be able to measure success or failure of the PSI/PSP's performance. When properly applied, the metrics will ensure successful evaluation of Army PBL efforts.

4–10. Select product support integrator(s) – PSI policy

a. The PM shall select product support integrator(s) PSIs to integrate sources of product support. In choosing the PSI(s), the PM shall first perform a preliminary assessment of available organizations (organic and/or private/commercial sector) capable of performing the PSI function. Reference the PBL Product Support Integrators Guide at: https://www.us.army.mil/suite/doc/6840742 (requires AKO login).

b. Identification of the PSI shall include consideration of the following key factors:

(1) Qualifications and capabilities (integration, and management skills/technical knowledge).

(2) Operational performance (to include past performance) and ability to integrate and/or deliver the required product support in both peacetime and wartime.

(3) Cost effectiveness (where support cost is the best value and in the Government's best interest).

(4) Risk(s) associated with the PSI candidate (for example, operational, legal, contractual, financial, and so forth).

c. The following options represent candidates for performing the PSI role. All four options (or a combination) shall be equally considered:

(1) Organic entity (for example, depots, LCMC Integrated Materiel Management Centers (IMMCs), Logistics Readiness Centers (LRCs), Integrated Logistics Support Centers (ILSCs), Research, Development and Engineering Command (RDECOM) elements).

(2) Original Equipment Manufacturer (OEM).

(3) A third party or fourth party logistics (3PL/4PL(tm)) provider/commercial entity.

(4) Internal to the PM office (for example, PM, ILSM, Product Support Manager (PSM)).

d. If it appears that an existing organic organization has the functional capabilities, it shall be asked to submit rough-order-of-magnitude pricing information to perform the prescribed PSI function. If it is determined that the best choice for a PSI is from the private/commercial sector, then standard Federal procurement procedures shall be used to select the private sector firm.

4–11. Develop workload allocation and core logistics – core depot policy

a. DOD policy requires that "sustainment strategies shall include the best use of public and private sector capabilities through government/industry partnering initiatives, in accordance with statutory requirements." (DODD 5000.1.E1.17).

b. Building on the system baseline developed previously, the PM and PBL Team/IPT shall address each discrete workload and assess where, how, and by whom it can best be accomplished while considering statutory (that is, Title 10), regulatory, and pertinent service guidance. In general, support workloads shall include system unique and common subsystems, commodities, and components. Within these categories, there shall be various characteristics to be considered as the workload allocation and sourcing decisions are accomplished, to include:

(1) Title 10 USC applicability (core, 50/50).

(2) Existing support process (for example, contract, organic).

(3) Existing support infrastructure (in-place, to be developed).

(4) Best capabilities evaluation (public, private sector market research).

(5) Opportunities for public/private partnering.

c. The development of an effective support strategy shall consider all of these factors in arriving at best value decisions, using decisions tools, including BCAs, to develop the optimum support sourcing decisions.

d. See figure 4–5 for the spectrum of PBL strategies and paragraph 5–17 of this regulation.

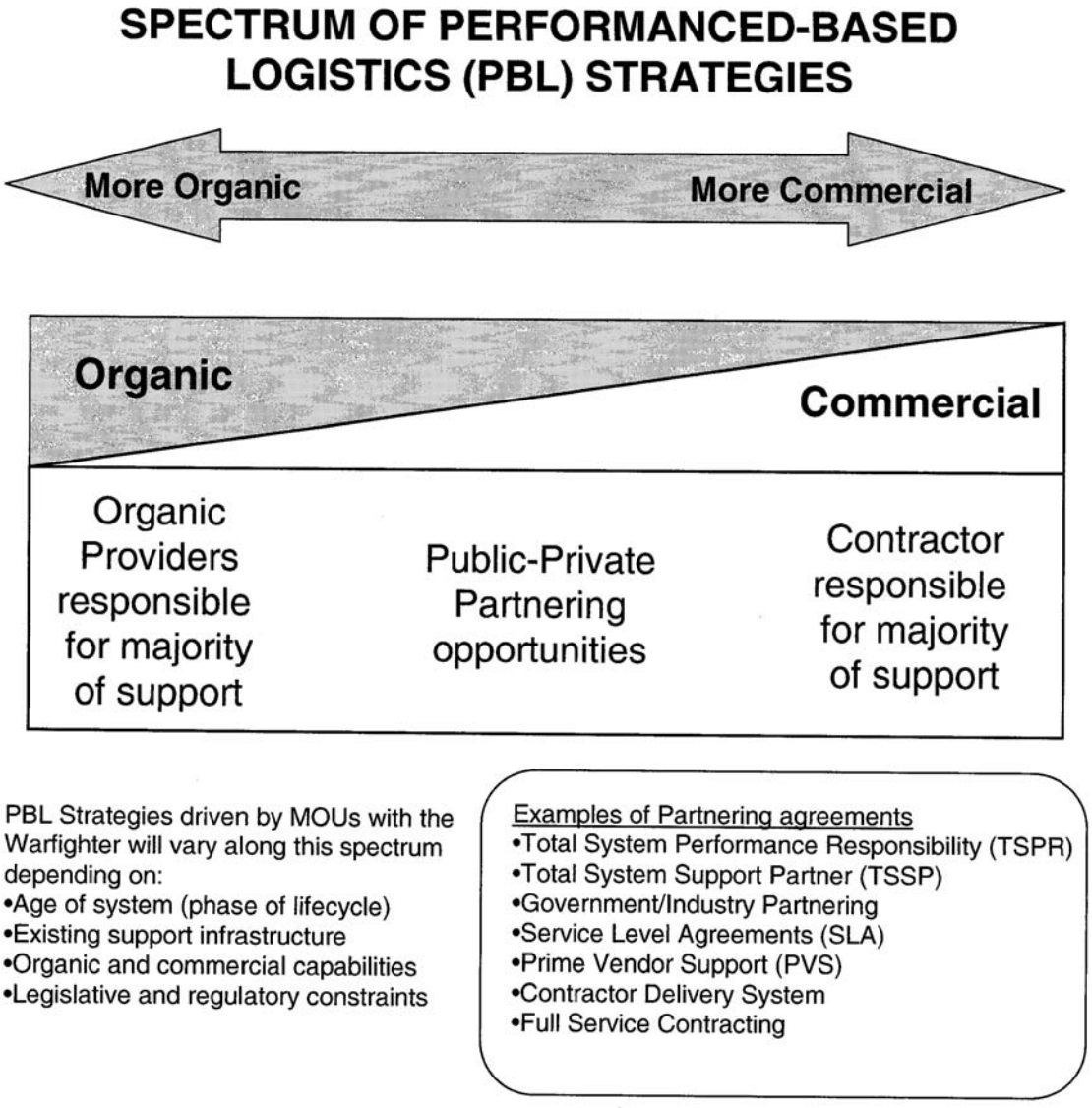


Figure 4–5. Spectrum of PBL strategies

4–12. Develop supply chain management strategies: end-to-end PBAs — SCM end-to-end PBA policy

End-to-end (E2E) supply chain management (SCM) PBAs establish measurable service performance levels between Army support organizations and their customers at Army Commands. They will also be developed for support to Army customers of other DOD and non-DOD sources of supply. Collaboration among all participants in the support chain establishes mutual expectations for the level of support and how that support shall be provided to the customer. See AR 711–7.

a. E2E SCM PBAs are situation and customer specific, but shall accomplish the following as a minimum:

(1) Document customer requirements and establish mutual expectations.

(2) Address a specific commodity, service or weapon system end-item.

(3) Provide a basis for the parties to review performance data and metrics with the intent of evaluating the effectiveness of the agreement in relation to the cost of the support and what process improvements can improve the support.

(4) Take the form of a performance agreement with specific outcomes established.

(5) Provide clauses that account for changes in optempo and contingency operations.

(6) Recognize funding fluctuations throughout the program and budgeting cycle that may impact performance metrics. In order to plan for funding fluctuations, PBAs shall be negotiated with a range of performance outcomes dependent on commensurate funding levels. PBAs shall include a clause to allow review and renegotiation on a periodic basis in the event of fluctuations/instability of funding.

b. Metrics shall be specific and limited to those areas where the supplier has direct control over the process. Metrics may cover factors such as cost, timeliness, stock availability and performance but shall be clearly measurable and under the control of the participants in the agreement. The DCS, G–4 and CASCOM shall provide input and process improvement analysis over each metric and process. As a minimum the following shall occur:

(1) Annual senior level review of E2E PBA performance metrics and evaluation of compliance with metrics over the previous year.

(2) Scheduled reviews to coincide with program and budget cycles in order to influence near and long term adjustments to the PBA.

4–13. Develop business case analysis – BCA policy

a. The PBL business case analysis (BCA) is designed to identify costs and weapon system/ warfighter benefits that the DOD and the DA will realize through the initiation of PBL PSSs. This analysis shall determine whether it is in the Government's best interest to proceed with the proposed alternative for PBL product support. The PBL BCA also assists PEOs and PMs in making decisions among the costs and associated performance benefits of alternative support strategies. It aids the decision-maker in deciding whether to implement a proposed product support arrangement by comparing the Government's costs and benefits to the associated performance benefits of each option. Performing the BCA is an iterative process. See the PBL Business Case Analysis Guide at https://www.us.army.mil/suite/doc/6840696 (requires AKO login).

b. Costs and benefits shall be considered for all ACAT programs that expend DA resources. All new ACAT I and II programs shall implement PBL as the preferred product support strategy where a BCA shows it to be operationally and economically feasible. ACAT III programs shall consider PBL at the PEO/PM's discretion but shall follow this guidance if PBL is determined feasible. Formal analysis, review, validation, and approval are required to justify materiel product support strategies as specified in approval thresholds shown in table 4–1.

Table 4–1
BCA Approval thresholds (type II (formal) BCAs)

ACAT Threshold	**Collaborate and Validate**	**Verify and Review**	**BCA Approval** (See note 1)
ACAT I & II	TRADOC, LCMC, DLA, DA	DASA (ILS) Staff, HQ AMC, DASA (CE)	AAE
ACAT III	TRADOC, LCMC, DLA, DA	DASA (ILS) Staff and HQ AMC	PEO/LCMC Commander (See note 2)

Notes:

[1] If an initiative is expected to have a high level of visibility, controversy, A–76 impact, or congressional interest, it shall be brought to the attention of the Deputy Assistant Secretary of the Army for Integrated Logistics Support (DASA (ILS)) immediately.

[2] After pan-Army review and concurrence is received from the DASA (ILS) and DA Staff.

c. The PEOs/PMs shall first use the Management Analysis Criteria and Army Boundaries and Constraints listed in paragraph 4–2 of this regulation to determine if PBL is a possible product support alternative for their program. Those systems/programs deemed operationally feasible shall undergo BCAs to determine if they meet the criteria for PBL and to decide which specific support strategy meets the warfighter's requirements and offers the best operational and economical arrangement. If PBL is deemed feasible, use the BCA Format shown in figure 4–6 and the DOD Product Support Strategy Business Case Analysis Guiding Principles when preparing the BCA. The output of this process can be a feasibility (type 1) BCA and/or a formal (type II) BCA.

(1) *Feasibility (type I) BCA.* A type I BCA is a short BCA that addresses the best estimates of functional process costs and benefits and shall be started as early in the development process as possible; it has the same format and content as a full-scale or formal (type II) BCA but is less comprehensive and detailed. It is a starting point in the process of evaluating the feasibility of pursuing potential sourcing/support alternatives such as PBL and is a key element in establishing negotiation objectives. It is also a tool to develop the PSS. In the PBL Acquisition Process, the Type I BCA development shall begin prior to MS A and is further refined for initial submission to the PEO/LCMC prior to MS B.

(2) *Formal (type II) BCA.* A type II BCA is a full-scale formal BCA that provides a comprehensive examination of expected benefits, costs, and savings that would result from the implementation of alternative product support strategies. Type II BCAs compare the current or projected support alternative to the viable product support alternatives. In the PBL acquisition process, the type I BCA is expanded into an initial Type II BCA early in the SDD phase. The initial formal (type II) BCA shall be completed prior to MS C and/or contract award based upon detailed design.

BCA FORMAT

Executive Summary

Section 1 - Introduction/Overview

Subject, Purpose and Objectives
Background
Organization

Section 2 - Methods and Assumptions

Major Assumptions
Scope and Boundaries
Financial Metrics Used and Defined
Analysis Methodology
The Cost and Benefit Model Used (Explanation of Cost Types and Categories)

Section 3 - Business Impacts

Description of Alternatives
Costs and Benefits Over Time/Financial Analysis
Non-quantitative Factors, Criteria, and Rationale for Their Use
Comparison of Alternatives (quantitative and qualitative)

Section 4 - Sensitivity and Risks

Sensitivity Analysis
Risk Analysis

Section 5 - Conclusions and Recommendations

Conclusions
Recommendations and Rationale
Implementation Plan
Verification

Figure 4–6. PBL BCA format

d. Formal economic analysis (EA) shall adhere to the Office of Management and Budget, DOD, and DA regulations and guidance on conducting economic type analyses. An EA is not a substitute for the BCA.

e. The stakeholders include the Total Life Cycle Systems Management (TLCSM) Core Team made up of the PM(s), TRADOC, Army Commands, AMC LCMCs, and PEO(s). The Independent Verification and Review (IV&R) Team consists of the offices of selected DA staff organizations and the ASA (FM&C), DASA (ILS), DASA (CE), Deputy Assistant Secretary of the Army for Defense Exports and Cooperation (DASA (DE&C)), HQ AMC and other organizations such as the Army Materiel Systems Analysis Activity (AMSAA), the Army Test and Evaluation Command Army Evaluation Center (ATEC AEC) and the DLA. The Approval Team consists of the DASA (ILS) and the Army Acquisition Executive (AAE).

f. The PBL BCA Guide contains process flow diagrams for ACAT I/II and ACAT III PBL BCAs and a PBL BCA lifecycle framework that charts BCA requirements against the life cycle model.

g. Initial PSSs for ACAT I and II programs shall be developed by the designated Supportability IPT (SIPT) and/or PSM prior to MS B under the oversight of the gaining PEO or AMC/TRADOC organization(s) for those programs that fall outside the PEO structure (such as Advanced Concept Technology Demonstration (ACTD), and so forth). The PSS shall include definition of the metrics that shall be used to define a program's ability to meet future logistics and operational performance requirements.

h. The results of this BCA are analyzed and compared to determine the most efficient and effective means of support. This occurs in the Systems Acquisition phase for MS C. The PEO/PMs shall submit a final draft of their Formal (type II) BCA at MS C as supporting documentation for the Army Systems Acquisition Review Council/ Committee (ASARC) and Defense Acquisition Board (DAB) as required. They shall then submit their final Formal (type II) BCA prior to Low-Rate Initial Production (LRIP) if required for approval prior to the Full-Rate Production (FRP) Decision Review as part of the PBL PSS approval process.

i. The BCA shall be validated and updated prior to the exercise of a contract/PBA option period when there are significant changes during the performance period/terms of the contract or evaluation period. The Formal (type II) BCA is also validated and updated post implementation whenever there are major programmatic changes or at least every 5 years. The approval authority for such changes/updates to the BCA shall be the original approval authority.

