DEPARTMENT OF THE ARMY
ASSISTANT SECRETARY OF THE ARMY
ACQUISITION LOGISTICS AND TECHNOLOGY
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

18 AUG 2005

SAAL-ZL

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Performance-Based Logistics (PBL) Business Case Analysis (BCA) Policy

Purpose. The purpose of this memorandum is to publish initial U.S. Army policy guidance for the conduct and use of the BCA in support of a 'best value' assessment of PBL support strategies.

Applicability. Program Executive Officers (PEOs) and Program Managers (PMs), in conjunction with appropriate U.S. Army Materiel Command (AMC) Life Cycle Management Commands (LCMCs), U.S. Training and Doctrine Command (TRADOC) schools/centers, systems managers (TSMs), combat developers, and other PBL stakeholders will ensure their PBL BCAs adhere to the following guidance. The TRADOC and AMC will be part of the collaboration, validation, verification, and review process to ensure the operational and economic concerns of the user/warfighter and sustainment community, respectively, are appropriately addressed in the BCA/product support strategy (PSS).

This policy applies immediately to all Army Acquisition Category (ACAT) programs or joint/other programs where U.S. Army is the lead service and/or the program will transition to the U.S. Army. For joint programs where the U.S. Army is a participant, lead service policies for BCAs will be followed unless it conflicts with U.S. Army requirements or other arrangements are agreed upon. Service cost centers will validate their portion of the BCA but the lead service will consolidate and integrate the cost position. Those programs that have already completed their BCA, submitted their BCA for approval, and/or have already passed Milestone (MS) C will follow this guidance when the BCA is next validated and/or updated in accordance with (IAW) this policy as outlined in the validation/update section.

Background. 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 states that within statutory limitations, support concepts for weapon systems will 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. In DoD Directive 5000.1, PBL is the preferred sustainment strategy for weapon system product support that employs the purchase of support as an integrated affordable performance package designed to optimize system readiness. The objectives of PBL include optimizing total system availability while minimizing cost and logistics footprint. A prerequisite to the application of PBL is completion of a BCA, which is a structured methodology that considers processes, resources, and feasible alternative courses of actions, such as contractor logistics support (CLS), organic support, or a combination of support options that will determine if a system is a candidate for PBL.

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 will 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.

Policy. The PBL BCA is designed to identify costs and weapon system/ warfighter benefits that the DoD and the Department of Army (DA) will realize through the initiation of PBL PSSs. This analysis will 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. In other words, it aids the decision-maker in deciding whether to implement a proposed product support arrangement or not by comparing the Government's costs and benefits to and within the associated performance benefits of each option. The PEOs, PMs, and all parties collaborating on the development of the PBL PSS are reminded that PBL does not necessarily equate to CLS.

It is the U.S. Army policy that costs and benefits are considered for all ACAT programs that expend DA resources. It is also policy that all new ACAT I and II programs will consider PBL as the preferred product support strategy. The ACAT III programs will consider PBL at the PEO/PM's discretion but will 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 below.

ACAT Threshold	Collaborate and Validate Verify and Review	BCA Approval*
ACAT I	TRADOC, LCMC, DLA DA/DASA (ILS) Staff, HQ AMC, DASA (CE)	AAE
ACAT 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**

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

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

The PEOs/PMs will first use (as a minimum) the Management Analysis Criteria and Army Boundaries and Constraints listed at Enclosure 1 to determine if PBL is a possible product support alternative for their program. Those systems/programs deemed operationally feasible will 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, the PEO/PM will use the DoD Product Support Strategy Business Case Analysis Guiding Principles (also listed at Enclosure 1) and the BCA Format and Considerations shown at Enclosure 2 in preparing their BCA. The output of this process can be a feasibility (Type 1) BCA and/or a formal (Type II) BCA.

a. Feasibility (Type I) BCA. A Type I BCA is a short BCA that addresses the best estimates of functional process costs and benefits and should 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 should begin prior to MS A and is further refined for initial submission to the PEO/LCMC prior to MS B. See BCA format at Enclosure 2.

b. 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 System Development and Demonstration (SDD) Phase. The initial formal (Type II) BCA should be completed prior to MS C and/or contract award based upon detailed design.

Formal economic analysis (EA) must adhere to the Office of Management and Budget, DoD, and DA regulations and guidance on conducting economic type analyses. Records created as a result of the BCA development process must be managed according to Army document management guidance.