4–14. Implementation and assessment — PBL reporting requirement policy

a. It is critical that the Army institutionalize a reporting mechanism to evaluate progress and facilitate routine updates to senior Army leadership and the Office of the Secretary of Defense. For product support strategies identified as pending or actual employment of PBL, a standardized report shall be required on a semi-annual basis. The Army PBL reporting requirement is established in order to identify a program's current status in applying performance-based product support at the System of Systems (SOS), weapon system, sub-system, component, and/or secondary item level. The PMs shall also report on PBL strategies that have been determined to be operationally and economically feasible based upon management analysis and/or a type I (feasibility) BCA. If PBL is determined to not be operationally and economically feasible, an initial report shall be submitted explaining why PBL is not a viable support strategy; no further reporting shall be required unless a future analysis determines potential for a PBL product support approach.

b. This reporting requirement applies to each LCMC PM, non-LCMC PM and Direct Reporting PM (DRPM) organization. The reports shall be due on a semi-annual basis no later than 30 October and 30 April of each year. DASA (ILS) shall send out reminders electronically 60 days prior to the due date to ensure timely reporting. Semi-annual PBL reports shall be submitted electronically to the DASA (ILS) and HQ AMC and HQ MRMC (for medical materiel only).

c. LCMC Commanders, separate PEOs, and DRPMs shall appoint a primary and alternate PBL coordinator at their level and may designate PBL coordinators at lower levels, as desired. Designated PBL coordinators shall be responsible for compiling, verifying, and submitting PBL Reports to higher headquarters and shall serve as the single organizational point of contact for PBL reporting. The DASA (ILS), HQ AMC and HQ MRMC shall also assign a primary and alternate PBL coordinator to ensure PBL initiatives are complementary to each other and in concert with Army acquisition/sustainment concepts.

d. The PEOs/PMs, and LCMCs, in conjunction with other PBL stakeholders, are responsible for ensuring that all programs, processes, and initiatives reported as PBL meet the Army PBL criteria established in paragraph 4–2c. Army PEOs/PMs shall have lead responsibility for system and subsystem/component level PBL reporting with support from the LCMCs. The LCMCs shall have lead responsibility for reporting on nonmedical, secondary item PBL strategies, with support from PEOs/PMs, where applicable.

Chapter 5
Supportability, ILS Management, Maintenance Planning, and Other Considerations

Section I
Supportability Planning

5–1. Supportability strategy

The SS is a Government-prepared working document that serves as the record of planning, programming and execution of ILS (including PBL) for an acquisition program. The SS is based upon the ILS framework (10 ILS elements) and defines how supportability analyses (SA) will be used throughout the systems engineering process to define the system, design the support, and support the design. The initial SS is prepared by the CBTDEV ILS lead for the system during the concept refinement phase and is provided to the PM ILSM upon establishment of the PM SIPT.

a. The purpose of the SS is to methodically gather and review relevant logistics data (supportability analyses), assess alternative system design and support concepts using the SA, document decisions, coordinate plans and execute the

selected logistics support concept. The SS will serve as the official record to document the actions taken during the development and implementation of the ILS management process.

b. Use the SS to maintain an audit trail of changes that affect—

(1) Support planning.

(2) Support budgets, including the LCC estimate and reduction in total ownership costs initiatives.

(3) Support concepts, support-related goals, and thresholds (including changes in definition).

(4) Impact or changes on SRO, support costs, and ILS objectives.

(5) Strategy to achieve type classification – standard and full materiel release (FMR) by full rate production (FRP) decision.

c. The SS for all ACAT levels will be approved and managed by the Supportability Integrated Product Team (SIPT) under the purview of the PM ILS manager (ILSM).

d. The SS will be updated by the PM; coordinated with CBTDEV, supporting materiel command, Army logistician, the technical and operational testers/evaluators, and other program participants; and will be available 60 days prior to milestone B.

(1) When no PM exists prior to milestone B, the PEO, who is assigned system responsibility, will lead the effort to develop the SS.

(2) In cases where there was not a CBTDEV ILS lead, the PM will develop the initial SS.

(3) Programs past milestone B that do not have a support strategy will require one prior to Milestone C to address the ILS planning during development, production, fielding and sustainment.

e. The SS will be updated—

(1) Before milestone decision reviews.

(2) When new program direction is received.

(3) When programmatic or funding changes occur.

(4) Prior to development of solicitation documents.

(5) Prior to requesting a materiel release position from any agency.

(6) Not more than three years from the previous update.

(7) For substantial changes not easily handled by administrative notification.

f. The minutes of the SIPT meetings will serve as interim updates to the SS. The approved SS, together with the SIPT minutes, will be the action guide for all ILS program participants. It will be used for —

(1) Assigning action items and scheduling completion dates.

(2) Prescribing system acquisition events and processes (such as system engineering, contracting, and MANPRINT) requiring ILS action.

(3) Requirements for support and sustainment of the system after fielding.

g. For joint service acquisition programs for which the Army has lead responsibility, the ILSM will develop a SS in coordination with all participating services. For other programs, the Army representative on the SIPT will coordinate Army input to the SS.

h. A SS is not required for—

(1) Reprocurement of systems for which a SS has been previously developed and is still current, except when there is a new make, model, or manufacturer.

(2) Engineering change proposals resulting in modification work orders that do not change system configuration.

(3) Components having minor logistics impact.

i. The SS will include an appendix that details the plan and the timeline to achieve the various support related events leading up to TC and FMR. See AR 700–142.

j. The SS will include an addendum explaining why organic support cannot be provided for any system requiring contractor support personnel in the forward maneuver area (see AR 715–9).

k. The format for the SS is provided in DA Pam 700–56.

5–2. Supportability analysis and logistics management information

a. Supportability is a design characteristic. The early focus of SA should result in establishment of support-related parameters in performance terms. As system design progresses, SA will address supportability requirements and provide a means to perform tradeoffs among these requirements and the system design. In order to be effective, SA will be conducted within the framework of the systems engineering process. Examples of these analyses are analysis-use studies, LORA, task analysis, reliability predictions, reliability-centered maintenance (RCM) and LCC analysis.

b. LMI is the support and support-related engineering and logistics data acquired from contractors and a product of SA. Use MIL–PRF–49506 and ANSI GEIA–STD–0007 as contractual methods for acquiring LMI. DOD uses this data in existing DOD materiel management processes such as those for initial provisioning, cataloging, and item management. If there is a requirement for the contractor to provide data for loading into a Government database, then it will be

necessary to specify the required data file format and data relationships as performance requirements for electronic data interchange.

5–3. ILS planning considerations

a. Apply design interface and other ILS enablers for all acquisition systems through—

(1) Improved reliability and maintainability on systems and components.

(2) Use of RCM process early in the design process to develop the maintenance plan.

(3) Use of system diagnostic and prognostic aids including embedded health management capabilities when cost effective.

(4) Use of embedded training for operators, maintainers, and support personnel.

(5) Use of simulators, simulations, and innovative training strategies.

(6) Optimizing standardization and interoperability.

(7) Exploiting standardization and commonality in energy-efficient power sources.

(8) Minimizing use of hazardous materials and generation of waste streams.

(9) Evaluating environmental quality concerns (air, noise, water quality) from weapon system production, maintenance, operation and disposal.

(10) Optimizing use of data-collection programs to verify reliability and maintainability performance.

(11) Using UID/AIT to provide total asset visibility for management of Army materiel.

(12) Decreasing logistics footprint through the minimization of special tools and test equipment and unique components.

(13) Optimizing modular plug-and-play components

(14) Applying intelligent software to automatically compensate for detrimental operational conditions.

(15) Designing for the Army's maintenance system. See AR 750–1.

(16) Use of the AILA to create a net centric CLOE.

(17) Incorporation of SALE business architecture and processes and integration into AILA.

(18) Applying historical lessons learned from accident experience to minimize total ownership costs.

b. The ILS/acquisition planning activities must coincide with development of the acquisition strategy to concurrently and integrally be part of the systems engineering for every system.

c. Technology insertion strategies will be developed to minimize support burdens, reduce resource requirements, and reduce the supportability risks related to potentially unstable designs.

d. Obsolescence and diminishing manufacturing sources and materiel shortages (DMSMS) will be addressed proactively as part of a program's support strategy.

e. The PM is responsible for developing demilitarization and disposal plans.

f. Conventional organic capabilities (for example, the Defense Reutilization and Marketing Service) should be employed for the disposal of surplus assets unless an alternative disposal strategy can be justified.

g. Maximum use of existing DOD automatic test system families or commercial off-the-shelf components that meet defined automatic test system capabilities will be used to meet automatic test equipment hardware and software needs based on total ownership cost analysis over the complete system life cycle.

5–4. Resourcing

a. LCC is the total cost to the Government for a system over its entire life and is required for all appropriation categories and all systems. It includes all costs for research and development, investment (production and deployment, to include military construction and site activation), operating and support (organic/contractor personnel, supplies, operations, maintenance, and training) and disposal. This includes direct costs to the system and indirect costs that are logically attributable, regardless of funding source or management control.

(1) By milestone A, the combat developer will prepare a rough order of magnitude LCC estimate to be included in the ICD.

(2) The CBTDEV, in conjunction with the PM office, will refine the LCC estimate by milestone B once the supportability strategy is defined, and update the operation and support costs in the CDD.

b. Affordability plays an important part in program decisions in the identification of capability needs throughout the life cycle. Program affordability is part of the Joint Capabilities Integration and Development System analysis process, which balances cost with performance in establishing key performance parameters. Cost goals are established in terms of thresholds and objectives to provide flexibility for program evolution and to support tradeoff studies.

(1) Cost as an independent variable is an acquisition strategy focusing on cost-performance tradeoffs in setting program goals and formalizes the process to achieve an affordable balance between performance and schedule. Objectives will be set as early as possible but not later than milestone B to manage risks in achieving cost, schedule, performance, and supportability objectives.

(2) Total ownership cost includes all costs associated with research, development, procurement, operating and logistics support, and the disposal of an individual weapon system, as well as other infrastructure or business process

costs not necessarily directly attributable to the program. Life-cycle logistics program objectives will be established in support of the reduction of total ownership cost program, which identifies operation and support cost targets, total ownership cost drivers, reduction of total ownership cost opportunities, and metrics to measure the cost-reduction progress.

c. The materiel developer will prepare, submit and defend life cycle logistics resource requirements through the planning, programming, and budgeting system process, and track funding for resource execution performance metrics.

5–5. Supportability test and evaluation

The PM must confirm adequacy of the proposed support concept programmed support resources prior to fielding. Evaluation of system supportability issues will be performed using data from contractor, Government testing, and other sources and comparing results of the evaluation analysis against criteria based on stated system requirements and goals. Supportability testing is conducted in the controlled conditions of developmental T&E and in the representative field conditions of operational T&E (see AR 73–1). Supportability testing will stress use of Army personnel skills, support equipment, technical manuals, tools, and TMDE, including embedded diagnostics, prognostics, instrumentation and test program sets (TPSs) projected for the operational environment of the organization to which the system will be assigned. Supportability environmental issues, demilitarization and disposal requirements will also be included in the TEMP.

5–6. Supportability testing restrictions

Section 2399, Title 10, United States Code (10 USC 2399) places specific restrictions on the use of contractor support during operational T&E of military systems. Contractor support during tests may be utilized only to the extent that it is planned to be used when the system is deployed in combat. This restriction on the use of contractor support during operational T&E may not be waived.

Section II
ILS Management Structure

5–7. ILS manager

a. The ILS manager (ILSM) will be appointed by the PM at milestone B or when a PM is assigned to serve as the focal point for all life-cycle management supportability actions related to the acquisition program. The ILSM will assume responsibility to chair the SIPT from the CBTDEV.

b. Prior to milestone B, or appointment of a PM. The PEO who is assigned lead for the acquisition and development of the system will designate the ILSM. When a PM is designated, the PM will assign the ILSM. The ILSM representative will participate in early ILS and program decisions and will be a member of the CBTDEV integrated concept team.

c. The functions of the ILSM include, but are not limited to—

(1) Refining the SS and updating the SS as required throughout the acquisition process.

(2) Participating in the market investigation performed to support development of the acquisition strategy and SS.

(3) Ensuring incorporation of MANPRINT requirements in all supportability planning efforts. The ILSM may serve as the MANPRINT manager when program size, complexity, or other factors permit. When it is not practical for the ILSM to serve as the MANPRINT manager, the two will be aligned to serve mutually supporting roles to prevent duplication of effort.

(4) Participating in the Design Readiness Review (DRR) to ensure that supportability requirements and constraints are considered.

(5) Coordinating test, measurement, and diagnostic equipment (TMDE) support requirements with the TMDE product manager and U.S. Army TMDE activity (USATA) prior to milestone C (see AR 750–43).

(6) Participating in the source selection process. The source selection process is used to evaluate the merits of each proposal relative to the established selection criteria. Proposed logistics concepts and processes will be evaluated in terms of effectiveness (from the user's perspective) and cost, with the ultimate objective being to obtain best value.

(7) Ensuring that PBL is an integral part of system development and sustainment.

(8) Conducting supportability planning, analyses, and tradeoffs to determine the optimum PBL and product support strategy.

(9) Participating in the negotiation of PBAs with the PSI and the war fighter.

5–8. Supportability integrated product team

a. The SIPT will be established prior to Milestone B to support both the capabilities generation and acquisition processes. The CBTDEV/TRADOC proponent combat development school will establish an SIPT at concept refinement for all ACAT I/II and selected ACAT III acquisition programs to coordinate overall ILS planning and execution. At milestone B, or when the PM is assigned, the designated PM ILSM will assume the responsibility to chair the SIPT.

b. SIPT members will develop PBL concepts and ILS program documentation and conduct supportability/tradeoff

analyses to determine the optimum PBL strategy or ILS concepts. The SIPT will make recommended ILS-related planning, programming, and execution decisions to the PM.

c. The SIPT is a working body, and the roles and responsibilities of members will be prescribed in the supportability strategy. The SIPT must work with other functional groups, such as the T&E WIPT and the Training Support Work Group (TSWG) to ensure an integrated effort.

d. Membership of the SIPT will include representatives from—

(1) PEO/PM.
(2) AMC LCMCs.
(3) CBTDEVs of all affected TRADOC schools.
(4) DLA.
(5) USACE.
(6) Army logistician (OASA (ILS)).
(7) Testers and test evaluators.
(8) SDDC.
(9) U.S. Army Force Management Support Agency (USAFMSA) (for BOIP feeder development).

e. Membership may be limited because of the scope of the program at this time. Chairmanship will transition upon designation of an ILSM by the PM, and the SIPT membership will expand as necessary. Other Army staff agencies will be considered for membership when applicable. When the Army is the lead service in multiservice acquisition programs, the SIPT will include a designated representative from each of the participating services. A security assistance representative will be included to participate in SIPT meetings on an ad hoc basis whenever it is anticipated that there is a potential for international interest (for example, foreign military sales or international cooperation).

f. For non-ACAT I/II or PEO-managed systems, participation of appropriate commands and agencies will be determined based upon system complexity and requirements.

g. When PBL is implemented for an acquisition program, the product support integrator (PSI) will participate in the SIPT with the PM's ILSM and provide input into program decisions, reviews, and assessments.

h. A DA ILSR May be convened to resolve issues left open through the OIPT process and identify potential issues at the MDR. The ILSR provides a forum to present the latest status of completed and current issues and the impact on program status. The ILSR will also address strategies for subsequent phases to maximize supportability at acceptable levels of cost and risk and minimize environmental impacts. This ILSR applies to all ACAT I/II and select ACAT III systems being acquired for the Army or other services when the Army is the lead in the acquisition effort. The Army logistician will develop the presentation for the ILSR in coordination with the system ILSM and other SIPT members. The ILSR will address/assess each element of ILS (using the assessment rating definitions in the glossary), summarizing issues that have been resolved and detailing actions associated with ongoing actions. The scheduling of the ILSR will reflect OIPT initiatives to resolve the issues remaining open.

Section III
Maintenance Planning

5–9. Maintenance support plan

a. The Maintenance support plan (MSP) is an integral part of the SS. The MSP may be a section of the SS or an appendix depending upon the complexity of the system.

b. The MSP is based on the maintenance/logistics concept contained in the requirement document. In developing alternatives and selecting a final maintenance concept, the PM, in coordination with the CBTDEV will evaluate factors such as—

(1) Compatibility with the Army maintenance system (present and planned).
(2) Complexity and criticality of the materiel system.
(3) Mobility and transportation requirements.
(4) Operational readiness objectives.
(5) Operational and logistics environment in which the system will operate.
(6) Support concept for subsystems.
(7) Projected operating and support cost.
(8) Resource requirements.
(9) Requirement for ready to fight (RTF), maintenance float, warranty, Army Oil Analysis Program (AOAP), total package fielding, weapon system designator code, Maintenance Expenditure Limit (MEL), and demilitarization instructions.

c. Reliability Centered Maintenance (RCM) analysis shall be used to develop the maintenance support plan.

5–10. Level of repair analysis

The determination of the repair level within the Army maintenance system is an essential element of the logistics management information (LMI). LMI will include a LORA or other analyses.

a. A LORA shall be performed on all materiel.

b. LORA is used to determine the optimum maintenance levels for repair actions and recovery of the end item and components. The LORA considers availability and requirements for additional tools, support equipment, and skills in intended supporting units.

c. The LORA should address the requirement to minimize additional special tools and test equipment for new equipment.

d. The LORA process should be initiated as early in the lifecycle as possible to aid in assessing the supportability of a system. Repair can be evaluated as the system matures. As part of the post deployment evaluation, the LORA will be rerun no earlier than 1 year and no later than 3 years from First Unit Equipped Date (FUED), using actual reliability data from fielded equipment.

e. The LORA will be rerun every 5 years throughout the equipment life cycle. The Maintenance Allocation Charts (MACs) are an output of the LORA, and reflects the approved maintenance concept. See AR 750–1.

5–11. Maintenance task design parameters — system engineering process

Ease of repair in the forward battlefield area is a key design parameter for all Army equipment. The maintenance task design interface must emphasize—

a. Minimizing requirements for tools and test equipment.

b. Use of standard Army Sets, Kits, Outfits and Tools (SKOT) and TMDE to meet tool and TMDE requirements.

c. Reducing required maintenance skill levels.

d. Designing for rapid repair.

e. Redundancy of mission essential functions.

f. Ease of implementing battlefield damage assessment and repair techniques.

g. Increased availability through an increase in Mean Time Between Failure (MTBF).

h. Increased availability through reduction in Mean Time to Repair (MTTR).

5–12. Reliability centered maintenance

Reliability Centered Maintenance (RCM) is the process that is used by the Combat and Materiel Developers to determine the most effective approach to maintenance. RCM involves identifying actions that, when taken, will reduce the probability of failure and which are the most cost effective. It seeks the optimal mix of Condition-Based Actions, Interval (Time- or Cycle-) Based actions, Failure Finding or a Run-to-Failure approach.

a. RCM is a continuous process that gathers data from operating systems performance and uses this data to improve design and future maintenance. These maintenance strategies, rather than being applied independently, are integrated to take advantage of their respective strengths in order to optimize facility and equipment operability and efficiency while minimizing life-cycle costs.

b. The RCM process will be applied and implemented for all systems at the earliest possible phase of and across the total life cycle management structure. The PM is responsible to plan, develop, program and implement RCM processes and outputs (that is, Run-to-Failure, Failure Finding, Interval (Time- or Cycle-) Based actions, and Condition-Based maintenance).

c. RCM will be executed using the procedures outlined in the Society of Automotive Engineers publications SAE JA 1011 and SAE JA 1012.

d. Logistics Support Activity, Army Materiel Command, will maintain the single Army database repository for RCM data (to include CBM data).

e. RCM is based on the following precepts:

(1) The objective of maintenance is to preserve an item's function(s). RCM seeks to preserve a desired level of system or equipment functionality.

(2) The RCM process is a valuable life cycle management tool and should be applied from design through disposal.

(3) RCM seeks to manage the consequences of failure - not to prevent all failures.

(4) RCM identifies the most technically appropriate and effective maintenance task and/or default strategy.

(5) RCM is driven first by safety. When safety (or a similarly critical consideration) is not an issue, maintenance must be justified on the ability to complete the mission, on economic grounds.

(6) RCM acknowledges design limitations and the operational environment. Maintenance cannot improve an item's inherent reliability. At best, maintenance can sustain the design level of reliability within the operating context over the life of an item.

(7) RCM analyses shall be sustained throughout the life cycle.

5–13. Condition-based maintenance

Condition-based maintenance (CBM) is a maintenance strategy that is derived from an RCM analysis. CBM encompasses a set of maintenance processes and capabilities derived from real-time assessment of weapon system condition obtained from embedded sensors and/or external test and measurements using portable equipment. The goal of CBM is to perform maintenance only upon evidence of need. See AR 750–1 for further guidance.

5–14. System support package

The system support package (SSP) is a composite of the support resources that will be evaluated during an LD and tested and validated during developmental T&E. The SSP includes items such as spare and repair parts, manuals, training package, special tools and TMDE, and unique software. The SSP, used to validate the support system, is to be differentiated from other logistics support resources and services required for initiating the test and maintaining test continuity. The SSP must be stressed as a flexible instrument, tailored to the system-peculiar requirements, and related to supportability testing issues. However, once the SSP for any testing phase is developed and coordinated, it should not be compromised. The SSP component list is provided 60 days before testing begins. The SSP will be delivered to the test site not later than 30 days before testing begins.

5–15. Logistics demonstration

A Logistics Demonstration (LD) is the nondestructive disassembly and reassembly of a system using its related peculiar/specific TMDE, training devices, and support equipment. The materiel system and its SSP, will be evaluated as a total system.

a. The PM will conduct an LD on all acquisition programs.

b. The LD combines selected analysis, evaluations, demonstrations, and tests tailored to each acquisition program.

c. Normally a LD will be conducted prior to the production decision. A LD may be conducted during production and deployment for commercial and NDIs or other programs where a LD has not been previously conducted (during SDD), unless the LD requirement is specifically waived. If exceptions are required, a request for waiver will be submitted by the PM to OASA (ILS), ATTN: SAAL–LP, 300 Army Pentagon, Washington DC 20310–0300 with supporting rationale and an alternate plan for accomplishing the LD.

d. The purpose of a LD is to evaluate the adequacy of the SSP and ensure that the gaining unit has the logistical capability to achieve initial operational capability (IOC). The LD will—

(1) Evaluate the supportability of the materiel design.

(2) Evaluate the adequacy of maintenance planning for the system (such as maintenance concept, task allocation, troubleshooting procedures, and so forth) and its peculiar support equipment.

(3) Review the technical publications.

(4) Validate and update LMI data.

(5) Evaluate the training and training devices.

(6) Evaluate human factors engineering (HFE) aspects and MANPRINT of operator and maintainer tasks.

(7) Evaluate TMDE including the embedded diagnostics/prognostics, TPS, and diagnostic procedures in the technical manual.

e. A materiel system prototype or NDI production item will be provided for LD purposes. In coordination with the SIPT, the PM will develop a detailed LD plan (See DA Pam 700–56). The LD requirements will be summarized in the TEMP. The PEO/PM has overall responsibility for preparing the final LD report after coordination with SIPT members. The LD report will be completed 30 days after completion of the LD.

f. PMs should avoid using LDs as the Government verification of technical manuals.

g. A diagnostics/prognostics demonstration (normally part of the LD) is used to show that the self-testing capabilities of the equipment will meet system specifications when fielded. A set of faults will be selected through a random process weighted to represent predicted failure rates. The faults will be introduced into production configuration equipment and the results evaluated. Remotely accessible embedded diagnostics/prognostics will be used to the maximum extent where cost effective. This capability will be provided for self-diagnostics and fault isolation to key components or line replacement by field maintenance or operators. MIL–HDBK–470A may be used as a reference to determine fault insertion sample size and methods.

h. A LD will not be required for ammunition items; however a validation and verification of the draft technical manual will be performed during operational testing to ensure the technical data contained in the manual is correct.

5–16. Core logistics analysis

a. The PM will conduct a core logistics analysis (CLA) prior to Milestone B and document the results in the Draft SS to meet the requirements of 10 USC 2464 and DODI 5000.2. (Conduct the CLA prior to Milestone C for those systems that enter after Milestone B.)

b. The PM uses information derived from the CLA to make programmatic decisions that affect supportability planning and resource allocation. These decisions are translated into actions and are reflected in the supportability strategy, the acquisition strategy and the Army cost position.

c. The CLA will—

(1) Define the degree to which the program meets 10 USC 2460.

(2) Define the degree to which the program satisfies 10 USC 2464.

(3) Define the degree to which program supports any Army limitations to 10 USC 2466.

(4) Define the degree to which the program will pursue public-private partnerships as discussed in 10 USC 2474.

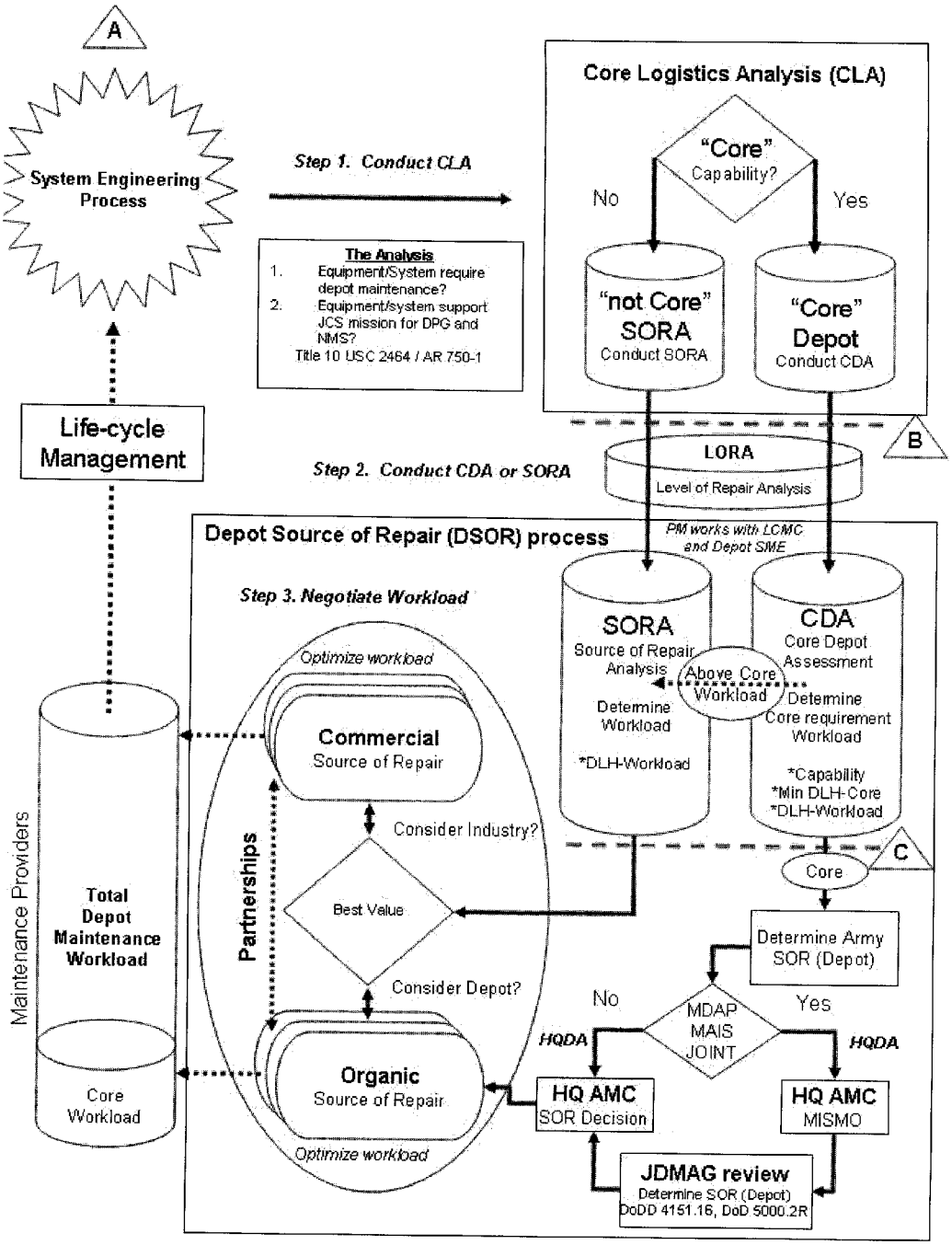
d. The PM will use analogous, engineering or parametric estimates to develop the CLA of a system under development and associated maintenance workload prior to a design being developed for formal analyses.

e. The PM will use the CLA to determine if a Core Depot Assessment is required. When a CDA is required, the PM should request the supporting LCMC assign a candidate depot to the PM for further refinement. The candidate depot will assign a subject matter expert (SME) to the PM to help the PM develop its depot maintenance support plan.

5–17. Depot maintenance planning and source of repair determination

Depot maintenance planning and source of repair determination is an integral function of the ILS process.

a. Materiel developers and LCMC commanders will use the depot source of repair (DSOR) determination process outlined in figure 5–1 to determine depot maintenance capabilities, develop direct labor hours (DLH) and recommend depot maintenance workload assignment while ensuring that the Army meets statutory obligations.



Legend for Figure 5–1;
MDAP - Major Defense Acquisition Program
MAIS - Major Army Information System

[1] A SOR is an industrial complex (organic, commercial contract, or inter-Service facility) with required technical capabilities to accomplish repair, overhaul, modification, or restoration of a given type of military hardware or software.

Figure 5–1. Depot source of repair determination process

b. The PM will document depot maintenance planning actions in the SS that include the results of the CLA and CDA or SORA (if applicable) prior to Milestone C. The MDA will document all deviations from this policy in the Acquisition Decision Memorandum (ADM) associated with the appropriate milestone.

c. Determine the source of depot maintenance (organic or commercial) based upon statutory requirements first and best value considering mission (peacetime and wartime) and economic considerations second.

d. The PM will conduct a Core Depot Assessment (CDA), Source of Repair Analysis (SORA) or a combination based upon the results of the CLA.