Responsibilities. Enclosure 3 outlines the BCA validation, review, and approval responsibilities for all major PBL BCA stakeholders. The stakeholders include the TLCSM Core Team made up of the PM(s), TRADOC, Major 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 Deputy Assistant Secretary of the Army for Acquisition, Logistics and Technology (DASA (ILS)), Deputy Assistant Secretary of the Army for Cost and Economics (DASA (CE)), Deputy Assistant Secretary of the Army for Defense Exports and Cooperation (DASA (DE&C)), Headquarters 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 Defense Logistics Agency (DLA). The Approval Team consists of the DASA (ILS) and the Army Acquisition Executive (AAE).

Process Flow and Life Cycle Framework. Enclosure 3 also 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.

Initial PSSs for ACAT I and II programs will be developed by the designated Supportability IPT (SIPT) and/or product support manager (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), etc.). The PSS will include definition of the metrics that will be used to define a program's ability to meet future logistics and operational performance requirements. The U.S. Army standard sparing to availability models that optimize support prior to fielding based on the materiel developer's detailed design considerations will be considered for use after MS B and permit supportability to be integrated into the systems engineering process, aid in PBL PSS implementation, and emphasize

Reduction of Total Ownership Costs (RTOC). The DLA will provide assistance in gathering data and information associated with DLA products and services when applicable to the scope of the potential PBL PSS and BCA.

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 PMs/PEOs will 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 will 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. The verified/approved BCA then becomes part of the PBL PSS Package (PSSP) that the AAE will approve. The program PBL PSSP will consist of verified/approved:

a. Description
b. Core Depot Assessment
c. Supportability Strategy
d. BCA
e. Draft PBA(s)
f. Budget/Funding Considerations

Validation/Update. The BCA will 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 five years. The approval authority for such changes/updates to the BCA will be the original approval authority. Also, all programs that involve nonuse of a Standard Army Management Information System/Single Army Logistics Enterprise from a portfolio management perspective require Director, Army Logistics Enterprise Integration approval.

See Enclosure 4 for lists of applicable and required regulations and guidance for economic analysis, documents management, and general BCA references/resources. A comprehensive PBL BCA Guide under development will augment this policy. This policy guidance will also be incorporated into the next update to the Army PBL Implementation Guide.

The points of contact for this action are Mr. Larry W. Hill, DSN 664-7450, commercial (703) 604-7450, or e-mail: larry.w.hill1@us.army.mil and Mr. Michael D. Connor, DSN 664-7370, commercial (703) 604-7370, or e-mail: michael.d.connor@us.army.mil.

Claude M. Bolton, Jr.
Assistant Secretary of the Army
(Acquisition, Logistics and Technology)

Enclosures

DISTRIBUTION:
COMMANDERS:
U.S. ARMY EUROPE
U.S. ARMY FORCES COMMAND
U.S. ARMY MATERIEL COMMAND
U.S. ARMY TRAINING AND DOCTRINE COMMAND
EIGHTH U.S. ARMY
U.S. ARMY CORPS OF ENGINEERS
U.S. ARMY MEDICAL COMMAND
U.S. ARMY PACIFIC COMMAND
U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND
U.S. ARMY SPECIAL OPERATIONS COMMAND
SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND
U.S. ARMY INTELLIGENCE AND SECURITY COMMAND
U.S. ARMY CRIMINAL INVESTIGATION COMMAND
U.S. ARMY AMCOM LIFE CYCLE MANAGEMENT COMMAND
U.S. ARMY AMMUNITION LIFE CYCLE MANAGEMENT COMMAND
U.S. ARMY CECOM LIFE CYCLE MANAGEMENT COMMAND
U.S. ARMY TACOM LIFE CYCLE MANAGEMENT COMMAND
U.S. ARMY FIELD SUPPORT COMMAND
U.S. ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND

PROGRAM EXECUTIVE OFFICERS:
AMMUNITION
AVIATION
COMMAND, CONTROL AND COMMUNICATIONS (TACTICAL)
CHEMICAL AND BIOLOGICAL DEFENSE
COMBAT SUPPORT AND COMBAT SERVICE SUPPORT
GROUND COMBAT SYSTEMS
ENTERPRISE INFORMATION SYSTEMS

DISTRIBUTION: (CONT)
INTELLIGENCE AND ELECTRONIC WARFARE AND SENSORS
MISSILE AND SPACE
SOLDIER
SIMULATION, TRAINING AND INSTRUMENTATION