(1) *Core depot assessment.* A CDA is an analytical process, based upon the results of the CLA, that determines whether or not a system can be supported by existing organic capability or requires new capability to: repair, overhaul, modify or restore a system and/or its components. The PM must ensure an organic capability is developed when it does not exist to ensure that the Army/Nation has a ready and controlled source of technical competence and the resources necessary to ensure effective and timely response to a mobilization, national defense contingency situation and other emergency requirements.

(a) The CDA is prepared by the PM with the help of the depot SME and supporting LCMC and forwarded through the LCMC commander to the MDA for approval. This will normally be accomplished prior to Milestone C.

(b) The CDA provides—

1. Capability requirements (equipment, training, and skills) for the new system being introduced into the Army inventory. The PM will establish the required depot support capability within four years of Initial Operational Capability (IOC).

2. The Direct Labor Hour (DLH) requirement necessary to maintain the core capability once established.

3. The total depot maintenance DLH workload necessary to maintain the system.

(c) The LCMC recommends assignment of an organic depot using the results of the CDA:

1. If the materiel is a Major Defense Acquisition Program (MDAP), Major Army Information System (MAIS) or is a Joint system. The PM will Provide necessary documentation to their supporting LCMC to develop a DSOR decision recommendation; coordinate the supporting LCMC DSOR recommendation through ODCS, G–4, Director of Army Maintenance (DALO–MNN) and OASA ILS (Army Logistician) to ensure compliance with standards imposed by statutory and regulatory authority; and provide the Army-approved DSOR recommendation to Headquarters AMC Maintenance Inter-Service Support Management Office (MISMO) for JDMAG coordination. Headquarters, AMC provides the joint coordination with other DOD activities, military services, maintenance depots, and agencies. The PM will provide the necessary assistance to the LCMC and MISMO to coordinate the DSOR with the JDMAG.

2. The MISMO will coordinate a final Joint approval with JDMAG.

3. The JDMAG will review the CDA, the HQ, USAMC recommendation and other factors to provide a recommendation to the Army for final approval. Title 10, USC 2469, requires either use of the JDMAG merit-based selection process (when changing from an organic SOR to another organic SOR) or public-private competition (when changing from an organic SOR to a potential private sector SOR) and the value of the depot maintenance/repair work is $3 million or more.

4. If the materiel is *not* a MDAP, MAIS or is a Joint system; all other programs. The PM will provide their supporting LCMC all documentation required to assign a DSOR and coordinate the proposed DSOR assignment with ODCS, G–4, Director of Army Maintenance (DALO–MNN) and OASA ILS (Army Logistician) prior to assignment.

(d) The PM will determine the source of repair for all "above core workload" using a SORA and best value.

(e) The CLA and CDA/SORA should be reviewed and updated when—

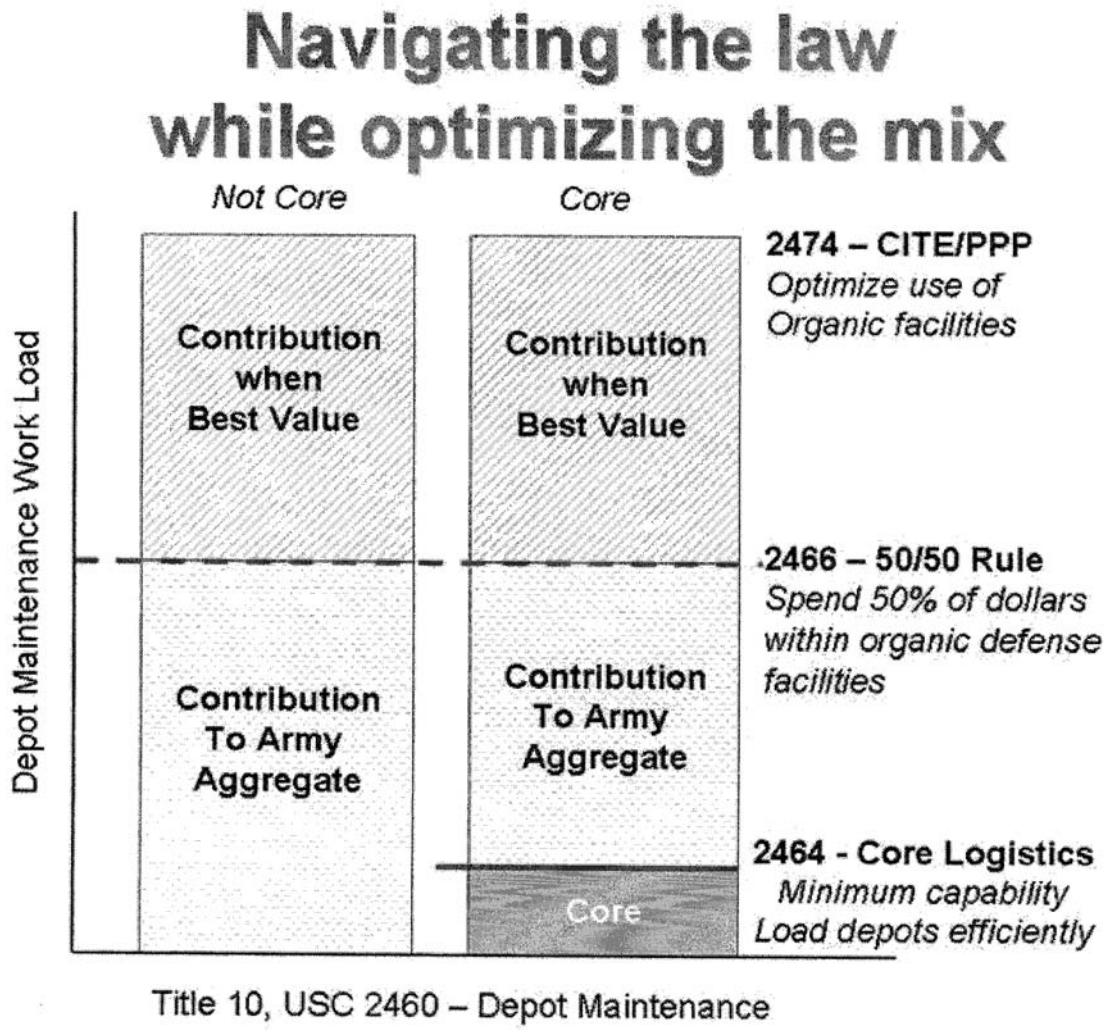
1. PM modifies the system/equipment.

2. PM changes the support strategy, LORA or other pertinent analysis.

3. SOR no longer provides the capability to repair, overhaul, modify or restore the item.

(2) *Source of repair analysis.* A SORA is an analytical process used to determine the best repair activity for the complete repair, overhaul, modification or restoration of weapon system or nonconsumable components (that is, DLR, LRU, and SRU) for non core workloads. The process considers the maintenance plan, LORA, CLA, repair capabilities of each repair activity, resources and skills. A SORA will use best value analysis (BVA) to determine the SOR (s).

e. The PM will use best value to optimize the workload between organic and commercial sources of repair once the core requirement; statutory guidance (10 USC 2464) has been satisfied. Workload will be shared once statutory requirements (10 USC 2464, 2466, and 2474) have been satisfied to promote partnering, provide an organic and controlled source of technical expertise, skill for mobilization and contingency missions and to develop a ready and responsive industrial base of commercial vendors. PMs will optimize workload based upon the strengths of each partner and cost effectiveness. Figure 5–2 illustrates the relationship of 10 USC 2460 and 2464, 2466, and 2474 for core and noncore workloads.



Notes:
[1] The law requires the Army to spend at least 50 percent of the depot maintenance dollars in an organic defense facility. The law does not distinguish between a system that has core capability workload requirements and one that does not.

Figure 5–2. Statutory relationships

f. PMs are encouraged to develop joint Government and industry relationships known as Depot partnering arrangements for accomplishing depot maintenance. There are many types of partnerships which may be established including work share agreements and facilities sharing arrangements. Where a decision is made to solicit industry for the performance of work that includes depot maintenance or repair of weapon systems/equipment, the solicitation should include language requiring public-private partnerships. Performance-based logistics implementation strategies shall include public-private partnerships to satisfy the requirements of 10 USC 2464 or 2469, as applicable, and the solicitation for a PBL shall include language requiring partnership with an organic entity for core (and potential noncore) workload. The benefits of depot partnering to the Government include—

(1) Increased productivity.
(2) Reduced cost.
(3) Reduction in excess infrastructure.

(4) Improved responsiveness to the war fighter.
(5) Built-in surge capability.

Section IV
Supportability Considerations

5–18. Force development documentation

a. The PM, with support from the SIPT, must document system and associated support data that serve as input for preparing force development documentation. This documentation is used to identify Army war fighter personnel and equipment requirements and authorize force management and structuring activities (See AR 71–32). It is important that the required system-related information be submitted to HQDA in a timely manner to effect successful fielding of the system, particularly with respect to ensuring adequate support facilities, support equipment and properly trained operators and maintainers within the user/war fighter units.

b. The PM develops basis of issue plan feeder data (BOIPFD) and submits it to the U.S. Army Force Management Support Agency (USAFMSA), a field operating agency of the DCS, G–3. These data establish the requirement for and distribution plan of new and improved equipment, ASIOE, and personnel for Army war fighter units. BOIPFD provides organizational, doctrinal, training, duty position, and personnel information for system operators and maintainers used to develop the basis of issue plan (BOIP) and the tables of organization and equipment (TOE).

c. The Army Manpower Requirements Criteria program provides a means of establishing and justifying the right quantity and mix of maintenance personnel for sustainment of Army materiel. These criteria are HQDA-approved standards used to determine the mission-essential wartime position requirements for combat support (CS) and Combat Service Support (CSS) functions in TOE.

(1) The PM, with support from the LOGSA, is responsible for establishing and maintaining accurate reporting of maintenance man-hour requirements for Army systems throughout the life of the system.

(2) For new systems the maintenance burden is derived from engineering estimates, supportability analyses, and test data.

(3) Surrogate data cannot be used without analytical proof that it reflects the best estimate available.

(4) After fielding, updates for system maintenance man-hours are derived from follow-on test data, actual field maintenance data, and the sample data collection.

d. The PM should invite the USAFMSA to participate in the SIPT when developing BOIPFD to ensure the timely and accurate submission that result in a HQDA approved BOIP.

5–19. Commercial and nondevelopmental items

Commercial and nondevelopmental Items (NDIs) are the preferred acquisition strategy, as stated in DODI 5000.2, and effective implementation mandates innovation in developing support concepts. The primary objective is to provide a system that meets the mission need and is supportable at the lowest LCC.

a. The market investigation (MI) is used to evaluate the potential use of commercial and NDIs in response to the user's need as stated in the ICD and to develop suitability criteria. The ILSM will participate in the MI to gather information relative to the support concepts in use for an item and to gather data to support O&S cost projections. The request for information that supports the MI will include LMI required to perform a simplified LORA and logistics products such as technical manuals, training aids, parts lists, and warranty program descriptions. The MI results will be used to refine requirements in the capabilities document (ICD, CDD, or CPD) and to formulate the acquisition strategy and associate support concepts. Participation by the ILSM allows supportability issues to properly be considered as a function of performance and part of the total system concept.

b. The traditional approach of influencing design to minimize support requirements is not generally available for commercial and NDIs. The ILSM must be effective in quantifying supportability goals and constraints and including them in the performance specification to properly influence source selection. The source selection evaluation board will evaluate the proposals in terms of the specification and determine the cost realism of each. Commercial logistics products and processes will be evaluated during the source selection process to determine their utility to the user and data requirements for the production contract.

c. Timelines and costs associated with support processes often prohibit establishing organic support in time for fielding commercial and NDIs. Commercial support systems will be utilized to the maximum extent possible, taking into consideration cost, readiness, and wartime sustainability. Utilization of interim contractor support (ICS) as discussed in chapter 6 provides an alternative that should be evaluated in terms of cost/benefit of delivering the mission capability at the earlier date. The ICS requires proper planning and is a strategy that must be approved by the milestone decision authority.

5–20. Manpower and personnel integration with integrated logistics support

The ILS and MANPRINT processes are mutually supporting and will be integrated in materiel development and acquisition efforts.

a. The MANPRINT is a mandatory consideration for attaining the desired level of supportability.

b. A fundamental precept of ILS is that each element will be integrated with every other element. The MANPRINT considerations must be afforded this same management integration. See AR 602–2 for further guidance.

5–21. Environmental impact

a. The requirements for hazardous material (HAZMAT) in system designs will be kept to an absolute minimum to reduce hazards associated with transportation, storage, operation, maintenance, handling, and future disposal requirements. Materiel maintenance planning will consider, to the maximum extent practicable, the following factors:

(1) Elimination of virgin materiel requirements.

(2) Use of recovered materials.

(3) Reuse of product.

(4) Recyclability.

(5) Use of environmentally preferable products.

(6) Waste prevention (including toxicity reduction or elimination).

(7) Ultimate disposal.

b. ILS program participants will ensure that all aspects of the program address HAZMAT potential and minimize all environmental impacts. Potential hazards resulting from the operation, maintenance, and support of the system will be evaluated for environmental quality, safety and occupational health considerations. These hazards may affect documents such as materiel safety data sheet (MSDS), operator manuals and air and water permits as well as effects on local communities. Items documented on the MSDS to be procured or adopted as standard items will be processed in accordance with AR 700–141.

c. Costs associated with handling and disposition of HAZMAT will be reflected in LCC estimates. The requirement to reduce the environmental impact of systems applies to both the system's design and supportability of the fielded systems. This requirement is to be satisfied in a manner that minimizes the associated LCC. Four areas will be addressed by ILS program participants as part of the minimization process:

(1) *Pollution prevention*. The focus of pollution prevention will be on elimination or reduction of all forms of pollution at the source. Pollution prevention must be addressed during the design, manufacture, test, operations, maintenance, and disposal of systems.

(2) *Environmental compliance*. Environmental regulations—Federal, State, local, and in some cases international—are a source of external constraints that must be complied with. This involves identifying and integrating them into program execution. Their major impact will occur during the testing, manufacturing, operation and support of systems.

(3) *Reducing hazardous material use*. Selection of material for products, manufacturing, and maintenance processes is critical to their safety, handling, maintenance, and disposal over the life of the materiel.

(4) *Rendering safe procedures*. These procedures focus on risk reduction when dealing with explosive components, radioactive materiel, and other hazardous chemicals/compounds.

5–22. Software

Software associated with a materiel system is an integral component of that system, and software support will be addressed through the ILS program. System modernization involves software upgrades or changes, and post-deployment software support costs can be significant over the course of the system's life. The effectiveness of system software has a direct impact on system readiness. Planning related to software management and support will be detailed in the SS. Interrelationships with the other ILS elements will be addressed through the SA process.

5–23. Post-production support planning

Post production support planning (PPSP) includes management and support activities necessary to ensure attainment of readiness and sustainability objectives with economical logistics support after cessation of the production phase for a system.

a. The PPSP will be based upon support requirements and concepts established during the materiel development or acquisition phase.

b. The PPSP will be a joint effort involving Government and contractor agencies. Requirements for PPS planning must be placed in the SDD statement of work for the contractor to include PPS considerations in source selection tradeoff activities.

c. An initial PPS plan documenting resources and management actions will be completed and included as an annex to the supportability strategy by milestone C.

d. A final PPS plan will be completed prior to production phase-out and schedules will be established for reviewing and updating PPS planning throughout the life cycle.

e. PPS will commence prior to the beginning of the SDD phase. This planning will address software change distribution, downloading, installation, and training after system deployment. These considerations will be addressed in the PPS plan.

f. Continuous Technology Refreshment will be addressed as part of the PPS strategy to provide a means to acquire technologically improved replacement parts and to reduce ownership costs.

5–24. Integrated logistics support after fielding (continuous evaluation)

a. The ILS process will continue after fielding by utilizing data collected from the field and by field-training exercises continuing the supportability process to optimize the support structure and reduce total ownership costs. This effort will continue to be conducted through the SIPT under the PM as the PM exercises TLCSM responsibility (see AR 70–1). Efforts will include conducting post-fielding analysis to identify cost, logistics or readiness drivers, performing LORA to validate the established support structure, and conducting post-fielding assessments.

b. Sustainment readiness reviews will be conducted to address the transition of funding from production to sustainment and to identify supportability issues requiring corrective action.

5–25. System survivability

a. Technical data will be properly coded or marked to identify parts or processes that are critical to system survivability. Support equipment needed to test and verify survivability features must be developed and available for use throughout the life cycle of the materiel system (see AR 70–75).

b. Chemical, biological, radiological, and environmental contamination survivability will be primary considerations in the ILS program for each Army system required to withstand the effects of nuclear weapons effects and chemical, biological, radiological, and environmental contamination. Preservation of survivability features during the entire life cycle is an essential part of ILS planning and will receive full recognition in all aspects of the ILS program.

5–26. Materiel release and materiel fielding

a. The materiel release process as directed by AR 700–142 will be used to ensure that materiel issued to the active Army, Reserve Components, other services/Federal agencies, and security assistance programs is safe, operationally suitable, and supportable.

b. Materiel fielding is a critical portion of each ILS program. Planning for materiel fielding will begin as early as practicable, but before signing a production contract at a minimum (see AR 700–142 and DA PAM 700–142).

c. Total package fielding (TPF) is the Army's standard materiel fielding process designed to provide Army materiel systems to the using units as total unit-level packages. The goal of TPF is to minimize disruption to using units during the fielding process. Under TPF, the materiel developer, rather than the gaining command, budgets for and delivers the new system and initial support. Successful TPF requires advance planning and a fully coordinated agreement between the PM and gaining commands.

d. Unit set fielding (USF) is a fielding concept involving synchronized fielding of multiple systems along with unit training within a specific window of time to reduce the time that a unit is in a nondeployable status. Under the USF approach, the focus is on fielding a fully integrated combat capability. USF is a complex undertaking and PMs must—

(1) Report schedule slippages.

(2) Synchronize production and delivery of the training subsystem.

(3) Prioritize in accordance with the modernization schedule.

(4) Provide displaced equipment transportation estimates.

(5) Ensure funding and fielding of ASIOE.

(6) Ensure materiel is operational, supportable, interoperable, and deployable before providing such materiel to the units.

(7) Coordinate installations and facilities requirements.

5–27. Advanced technology demonstrations

a. Advanced technology demonstrations (ATDs) are conducted to facilitate technology transition and should assist the user/operator to better understand the technology and to formulate better requirements before entering development. The PM ILSM will participate in demonstration or experiment development/formulation to enable support concepts to be developed as experience with the technology is gained and to properly influence resulting requirements documents.

b. Experimental/demonstration items used in the ATDs will, at times, be retained for use by field units while an objective system is either procured or developed. These items remain the responsibility of the PM for management purposes, and interim support measures must be developed, funded, and put in place based upon the use of the system.

c. These experimental/demonstration items cannot be left with the field unit after the demonstration is complete until a materiel release is processed (See AR 700–142).

Chapter 6
Contractor Logistics Support

6–1. General

a. Terminology and definitions.

(1) *Organic.* Any logistics support performed by a military department under military control, using Government-owned or controlled facilities, tools, test equipment, spares, repair parts, and military or civilian personnel, is considered organic support. Logistics support provided by one military service to another is considered organic within DOD.

(2) *Contractor logistics support.* Logistics support of Army materiel performed under contract by commercial organizations (including the original manufacturer) is considered CLS. Support provided may include materiel and facilities, as well as services, in the following areas:

(a) Supply and distribution.

(b) Maintenance.

(c) Training.

(d) Software support.

(e) Rebuild/overhaul.

(f) Modification.

(g) System support.

b. CLS policy.

(1) Technical data or Government access to the technical data will be acquired to permit competitive procurement of CLS whenever feasible and affordable.

(2) The MATDEV, in coordination with the materiel command, is responsible for centralized contractor support management, including programming, budgeting, contract negotiations awarding, and administration.

(3) Systems should be developed so that routine assignment of contract support personnel is not required in the battlefield. If this is not possible, then the requirement for contract support personnel in the battlefield must be minimized and well justified in accordance with AR 715–9.

(4) Contractor support must be integrated with the defense logistics chain and defense standard systems.

(5) Requirements for continuation of contractor support in wartime scenarios and contingency operations will be assured through inclusion of a wartime contingency clause in the support contract. Contractors must ensure a seamless and transparent transition from in-garrison to deployment support.

6–2. Application of CLS

CLS may be performed as planned Interim Contract Support (ICS) or as planned Life-Cycle Contract Support (LCCS).

a. ICS is the use of commercial support resources in lieu of organic capability for a predetermined amount of time (goal is not to exceed 3 years). This includes the use of contractor support for initial fielding.

b. LCCS is a method of providing all or part of a system's logistics support by contract, with the intention of continuing this support throughout its life cycle. The LCCS differs from ICS in that it is a support concept rather than an acquisition technique.

c. Normally, ICS is paid for with procurement funds and LCCS is paid for with Operation and Maintenance, Army funds.

6–3. Planning

a. The Army will acquire CLS when CLS is cost effective and when such coverage can be tailored to meet the intended conditions of use in geographical locations and storage of the item. Army combat developers will identify desired performance characteristics which are measurable as part of a system PBL strategy. These performance characteristics should include desired levels of CLS integration to be addressed as part of a PBL business case analysis. Army combat and materiel developers will minimize the burden and sustainment complexity as well as sustainment footprint for unit or field maintenance organizations by limiting the use of contractors for maintenance of field equipment that can be maintained by soldiers. Ease of supportability in the field environment must be paramount.

b. The decision to use CLS will be based upon analyses of tradeoffs of alternative support concepts that were performed as part of the early development or support system analysis process (rather than to limit or reduce the level of ILS effort in any phase of an acquisition). These support analyses must show that CLS—

(1) Is the optimum strategy among feasible alternatives?

(2) Will provide the required support in both peacetime and wartime scenarios.

(3) Is the most cost-effective method.

(4) Is clearly in the Government's best interest.

c. The CLS decision will be based upon an evaluation of—

(1) Wartime operational readiness supportability.

(2) Compliance with 10 USC 2464 and related statutory laws.

(3) Need to maintain a peacetime training and rotational base for military technical personnel (manpower requirement data).

(4) Security implications.

(5) Cost effectiveness.

(6) Availability of TPS and TMDE.

(7) Access to the technical data suitable for competitive procurement under contractor and/or organic support.

(8) Availability of repair parts and costs required to maintain stock levels to meet readiness requirements.

(9) Timeframe for fielding the system.

(10) Warranties under the acquisition contract.

(11) Spare parts pricing.

(12) Commercial activities program.

(13) Density of equipment and geographical dispersion.

(14) Training costs.

(15) Personnel skills required/available.

(16) Force structure.

(17) Maintenance levels utilized.

(18) Contractors accompanying the force may be employed in an area of operations, as required, to support U.S. Army operations and/or weapons systems. Generally, contractors will be assigned duties at echelons-above-brigade. If the senior military commander determines that civilian contractor services are required at lower echelons, they may be temporarily deployed as far forward as needed, consistent with the terms of the contract and the tactical situation (see AR 750–1 and AR 715–9).

(19) Administrative and support workload.

(20) Design stability.

(21) Risk of commercial or military obsolescence.

(22) Availability of contractors to support the system over its expected life at all proposed locations (including mobilization conditions).

(23) Use of operational readiness float/repair cycle float.

(24) Availability of technology and technological complexity of the system.

d. LCCS considerations will be based upon readiness and availability requirements, LCC, support risks, design maturity, planned useful life, materiel system complexity, available manpower and personnel, and other acquisition and support issues. Wartime mission and deployment requirements will be the primary considerations on which support risks are based.

e. The ICS will be considered when desired military support capability cannot be fully provided by first unit equipped date because of time or acquisition program constraints. As shown below, ICS should be used only for the length of time specified in the supportability strategy.

(1) Plans and justification for ICS should be identified, fully documented in the supportability strategy and the decision memorandum, and coordinated before milestone B. When program issues or constraints requiring the use of ICS arise after milestone B, the ILS manager will obtain the necessary documentation and coordinate required actions as soon as possible. All plans for ICS must be completed before the milestone C production decision to allow for necessary budgetary lead times.

(2) ICS considerations will not cause a reduction of the level of ILS effort in any phase of materiel acquisition. Priority efforts will be directed toward meeting the required support posture for system deployment.

(3) ICS planning will include plans and milestones for transition to organic support where applicable, contingency plans for operation in a hostile environment, and will define administration and funding procedures. The transition plans/milestones will be documented in the supportability strategy.

(4) The ICS contract will identify minimum data to be provided to the Government by the contractor (such as defective or nonconforming parts, task frequency, parts usage, and repair times at each maintenance level, mean units between maintenance events, engineering changes, and skills/training needed). Establish measurement criteria and monitor contractor activities to ensure compliance.

(5) Requests for extending use of ICS beyond the approved transition date will be forwarded by the MATDEV through the materiel command to DASA (ILS), after coordination with gaining ACOM, ARNG, RC, ASCC and DRU, and the CBTDEV. Documentation will include justification for extension, revised milestones for transition, impact, additional funding requirements, appropriate coordination, and concurrence and non-concurrence.

f. The decision to employ CLS for a limited period; ICS or throughout the life of the system; LCCS will impact the logistics footprint in the battle space along with Army force structure. The management of the logistics presence in the battle space and anticipated changes in the force structure dictates quantifying all CLS maintenance manpower requirements in the same manner as soldier mechanic requirements. The anticipated CLS maintenance manpower requirements expressed in direct productive annual maintenance man-hours will be documented on the BOIPFD to the

appropriate level of maintenance and correlated to the soldier MOS the CLS is displacing. The data must be updated using the BOIPFD process any time the CLS maintenance requirement changes.

6–4. Funding considerations

a. CLS required when fielding a new end item will be achieved within existing appropriation guidelines using the same accounts that would be charged if the work was performed organically by the Army elements normally involved in such fielding activity. Appropriation requests to support such activity are structured and approved based on the nature of the different functions performed, not on the basis of who performed the work.

b. The manager of each item being fielded is responsible for programming, budgeting, and funding CLS requirements pertaining thereto during the period in which the item remains under his/her management control. In the event that more than one end item is being supported by the same contractor, each end item manager will be responsible for programming, budgeting, and accounting for those dollar resources associated with CLS requirements pertaining to his/her end item. Where feasible, multiple CLS efforts should be consolidated into one contract. The dollar resources required to fund a specific functional service or effort performed under contract will be reflected in the applicable command operating budgets and monthly/annual accounting and manpower reports based upon the reporting level indications shown by the Army management structure for each Army management structure code involved.

6–5. Contractor logistics support for tables of distribution and allowances unit training systems

a. Contractor logistics support is the preferred concept for supporting TDA unit training systems. An in-depth analysis using the factors in para 6–3*b* will be conducted to determine if CLS is the most effective concept.

b. All other training systems authorized by a common table of allowances or an MTOE will be acquired and supported under the policies in AR 750–1.

c. When CLS is chosen, Army organic maintenance will be limited to operator maintenance at the using TDA or MTOE activity.

d. The support concept decision will be made as early as possible during the requirements document staffing process and will be reflected in the approved document. The support concept will be developed based upon an analysis of alternatives available and the performance of tradeoff analysis to optimize the selected approach.

e. The TEMP and the supportability strategy of the system program management documentation will be used to describe the actions required to provide CLS capability.

6–6. Contractor constraints

Army contractor constraints mandates that programs shall—

a. Be operationally executable and not infringe on the commander's ability to execute missions.

b. Comply with Army policy on contractors accompanying the force set forth in AR 715–9.

c. Maintain Total Asset Visibility (TAV) of total system to include supporting equipment and spares while providing TAV to the Army In-Transit Visibility (ITV) network. Ensure that contractors feed ITV servers with data in the required format.

d. Comply with DOD policy to use the Defense Transportation System and DOD transportation hubs where practical and where it meets the warfighter's performance requirements. If other than a DOD standard distribution system is recommended, DCS, G–4 through the DASA (ILS) will be notified of any intent to use a different distribution system prior to the decision.

e. Use standard Army Logistics Information Systems (LIS), formerly known as Army Standard Army Management Information Systems (STAMIS). These include: Standard Army Maintenance System - Enhanced (SAMS–E), Unit Level Logistics System - Aviation Enterprise (ULLS–AE), Standard Army Retail Supply System - Objective (SARSS–O), Property Book Unit Supply Enhanced (PBUSE), and Transportation Coordinator's Automated Information for Movements System (TC AIMS).

f. Transition seamlessly to the Global Combat Support System - Army (GCSS–A) when accepted, and interface completely with the Single Army Logistics Enterprise (SALE) as it develops at the business process/ operational architectural level.

g. Be compatible with emerging doctrine for sustainment operations such as two-level maintenance.

Appendix A
References

Section I
Required Publications

AR 70–1
Army Acquisition Policy. (Cited in paras 2–2, 2–12d, 2–13, 3–4c, 4–2, 5–10, 5–24a.)

AR 602–2
Manpower and Personnel Integration (MANPRINT) in the System Acquisition Process (Cited in para 5–20.)

AR 715–9
Contractors Accompanying the Force (Cited in paras 4–3, 5–1, 6–1, 6–3, 6–6.)

AR 750–1
Army Materiel Maintenance Policy (Cited in paras 5–3, 5–10e, 5–13, 5–18, 6–3, 6–5.)

DODD 5000.1
The Defense Acquisition System. (Cited in paras 1–1, 4–1.)

DODI 5000.2
Operation of the Defense Acquisition System. (Cited in paras 1–1, 4–1, 5–5, 5–16, 5–19, 5–20.)

Section II
Related Publications

A related publication is a source of additional information. The user does not have to read a related publication to understand this publication.

AR 11–2
Management Control

AR 11–18
The Cost and Economic Analysis Program

AR 25–1
Army Knowledge Management and Information Technology

AR 25–30
The Army Publishing Program

AR 40–60
Policies and Procedures for the Acquisition of Medical Materiel

AR 40–61
Medical Logistics Policies

AR 70–75
Survivability of Army Personnel and Materiel

AR 71–32
Force Development and Documentation—Consolidated Policies

AR 73–1
Test and Evaluation Policy

AR 200–1
Environmental Protection and Enhancement

AR 350–38
Training Device Policies and Management

AR 415–15
Army Military Construction and Nonappropriated-Funded Construction Program Development and Execution.

AR 700–90
Army Industrial Base Process

AR 700–141
Hazardous Materials Information Resource System

AR 700–142
Materiel Release, Fielding, and Transfer

AR 711–7
Supply Chain Management

AR 750–43
Army Test, Measurement and Diagnostic Equipment

DA Pam 700–28
Integrated Logistic Support Program Assessment Issues and Criteria

DA Pam 700–56
Logistics Supportability Planning and Procedures in Army Acquisition

DA Pam 700–142
Instructions for Materiel Release, Fielding and Transfer

DAG
Defense Acquisition Guidebook (Available at http://akss.dau.mil/dag/)

Designing and Assessing Supportability in DOD Weapon Systems: A Guide to Increased Reliability and Reduced Logistics Footprint dated 24 OCT 03
The TLCSM Supportability Assessment Guide provides comprehensive guidance to PMs and PMOs (and acquisition logisticians) on planning for and designing DOD weapon systems for increased reliability. (Available at https://acc.dau.mil/)

DFAS 37–1
Finance and Accounting Policy (Available at http://www.asafm.army.mil/secretariat/document/37–1reg/37–1reg.asp)

DODI 7041.3
Economic Analysis for Decision Making (Available at www.dtic.mil/whs/directives)

DOD 5000.4–M
Cost Analysis and Procedures Guidance (Available at http://www.dtic.mil/whs/directives)

DOD Guide for Achieving Reliability, Availability, and Maintainability
(Available at http://www.acq.osd.mil/)

DOD Template for Application of TLCSM and PBL in Weapon System Life Cycle
The purpose of this template is to provide program managers, their staff, and logistics participants in the acquisition process a tool to assist them in ensuring that effective sustainment is addressed and accomplished over the life cycle. (Available at http://www.acq.osd.mil/log/)

MIL–HDBK–470A
Designing and developing maintainable products and systems. (Available at http://assist.daps.dla.mil/quicksearch.)

MIL–HDBK–502
Acquisition Logistics. (Available at http://assist.daps.dla.mil/quicksearch.)

MIL–HDBK–881A
Work Breakdown Structures for Defense Materiel Items. (Available at http://assist.daps.dla.mil/quicksearch.)

MIL–PRF–49506
Logistics Management Information. (Available at http://assist.daps.dla.mil/quicksearch.)

OMB Circular A–94
Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs (Available at http:/www.whitehouse.gov/omb/circulars/a094/a094.pdf)

OSD (AT&L) Total Life Cycle Systems Management (TLCSM) Metrics dtd 22 November 2005.
This memo directs the use of a standard set of metrics for evaluating overall TLCSM and provides definitions and TLCSM metrics formulas to support performance measures. (Available at https://acc.dau.mil/CommunityBrowser.aspx?id=32594)

32 CFR 651
National Defense: Environmental Analysis of Army Actions. (Available from www.gpoaccess.gov/cfr)

10 USC 2383
Contractor performance of acquisition functions closely associated with inherently governmental functions. (Available from www.gpoaccess.gov/cfr)

10 USC 2399
Operational test and evaluation of defense acquisition programs. (Available from www.gpoaccess.gov/uscode.)

10 USC 2460
Definition of depot maintenance and repair (Available from www.gpoaccess.gov/uscode.)

10 USC 2461
Commercial or industrial type functions: required studies and reports before conversion to contractor performance. (Available from www.gpoaccess.gov/cfr)

10 USC 2464
Core logistics capabilities. (Available from www.gpoaccess.gov/uscode.)

10 USC 2466
Limitations on the performance of civilian commercial or industrial type functions (Available from www.gpoaccess.gov/uscode.)

10 USC 2469
Contracts to perform workloads previously performed by depot-level activities of the Department of Defense: requirement of competition. (Available from www.gpoaccess.gov/cfr)

10 USC 2474
Centers of Industrial and Technical excellence: designation; public-private partnerships (Available from www.gpoaccess.gov/uscode.)

Section III
Prescribed Forms
This section contains no entries.

Section IV
Referenced Forms
DA forms are available on the Army Publishing Directorate web site (www.apd.army.mil).

DA Form 11–2–R
Management control evaluation certification statement.

DA Form 2028
Recommended changes to publications and blank forms

Appendix B
Key PBL Milestones and Decision Points, and Implementation Checklist

B–1. Key PBL milestones and decision points

The following is a list of recommended key PBL milestones and decision points:

a. Develop PBL strategy.
b. Update PBL strategy.
c. Develop PBL Implementation Plan.
d. Update PBL Implementation Plan.
e. Authorization to Establish PBL Working Group/IPT.
f. Update POM submission.
g. Incorporate Sustainment Metrics in PBA(s).
h. Establish Comprehensive RAM Program.
i. Request BCA funding
j. Document Market Survey Results.
k. Develop Best Value analysis.
l. Present CDA report.
m. Present initial draft of BCA.
n. Decision on BCA Recommendation.
o. Select PSI.
p. Decision on Follow-on Acquisition Strategy.
q. Update POM submission.
r. Implement PBL Contracts/Agreements.
s. Conduct Recurring Scoring Conference of PBL Metrics.
t. Conduct annual performance review.

B–2. PBL Implementation Checklist

The following is a checklist for PBL implementation:

a. Integrate requirements and support.
(1) Define System Sustainment Requirements Generation Process.
(2) Identify Functional and Hardware WBS.
(3) Identify Flow Down Requirements to Components.
(4) Identify required but not currently available system operational and support metrics.
(5) Accomplish a gap analysis to determine actions required to establish systems and processes necessary to create, collect, validate, and monitor needed metrics.
(6) Evaluate ECPs for PBL Requirements application.
(7) Develop Near-Term Support Strategy and Associated Implementing tasks.
(8) Evaluate Support Strategy, Plan, and Execution.
(9) Reevaluate Requirements and Determine need for New ECPs.
(a) Determine Maintenance Shortfalls.
(b) Determine Maintenance Redundancy.
(c) Determine Maintenance Complexity.
1. Consider Organic Support.
2. Conduct Core Depot Assessment (See Workload Allocation).
(d) Generate System/Component Sustainment Requirements.
1. Develop Draft Operational Mission Statement/Mission Plan.
2. Coordinate Operational Mission Statement/Mission Plan w/user community.
3. Staff Operational Mission Statement/Mission Plan with COCOMs.
4. Develop Overarching Performance Metric(s) from OMS/MP (for example, Ao, Rm, and so forth.)
5. Functional Decomposition of Performance metric(s).
6. Generate Component Level Performance sub-Metric requirement(s).
b. Form PBL team. Synopsize collaboration of stakeholders and responsibilities.

(1) Plan PBL Working Group Structure.
(a) Define the mission and goals of the PBL WG.
(b) Identify and gain commitments of WG Members (organizational POCs).
(2) Prepare for and Conduct Kickoff Meeting.
(3) Prepare and Conduct PBL Workshop.
(4) Establish the Roles and Responsibilities.
(5) Identify Sub-IPTs and Leads/Chairs.
c. Establish performance based agreements. PBA policy.
(1) Document PBA between PMO and Warfighter Defining Roles, Responsibilities, Desired Performance Outcomes, and Commitment of Associated Resources Necessary to Achieve Outcomes.
(2) Document PBA between PMO and PSI Defining Roles, Responsibilities, Desired Performance Outcomes, and Commitment of Associated Resources Necessary to Achieve Outcomes.
d. Award contract. Contracting policy.
(1) Analyze and document details of existing contract strategy, including contract type, scope, phasing, schedule, and associated funding.
(2) Develop PBL Contracts Strategy and associated implementing tasks.
(3) Decision of Follow-On Acquisition Strategy.
(4) Develop Acquisition Strategy.
(5) Develop SOW (Section H, L, and M).
(6) Release Draft RFP.
(7) Conduct Industry Day.
(8) Release RFP.
(9) Award Contract.
(10) Contractor Spin-up Time.
e. Financial. AWCF Secondary Item Policy.
f. Baseline the system. Management Analysis, ID PSSs, Supportability Analyses, and so forth.
(1) Document Program Supportability baseline.
(a) Document Program Cost.
(b) Documents Program Architecture.
(c) Document Program Performance.
(d) Document Supportability – Identify currently available system operational and support metrics..
(e) Document Schedule Baseline
(2) Document Program Element.
(a) Determine Component and Facility Candidates.
(b) Finalize Actual List of Components and Facilities.
g. Develop performance outcomes. Metrics policy.
(1) Identify Performance Outcomes.
(2) Define Key Support Indicators and Associated Metrics.
(3) Review and Define Data Collection and Analysis Requirements.
(4) Develop Reporting Tool.
(5) Identify Element Level Performance Requirements.
(a) Operational Availability (Ao).
(b) Mission Reliability (Rm).
(6) Identify Component Level Performance Requirements.
(a) Logistics Response Time (LRT).
(b) Operational Readiness Rate (ORR)
(c) Mean Time to Repair (MTTR).
(d) Mean Time Between Critical Failures (MTBCF).
(e) Mean Logistics Delay Time (MLDT).
(f) Non-Mission Capable Supply (NMCS).
(g) Non-Mission Capable Maintenance (NMCM).
(7) Identify Facility Support Requirements.
(8) Incorporate Sustainment Metrics into Award Fee.
(9) Site Award Fee Assessment.
(10) Award Fee Reviews.
(11) Data Collection for Sustainment and Performance Metrics.

(12) Relate Existing Logistics Metrics to Top-Level Performance Metrics/Goals.
(13) Relate Existing Logistics Metrics to Top-Level Performance Outcomes.
(14) Implement Element Failure Review Board.
(15) Integrate Sustainment Analysis Results.
(16) Implement Reliability Program.
(17) Identify Element Level Performance Requirements.
(18) Contract Support to Comprehensive RAM Program.
(19) Implement Sustainment Metrics Award Fee Criteria.
h. Select product support integrator(s). PSI policy.
(1) Review Supportability Strategy.
(2) Determine PSI Candidates.
(3) Evaluate PSI Candidates.
(4) Select PSI..
(5) Conduct Gap Analysis of the Scope of Support Elements Including PSI Management and Oversight of Required Support Functions.
(6) Document Gap Impacts and Develop Plan to Reconcile PSI Scope Necessary to Ensure Accountability and Responsibility over Support Functions.
i. Develop workload allocation strategy. Core/depot policy.
(1) Develop Core Depot Assessment.
(a) Establish Contacts and Task Coordination with Potential Depot(s).
(b) Define Core Depot Assessment Requirements.
(c) Core Depot Assessment.
1. Data Collection.
2. Conduct Site Visits.
3. Develop Core/Non-Core Analysis.
4. Risk Evaluation and Adjustment.
5. Develop Best Value Analysis.
6. Present CDA Report.
(2) Review BCA.
(a) Review Title 10 requirements.
(b) Review Program WBS for all support functions and processes.
(c) Review all WBS support roles and responsibilities by entity, location, and span of control.
(d) Review Existing Support Process (for example, contract, organic).
(e) Review Existing Support Infrastructure (for example, in-place, TBD).
(f) Identify Opportunities for Public-Private Partnering (PPP).
(g) Identify Candidate Partnering Agreements.
(h) Document Best Value Support Plan.
(i) Reconcile inconsistencies as needed to align responsibilities and implementing agreements to achieve PBL Strategy management and oversight objectives.
j. Develop supply chain management strategy. End-to-end PBA policy.
(1) Document Existing Supply Chain Management Process Flow and Related Information.
(2) Accomplish Gap Analysis to Identify Inconsistencies of PSI Responsibilities and Management Oversight of SCM Activities.
(3) Reconcile Gaps to Ensure Alignment of SCM Ownership, Management, and Process Flow.
(4) Document a Comprehensive Plan of Action to Implement an Integrated, End-to-End Logistics.
k. Develop business case analysis. BCA policy.
(1) Identify BCA IPT/Workgroup Members.
(a) Develop BCA Baseline Package for ROM Development.
(b) Request BCA Funding.
(2) Develop Business Case Analysis.
(a) Develop Initial BCA Structure, Content, and Identify Required Data Sources.
1. Conduct Kick-off Meeting.
2. Conduct BCA Strategy Session.
3. Identify and Review Initial Data Sources.
4. Develop and Review BCA Cost Elements.
5. Develop Initial Ground Rules and Assumptions that will guide the BCA.
6. Determine Market Survey Process for the Program.

(b) Data Collection and Analysis.
1. Conduct routine BCA WG Meetings.
2. Conduct Market Survey (Capabilities, Public, Private, and so forth.)
a. Summarize Market Surveillance.
b. Identify Sources/Gather Information.
c. Validate Information.
d. Evaluate Candidates.
e. Documents Marker Survey Results.
(c) Conduct Site Visits (if necessary).
(d) Identify Product Support Alternatives that BCA will consider.
(e) Assessment of Program/Components.
1. Perform Status Quo Analysis of Sustainment Approach.
2. Perform BCA Analysis of Product Support/Sustainment Alternatives.
3. Present Initial Draft of Program Assessment.
(f) Assessment of Program/Component Support Facilities.
1. Perform Status Quo Analysis of Support Facilities Sustainment Approach.
2. Perform BCA Analysis of Support Facilities Alternatives.
(3) Present Initial Draft of Program Assessment.
(4) Staff BCA Results in accordance with BCA Policy.
(5) Decision on BCA Recommendation.
l. Implementation and assessment. Criteria and Reporting Policy.
(1) Identify Performance Assessment Board composition and roles and responsibilities (including chair, membership, schedule, and approval process).
(2) Identify roles and responsibilities of all stakeholders for the collection, processing, analysis, and reporting of performance data.
(3) Identify Performance Incentive plans (award fee, incentive fee) and associated metrics and other information necessary to continuously monitor and assess PSI performance.
(4) Identify funding flow, impacts, and issues.
(5) Identify/agree to realistic, quantifiable, and measurable metrics (Critical to Desires/Threshold to Objective).
(6) Identify data required and source of data to be collected.
(7) Document/Describe the data elements and formula for collecting the 'agreed to' metrics.
(8) Document the frequency and format for reporting metrics.
(9) Host stakeholder meeting to finalize Performance Metrics Agreements.
(10) Gain signature of each stakeholder indicating acceptance of the agreement.
(11) Implement performance assessment commensurate with implementation of PBL Support Strategies.
(12) Implement PBL Contract.
(13) Monitor Performance.
(a) Conduct Routine Scoring Conferences of PBL Metrics.
(b) Conduct Annual Performance Review (Processes, Procedures, and Metrics).
(c) Revise Product Support Strategy and PBAs as Required – Review and Reconcile as necessary all PBAs to ensure flexibility needed to accommodate Changes in funding, OPTEMPO, priorities, and Caveats for Functions beyond span of PSI or PSP Management and Control.

Appendix C
Management Control Evaluation Checklist for the Integrated Logistics Support Program

C–1. Function
The function covered by this checklist is the conduct of the ILS program by ILS managers and other functional specialists supporting the ILS program.

C–2. Purpose
The purpose of this checklist is to assist the senior acquisition logistics personnel within the ILS community in evaluating the application of ILS principles during the acquisition and fielding process.

C–3. Instructions
Answers must be based upon the actual testing of controls (for example, document analysis, direct observation,

interviewing, sampling, simulation, and/or others). Answers that indicate deficiencies must be explained and the corrective action indicated in the supporting documentation. These management controls must be evaluated at least once every 5 years and then certified on DA Form 11–2–R (Management Control Evaluation Certification Statement).

C–4. Test questions

a. System acquisition planning.

(1) Are resource constraints considered in development of capabilities documents (such as MANPRINT constraints and technology limitations)?

(2) Are system design requirements and constraints considered in program reviews?

(3) Is system design considered in source selection to ensure reduction in resource requirements?

(4) Were commercial or nondevelopmental items considered?

(5) Have the recommendations from the MANPRINT assessment and reports been considered and integrated into the acquisition program process where appropriate?

b. Determination and acquisition of logistics support for Army systems before fielding.

(1) *Maintenance concept.*

(a) Was the maintenance concept developed during program initiation?

(b) Was the maintenance planning developed during system development?

(c) Is maintenance concept based upon the tenets of RCM?

(d) Was the system support package tested and found to be adequate in determining initial fielding requirements?

(e) Does the depot maintenance sustainment plan comply with 10 USC 2464, core requirements?

(f) During depot maintenance planning, was SOR analysis documented in the milestone C acquisition decision memorandum?

(g) Was an addendum added to SS explaining why organic support couldn't be provided for any system requiring contract support personnel in forward maneuver areas?

(h) Was maintenance support available at system fielding?

(2) *Supportability.*

(a) Can the proposed selected system be operated and maintained by the quantity and skills of people that will be available?

(b) Has a spare and repair parts determination been made?

(c) Are parts being procured or are they now available?

(d) Have spare and repair parts packaging, handling, and storage requirements been met?

(e) Do these requirements support the capabilities needed in the requirements documents?

(f) Is force development documentation included?

(g) Was support concept completed and developed by combat developer before assigning item to materiel developer?

(h) Did the U.S. Army Medical Command prepare a health hazard assessment report?

(i) Are supply support processes compatible with the single stock fund business process?

(j) Were parts shipped directly to users by contractor, recorded/captured in standard Army systems?

(k) Was the DLA-owned inventory considered for use before contractor begins providing support?

(3) *Support requirements.*

(a) Have all the needed support requirements been identified?

(b) Are they being requested?

(c) Has the required TMDE been identified?

(d) Is it being requested or is it under development?

(e) Was the DLA included?

(f) Was host nation support considered?

(g) Was consideration given to how basic sustainment materiel support (food, petroleum, oil, and lubricants, ammunition, and so forth) would be provided?

(4) *Training.*

(a) Has the need for training been determined?

(b) Are the training needs within the capabilities of the personnel who will operate and repair the equipment?

(c) Has institutional training capability been established to support initial and follow-on fielding?

(d) Has the need for training devices been determined? Will the required training devices accurately replicate the system's operation?

(5) *Technical documents.*

(a) Has a determination been made on what technical documents are needed?

(b) Are these documents being developed or acquired?

(c) Is the technical data level needed to permit competitive procurement being developed?
(d) Is the data being purchased?
(e) Is the data being reviewed to ensure accuracy?
(f) Are electronic technical manuals or IETMs being developed?
(6) *Computer resources.*
(a) Have system hardware and software computer resources been determined?
(b) Are these resources now available to support the system?
(c) Have PPSS plans been developed and approved?
(d) Was PPSS available at fielding?
(e) Was PPSS verified?
(f) Will PPSS be available for the planned life of the system?
(7) *Transportability.*
(a) Has the system been given transportability approval?
(b) Will the system, as finalized, meet the transportability requirements document?
(c) Were transportability pamphlets developed by the Surface Deployment and Distribution Command?
(8) *Facility requirements.*
(a) Have all facility requirements (training, maintenance, test, and storage) been identified?
(b) Have the requirements been provided to HQ, U.S. Army Corp of Engineers (CEMP–DA) for construction or renovation actions?
(c) Is the facility process being tracked to ensure that facilities will not delay fielding or support?
(d) Have facility requirements been validated by OACSIM and HQ, USACE?
(e) Are all required facility standards and criteria adequate to sustain, maintain, train and store the end item?
(9) *Interoperability.*
(a) Are standardization and interoperability constraints and implications considered in the development and acquisition of the system?
(b) Was an interoperability certification obtained at full rate production?
(10) *Program documents.*
(a) Are required program documents developed to provide sufficient data for making decisions regarding system structure and directions?
(b) Are test and evaluation data sufficient to make program decisions regarding system capabilities or deficiency corrections?
(c) Does the PM have plans for managing, sustaining, and upgrading the weapon system throughout the service life?
(d) If a contractor PBL approach is used, is it supported by a BCA?
(e) Was materiel fielding planning completed before production contact was signed?
(f) Does the materiel fielding planning address unit set fielding issues?
(g) Does the PM have a listing of support facility programming documents?
(h) Was facilities acquisition funding considered for planning and design environmental studies and construction?
(11) *Funding.*
(a) Is sufficient funding programmed to perform the acquisition and logistics support actions planned?
(b) Do ILS costs include costs of both contractor and Government ILS efforts?
(c) Were requirements for HAZMAT in system designs kept to an absolute minimum?
(12) *Logistics support after fielding.*
(a) Is materiel fielding actions adequate to field and support the system on schedule?
(b) Is a system post-fielding assessment planned (or was one conducted) to ensure adequate logistics support is available?
(c) Was unit set fielding adequately addressed?

C–5. Supersession

This checklist replaced the checklist for AR 700–127, dated 10 November 1999.

C–6. Comments

Help make this a better review tool. Submit comments to the DASA (ILS) (SAAL–ZL), 103 Army Pentagon, Washington, DC 20310–0103.

Glossary

Section I
Abbreviations

3PL
Third party logistics

4PL
Forth party logistics

Ao
operational availability

AAE
Army Acquisition Executive

AC
Active component

ACAT
acquisition category or Army category

ACOM
Army command

ACTD
Advanced concept technology demonstration

ACSIM
Assistant Chief of Staff for Installation Management

AEA
Army Enterprise Architecture

AEC
Army Evaluation Center

AEI
Army Enterprise Infrastructure

AILA
Army Integrated Logistics Architecture

AILSEC
Army Integrated Logistics Support Executive Committee

AIT
automatic identification technology

AMC
Army Materiel Command

AMRDEC
Aviation and Missile research Development and engineering Center

AMC
Army Materiel Command

AMSAA
Army materiel systems analysis activity

AO
area of operations

AOAP
Army Oil Analysis Program

AR
Army regulation

ARL
Army Research Laboratory

ARNG
Army National Guard

ASA(ALT)
Assistant Secretary of the Army (Acquisition, Logistics, and Technology)

ASA (I&E)
Assistant Secretary of the Army (Installations and Environment)

ASARC
Acquisition review council

ASCC
Army Service Component Command

ASIOE
associated support items of equipment

ATD
advanced technology demonstration

ATE
automatic test equipment

ATEC
Army Test and Evaluation Command

ATTN
attention

AWCF
Army working capital fund

BCA
business case analysis

BOIP
basis-of-issue plan

BOIPFD
basis-of-issue-plan feeder data

BVA
Best value assessment

CAIG
Cost analysis improvement group

CASCOM
Combined Arms Support Command

CBM
condition based maintenance

CBTDEV
combat developer

CDA
core depot assessment

CDD
capabilities development document

CE
cost and economics

CERDEC
communications, electronics, research and development

CFR
Code of Federal Regulations

CLA
core logistics analysis

CLOE
Common logistics operating environment

CLS
contractor logistics support

COCOM
combatant commander

COE
Chief of Engineers

COMPASS
Computer Adaptive Placement Assessment and Support System

COR
contracting officer's representative

COTS
commercial off the shelf

CPD
capabilities production document

CS
combat support

DA
Department of the Army

DAB
Defense Acquisition Board

DAG
Defense Acquisition Guidebook

DAU
Defense Acquisition University

DASA(ILS)
Deputy Assistant Secretary of the Army (Integrated Logistics Support)

DC
District of Columbia

DCS, G–3
Deputy Chief of Staff, G–3

DCS, G–4
Deputy Chief of Staff, G–4

DFAR
Defense Federal Acquisition Regulation

DFAS
Defense Finance and Accounting System

DLA
Defense Logistics Agency

DLR
depot level reparable

DOD
Department of Defense

DODD
Department of Defense directive

DODI
Department of Defense instruction

DRR
design readiness review

DRU
Direct Reporting Unit

DUSD (AT&L)
Defense Under Secretary of Defense (Acquisition, Technology and Logistics)

E2E
end to end

EA
economic analysis

ECP
engineering change proposal

FAR
Federal Acquisition Regulation

FLE
Force-centric Logistics Enterprise

FM&C
Financial Management and Comptroller

FMECA
failure, modes, effects, and criticality analysis

FRP
full rate production

FUED
first unit equipped date

HAZMAT
hazardous materiel

HQ AMC
Headquarters, Army Materiel Command

HQDA
Headquarters, Department of the Army

I&E
Installations and Environment

ICD
initial capability document

ICS
interim contractor support

ID
identification

IETM
interactive electronic technical manual

ILS
integrated logistics support

ILSC
Integrated Materiel Logistics Support Center

ILSM
integrated logistics support manager

ILSR
integrated logistics support review

IMMC
Integrated Materiel Management Center

IOC
Initial operation capability

INSCOM
Intelligence and Security Command

IPT
integrated product team

JCIDS
Joint Capabilities Integration Development

JDMAG
Joint Depot Maintenance Activities group

JROC
Joint Requirements Oversight Council

KPP
key performance parameter

KSA
key system attributes

LCC
life cycle cost

LCCS
life cycle contractor support

LCM
life cycle manager

LCMC
Life-Cycle Management Command

LD
logistics demonstration

LIW
Logistics Integrated Warehouse

LMI
logistics management information

LOGOPS
logistics operations

LOGSA
Logistics Support Activity

LORA
level of repair analysis

LRC
Logistics Readiness Centers

LRIP
low rate initial production

LRT
logistics response time

LRU
Line replaceable unit

MAC
maintenance allocation chart

MANPRINT
manpower and personnel integration

MATDEV
materiel developer

MDR
milestone decision review

MEDCOM
medical command

MEL
maintenance expenditure limit

MI
market investigation

MIL–HDBK
military handbook

MIL–PRF
military performance specification

MLDT
mean logistics delay time

MOA
memorandum of agreement

MSDDC
Military Surface Deployment and Distribution Command

MSDDC–TEA
Military Surface Deployment and Distribution Command–Transportation Engineering Agency

MSDS
materiel safety data sheet

MSP
maintenance support plan

MTBCF
meantime between critical failure

MTBF
meantime between failure

MTOE
modified table of organization and equipment

MTTR
Meantime to repair

NDI
nondevelopmental item

NEPA
National Environmental Policy Act

NET
new equipment training

NIIN
National item identification numbers

NLT
not later than

NMCM
nonmission capable maintenance

NMCS
nonmission capable supply

NMP
National Maintenance Program

NSN
national stock number

OCE
Office of the Chief of Engineers

OEM
original equipment manufacturer

OIPT
overarching integrated product team

OPTEMPO
operational tempo

OSCR
operating and support cost reduction

pam
pamphlet

PBA
performance based agreement

PBL
performance based logistics

PEO
program executive office/officer

PM
program manager/project manager/product manager

PPBE
programming, planning, budgeting, and execution

PPS
post production support

PPSS
post production software support

POC
point of contact

POL
petroleum, oils and lubricant

POM
program objective memorandum

PPBE
programming, planning, budgeting and execution

PPP
public private partnership

PSI
product support integrator

PSM
product support manager

PSP
product support provider

PSS
product support strategy

PVS
prime vendor support

PWS
performance work statement

QASP
quality assurance surveillance plan

RC
reserve component

RCM
reliability centered maintenance

RDECOM
Research, Development and Engineering Command

RFP
request for proposal

R&M
reliability and maintainability

ROS
responsible official for sustainment

RTF
ready to fight

RTOC
reduction of total ownership costs

SA
supportability analysis

SAE
Society of Automotive Engineers

SALE
Single Army Logistics Enterprise

SCM
supply chain management

SDD
systems development and demonstration

SEC
software engineering center

SEP
system engineering process

SFA
support facility annex

SIPT
supportability integrated product team

SKOT
sets, kits, outfits and tools

SLA
service level agreement

SMA
supply management, Army

SME
subject matter expert

SOO
statement of objectives

SOR
source of repair

SORA
source of repair analysis

SOW
statement of work

SRO
system readiness objective

SS
supportability strategy

SSA
source selection authority

SSP
system support package

STAMIS
Standard Army Management Information System

STRAP
System Training Plan

TARDEC
Tank and Automotive Research Development and Engineering Center

TBD
to be determined

TCM
TRADOC capabilities manager

T&E
test and evaluation

TDA
tables of distribution and allowances

TDP
technical data package

T/TD
trainer/training developer

T&E
test and evaluation

TEMP
test and evaluation master plan

TLCSM
total life cycle systems management/manager

TMDE
test, measurement, and diagnostic equipment

TOE
table of organization and equipment

TPF
total package fielding

TPS
test program set

TRADOC
Training and Doctrine Command

USACE
U.S. Army Corps of Engineers

USAEC
U.S. Army Environmental Command

USAMMA
U.S. Army Medical Materiel Agency

USAR
U.S. Army Reserve

USC
United States Code

USF
unit set fielding

WBS
work breakdown structure

WG
wage grade

WIPT
working integrated product team

Section II
Terms

Acquisition strategy
A plan that documents the acquisition planning process and provides a comprehensive approach for achieving goals established in materiel requirements. It summarizes other management planning documents (including the supportability strategy), Government-furnished materiel to be provided, the acquisition strategy, organizational resources (money, time, people), and schedule.

Assessment rating definitions
Department of the Army definitions to be used Army-wide in assessing ILS elements that will contribute to the successful cost-effective acquisition, type classification, production, fielding, sustainment, and repair of operationally ready, mission-essential systems are as follows: (Any substitution for or deviation from the following definitions is prohibited.)

a. GREEN (G): No problems. All actions on schedule.

b. AMBER (A): Significant or minor problems identified, with a solution or work-around plan expected to be completed by the next major milestone date.

c. RED (R): Major problems identified (show stopper) with no solution identified or solution being implemented with less than satisfactory results projected by the next major milestone date.

Automatic identification technology (AIT)
Is a suite of technologies that enables the automatic capture of source data, thereby enhancing the ability to identify, track, document, and control materiel, maintenance processes, deploying forces, equipment, personnel, and cargo. It encompasses a number of read-and-write data-storage technologies that capture asset identification information. The devices are interrogated by using several means, including direct contact, laser, and radio frequency. Digital information obtained from the interrogations can be provided to automated information systems that support the Army's logistics operations.

Automatic test equipment (ATE)
Equipment that measures functional or static parameters to evaluate system performance. May be designed to perform fault isolation to piece-part level. The decision making, control, or assessment functions are performed with minimal human intervention.

Basic sustainment materiel
Materiel consumed in initial fielding, in follow-on training, and in performing the system-stated mission for a specified time. Includes such items as ammunition, petroleum, oils, and lubricants, batteries, and bulk supplies.

Battlefield damage assessment and repair
A wartime procedure to rapidly return disabled equipment to the operational commander by expediently fixing, by-passing, or jury-rigging components to restore the minimum essential components required for performing a specific combat mission or to enable the equipment to self-recover.

Built-in test equipment
Any identifiable device that is a part of a system whose purpose is used in testing the system.

Collective training
Training either in an institution or in units to prepare a group (crew, team, squad, or platoon) for tasks required of the group.

Combat developer (CBTDEV)
The command or agency responsible for concepts, doctrine, organization (excluding Army wholesale logistics), and system objectives and requirements.

Computer resources support
Facilities, hardware, software, and manpower needed to operate and support embedded and stand-alone computer systems, including post-deployment software support requirements and planning.

Contractor logistics support (CLS)
Utilization of a commercial source to provide support for materiel employed by Army field units in the form of maintenance, supply and distribution, training, software support, and rebuild/overhaul.

Deployability
The capability of the force (personnel and materiel) to be moved anywhere in the world to support a military operation

Displaced system
A system that is redistributed from one MACOM to another because of the fielding of a new or improved system.

Embedded training
Training involving simulation or stimulation of operational equipment performance in addition to the equipment's primary operational function(s). Training provided by capabilities not specifically required for mission completion, but that are built into or added onto operational systems, subsystems or equipment to enhance or maintain user's skill proficiency.

Embedded instrumentation
Data collection and processing capabilities, integrated into the design of a system for one or more of the following uses: diagnostics, prognostics, testing, or training.

Embedded diagnostics
Determination and reporting the cause of a failure by detection of failure symptoms through the use of sensors, central processing unit, and a user interface which are integrated (or embedded) into the design of the system.

Embedded prognostics
The detection and reporting of component degradation prior to failure through the use of sensors, central processing unit and a user interface which are integrated (or embedded) into the design of the system.

Environmentally preferable
Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materiel acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

Facilities
The permanent or semi-permanent real property assets specifically required to support the system, including facilities for training, equipment storage, maintenance, contractor, ammunition storage, mobile shop storage, classified storage, troop housing, fuels and lubricant storage, and special facility requirements.

Facility planning
An early, systematic evaluation of the effect of the introduction of a new materiel system on fixed facilities in the

peacetime scenario. This is required because of the long and constrained MCA process (5 to 7 years from requirements determination to having a usable facility).

First unit equipped date
The first scheduled date for handoff of a new materiel system in a MACOM.

Hazardous Materiel (HAZMAT)
A material as defined by Federal Standard, Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities ((FED–STD–313C, 3 April 96). See AR 200–1 for further guidance.

Human factors engineering
The systematic application to system design and engineering of relevant factors concerning human characteristics. These factors include skill capabilities; performance; anthropometric data; biomedical factors; and training implications to system development, design, acquisition strategy, and manning.

Individual training
The instructions given to qualify an individual for a needed skill or to increase a skill through practice.

Initial operational capability
The first attainment by a MTOE unit of the capability to operate and support effectively in the operational environment a new, improved or displaced Army materiel system.

Installation units
Mounts, cables, brackets, and other hardware required to physically interface a device (such as a radio, weapon, smoke generator, decontamination device/detector) with an Army vehicle. The vehicle may be for air, land, or water use. The IU may be installed by a contractor or depot, during vehicle production or overhaul/rebuild, or may be installed by a field unit.

Integrated diagnostics
A structured process that maximizes the effectiveness of diagnostics by including pertinent elements such as testability, automatic and manual testing, training maintenance aids, and computer-aided engineering as a means of providing a cost-effective capability to detect and unambiguously isolate all faults known or expected to occur.

Integrated logistics support (ILS)
A unified and iterative approach to the management and technical activities needed to influence operational and materiel requirements and design specifications, define the support requirements best related to system design and to each other, develop and acquire the required support, provide required operational phase support at lowest cost, seek readiness and LCC improvements in the materiel system and support systems during the operational life cycle, and repeatedly examine support requirements throughout the service life of the system.

Interim contractor support (ICS)
A method of support used in compressed or accelerated acquisition programs, or when design is not sufficiently stabilized. Provides all or part of a materiel system support by contract for a specified interim period after initial deployment to allow organic support capability to be phased in. A support acquisition technique rather than a support concept.

Level of repair analysis (LORA)
An analytical methodology used to assist in developing maintenance concepts and establishing the maintenance level at which components will be replaced, repaired, or discarded based on economic/non economic constraints and operational readiness requirements. Also known as Repair Level Analysis (RLA)

Logistician
A command or agency other than the MATDEV, CBTDEV, trainer, or user representative, responsible for ILS program surveillance and evaluation in the acquisition process.

Logistics management information (LMI)
Logistics management information comprises the support and support-related engineering and logistics data acquired from contractors for use in materiel management processes such as those for initial provisioning, cataloging, and item management. Depending upon specific program requirements, this information may be in the form of summary reports, a set of specific data products, or both.

Maintainability
A characteristic of design and installation that provides inherently for the system to be retained or restored to a specified condition within a given time when the maintenance is performed using prescribed procedures and resources.

Maintenance planning
Establishing a maintenance structure for a system. Source selection authority (including RCM) and maintenance engineering are used to provide an effective and economical framework for the specific maintenance requirements of the system.

Manpower
The personnel strength (military and civilian) as expressed in terms of the number of men and women available to the Army.

MANPRINT
The entire process of integrating the full range of human-factor engineering, manpower, personnel, training, health hazard assessment, system safety, and soldier survivability throughout the materiel development and acquisition process to ensure optimum total system performance.

Materiel change
All efforts to incorporate a hardware or software change to a system or end item in production and/or in the field, involving engineering, testing, manufacture, acquisition, and application to improve or enhance its capability to perform its mission, to be produced more effectively, or to better achieve the design-to-cost goal. These changes have historically been referred to as product improvements, modifications, conversions, reconfiguration, or retrofits.

Materiel command
The materiel command is responsible for national-level (for example, wholesale) logistics support of fielded systems. This includes national maintenance point, national inventory control point, depot, and technical assistance functions. In most instances, the support command is AMC.

Materiel developer
The command, organization, or agency responsible for accomplishing life cycle system management of a materiel system to include the research, development, production, fielding and sustainment that fulfills DA-approved system requirements.

Materiel system
An all-inclusive term used to describe the total aggregate of equipment being developed, acquired, and managed by a materiel proponent. The materiel system includes the logistics support hardware and software being developed and acquired to support the mission-performing equipment.

Operational availability
A measure of the degree to which a system is either operating or is capable of operating at any time when used in its typical operational and support environment.

Packaging, handling, and storage
The resources, techniques, and methods required for preserving, transporting, loading and unloading, and storing materiel systems, their support equipment, BSM (for example, ammunition, batteries, and POL), and associated supplies of all classes. Includes the procedures, environmental considerations, and equipment preservation requirements for both short- and long-term storage.

Personnel
Military and civilian persons of the skill level and grade required to operate and support a system, in peacetime and wartime.

Post-production support (PPS)
The management and support activities necessary to ensure continued attainment of readiness and sustainability objectives with economical logistics support after the cessation of the production phase for the acquisition or modernization of a system or equipment.

Preplanned product improvement
Planned future evolutionary improvement of developmental systems for which design considerations are effected

during development to enhance future application of projected technology, including improvements planned for ongoing systems that go beyond the current performance envelope to achieve a needed operational capability.

Product Support Integrator
The PSI is an entity performing as a formally bound agent (for example, contract, Memorandum of Agreement, Memorandum of Understanding) charged with integrating all sources of support, public and private, defined within the scope of the Performance Based Logistics agreements to achieve the documented outcomes. The product support manager, while remaining accountable for system performance, effectively delegates responsibility for delivering warfighter outcomes to the PSI. In this relationship, and consistent with "buying performance," the PSI has considerable flexibility and latitude in how the necessary support is provided, so long as the outcomes are accomplished.

Product Support Provider
Provide the necessary product support for the system (or the subsystem(s)/ component(s) as applicable) as integrated and employed by the PSI. Each PSP's requirements and performance metrics are detailed in a specific PBA developed by the PSI.

Prognostics
The use of data in the evaluation of a system or component for determining the potential for impending failures.

Program management documentation (formerly development/program management plan)
Documents prepared by the CBTDEV and MATDEV that record program decisions; contain the user's requirement; provide the life-cycle plans for development, testing, production, and support of the materiel system. Used for all acquisitions. An audit trail provided by documents of record that shows all phases of planning and program execution.

Reliability
A fundamental characteristic of a system expressed as the probability that an item will perform its intended functions for a specified time under stated conditions. Reliability ensures that a weapon system is ready to undertake a mission whenever and wherever tasked with a minimum maintenance infrastructure.

Reliability-centered maintenance
A disciplined logic or methodology used to identify preventive maintenance tasks to realize the inherent reliability of equipment at a minimum expenditure of resources.

Render safe procedures
The application of special explosive ordnance disposal methods and tools to provide for the interruption of functions or separation of essential components of unexploded explosive ordnance to prevent an unacceptable detonation.

Single Army Logistics Enterprise (SALE)
An integrated logistics solution that builds, sustains, and generates warfighting capability by enabling a common logistics operating picture from the battlefield (for example, Global Combat Support System–Army to the wholesale (national) level (for example, Logistics Modernization Program).

Standardization and interoperability
Standardization: The process of developing concepts, doctrines, procedures, and designs to achieve and maintain the most effective levels of compatibility, interoperability, interchangeability, and commonality in the fields of operations, administration, and materiel. Interoperability: The ability of materiel systems, units, or forces to provide services to, and accept services from, other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.

Supply support
Management actions, procedures, and techniques required to determine, acquire, catalog, receive, store, transfer, issue, and dispose of principal and secondary items. Includes provisioning for initial support as well as for replenishment supply support.

Supportability
That characteristic of a system and its support system design that provides for sustained system performance at a required readiness level when supported in accordance with specified concepts and procedures.

Supportability analyses (SA)
A wide range of related analyses that should be conducted within the system's engineering process. The goals of supportability analyses are to ensure that supportability is included as a system performance requirement and to ensure

that the system is concurrently developed or acquired with the optimal support system and infrastructure. Examples of these analyses are repair level analysis, reliability predictions, reliability-centered maintenance (RCM) analysis, failure modes, effects and criticality analysis (FMECA), and LCC analysis.

Support equipment
All ancillary and associated equipment (mobile or fixed) required to operate and support a materiel system, including ASIOE and component items such as trucks, air conditioners, generators, ground-handling and maintenance equipment, tools, metrology, calibration and communications equipment, test equipment, and automatic test equipment with diagnostic software for both on- and off-equipment maintenance. Incorporates the planning and acquisition of support necessary for the operation and sustainment of the support and test equipment itself. Also includes additional support equipment required due to the aggregation of the new system into high organizational-level densities, such as additional line haul fuel trucks or ammunition carriers.

System readiness objectives (SRO)
Measures relating to the effectiveness of an operational unit to meet peacetime deployability and wartime mission requirements. Considers the unit set of equipages and the potential logistics support assets and resources available to influence the system operational readiness and sustainability. Peacetime and wartime SRO will differ due to usage rate, operational modes, mission profiles, and operational environments. Examples of SRO include operational availability at peacetime usage rates, operational availability at wartime usage rates, sortie generations per given timeframe (aircraft), and maximum administrative and logistics downtime (intermittent missions). Relates quantitatively to materiel system design parameters and to system support resource requirements.

System support package (SSP)
The set of support elements planned for a system in the operational (deployed) environment provided before and tested and evaluated during technical T&E and user T&E to determine the adequacy of the planned support capability.

Technical data
The communications link between people and equipment. Specifications, standards, engineering drawings, task analysis instructions, data item descriptions, reports, equipment publications, tabular data, computer software documentation, and test results used in the development, production, testing, use, maintenance, demilitarization, detoxification, and disposal of military components and systems. Used in designing and executing an ILS program. Computer programs, related software, financial data, and other information relating to contract administration are not technical data.

Testability
A design characteristic that allows the functional or operational status of a unit and the location of any faults within the unit to be confidently determined in a timely fashion. The status of a unit refers to whether the unit is operable, inoperable, or degraded. Testability applies to all hardware levels of indenture (device, board, equipment, or system). To achieve testability goals, attention must be paid to all design indenture levels and to the integration of test and diagnostic strategies between these levels. The application of testability to the design has impacts in all test activities—manufacturing test in the factory environment, operational test during mission phases to determine overall mission capability, and maintenance testing at all maintenance levels or echelons as driven by the maintenance concept requirements.

Test, measurement, and diagnostic equipment (TMDE)
A system or device that can be used to evaluate the operational condition of a system or component to identify or isolate any actual or potential malfunction. Diagnostic and prognostic equipment, automatic and semiautomatic equipment, and calibration test and measurement equipment, whether identifiable as a separate end item or contained within the system.

Total ownership cost
The sum of all financial resources necessary to organize, equip, and sustain military forces sufficient to meet national goals in compliance with all laws, DOD policies, all standards in effect for readiness, safety and quality of life, and all other official measures of performance for DOD and its components. (This includes costs to research, develop, acquire, own, operate, and dispose of defense systems, other equipment and real property; costs to recruit, retain, separate, and support military/civilian personnel; and all other DOD business operations costs.)

Training aid
Generic term referring to any item developed, procured, or fabricated for the purpose of assisting in the conduct of training and process of learning (for example, models, displays, slides, books, and pictures).

Training and training devices
The processes, procedures, techniques, and equipment used to train personnel to operate and support a system, including individual and crew training, new equipment training, sustainment training at gaining installations, and support for the TDs themselves.

Training device
A three dimensional object and associated computer software developed, fabricated, or procured specifically for improving the learning process. Training devices are justified, developed, and acquired to support designated tasks in developmental or approved individual and collective training programs, soldier manuals, military qualification standards, or Army training and evaluation programs. Training devices are categorized as either system or non-system devices. A system training device is designed for use with one system. A non-system training device is designed for general military training or for use with more than one system.

Transportability
The inherent capability of an item to be moved efficiently by towing, self-propulsion, or carrier, using equipment that is planned for the movement of the item via rail, highway, water, and air.

User
The MACOM designated to receive the system from the MATDEV for accomplishing an assigned operational mission under a TOE, TDA, or other enabling document.

Section III
Special Abbreviations and Terms
This section contains no entries.

USAPD

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