PROGRAM MANAGERS:
BALLISTIC MISSILE DEFENSE
CHEMICAL DEMILITARIZATION
JOINT SIMULATION SYSTEM
UNIT OF ACTION

CF:
VICE CHIEF OF STAFF, ARMY
ASSISTANT SECRETARY OF THE ARMY (ACQUISITION, LOGISTICS AND TECHNOLOGY), ATTN: SAAL-ZR, SAAL-ZP, SAAL-ZN, SAAL-ZS, SAAL-ZT, SAAL-ZM, SAAL-ZC, SAAL-ZG
ASSISTANT SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT AND COMPTROLLER)
DEPUTY CHIEF OF STAFF, G-3
DEPUTY CHIEF OF STAFF, G-4
DEPUTY CHIEF OF STAFF, G-8
DIRECTOR, DEFENSE LOGISTICS AGENCY

MANAGEMENT ANALYSIS CRITERIA

- Program is currently supported via traditional sustainment strategy through organic or commercial means.
- Programs involving minimal logistics requirements, such as 'wooden round' armaments or products under commercial warranties, should maintain existing support strategies
- There shall be a minimum of five (5) years useful life expectancy for the system in the DoD inventory.
- 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.
- The cost per operational unit of performance (i.e., 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.
- The risks associated with implementation of a PBL strategy shall be determined to be low to minimum.
- All costs associated with completing the formal BCA shall be considered an investment to attain future savings.

ARMY BOUNDARIES AND CONSTRAINTS FOR IMPLEMENTATION OF PBL

- Be operationally executable and not infringe on the commander's ability to execute missions.
- Comply with Army policy on Contractors Accompanying the Force set forth in Army Regulation 715-9.
- Maintain total asset visibility of total system to include supporting equipment and spares while providing total asset visibility to the Army In-Transit Visibility (ITV) network. Ensure that contractors feed ITV servers with data in the required format.
- 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, the Deputy Assistant Secretary of the Army for Integrated Logistics Support (DASA (ILS), SAAL-ZL will be notified of any intent to use a different distribution system prior to decision.
- Use current Standard Army Management Information Systems (STAMIS). Where current STAMIS cannot be used, PBL must feed needed information into the STAMIS systems to provide transparency and to preclude adverse impacts on readiness and availability.
- 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.
- Be compatible with emerging doctrine for sustainment operations such as two-level maintenance.

PRODUCT SUPPORT STRATEGY (PSS) BUSINESS CASE ANALYSIS (BCA) GUIDING PRINCIPLES

- All PSS BCAs will be based on warfighter-stated performance requirements, documented in Performance-Based Agreements (PBAs).
- PSS BCAs will be conducted to assess changes from existing product support strategies for current (legacy) systems and to support product support strategies for new weapon systems. Over time, BCAs will need to be updated or repeated to validate the approach taken and to support future plans.
- PSS BCAs will evaluate all services or activities needed to meet warfighter performance requirements using 'best value' assessments. Best value is the expected outcome that provides the greatest overall benefit in response to requirements. The assessments will include cost per output, performance measures/metrics, capitalization/asset ownership, size of footprint, reliability growth, life cycle costs, Diminishing Manufacturing Sources (DMS) management, obsolescence/obsolescence mitigation plan, technology insertion, and risk management. The value added in terms of benefits and outcomes of all services and activities will be identified.
- Initial PSS strategies for ACAT I programs will be developed prior to MS B, including definition of the metrics that will be used to define a program's ability to meet future logistics and operational performance requirements. These strategies shall provide the foundation for detailed BCAs to be completed prior to MS C and/or contract award that are based on the detailed design. BCA estimates shall be accomplished at significant subsystem/repairable item levels that provide the information necessary to initiate cost-effective maintenance and repair actions.
- PSS BCAs will continue though life cycle process with oversight to ensure reassessment at appropriate trigger points, including life cycle costs (LCC) updates; Reduced Total Ownership Costs (RTOC) activities; and/or continuous improvement actions. Evaluate PSS performance at appropriate decision points.
- The cost and performance baselines for current (legacy) systems will be determined by historic experience and costs. The cost baseline will include all appropriate government and/or contractor costs, including indirect costs, overhead, and handling fees. Consideration shall be given to the cost, performance, and risk aspects of all ten (10) elements of Integrated Logistics Support (ILS). For new system BCAs, detailed MS C baselines shall be established considering reliability and maintainability projections at the major system repairable level. These individual estimates shall be sufficiently detailed to provide the basis for contractual actions leading to implementable support strategy actions. Although these estimates shall sum up the validated Army Cost Position, Cost Analysis Improvement Group (CAIG) risk concerns must be considered within the overall process.
- PSS BCAs will reflect operational requirements and existing DoD guidance for contractors on the battlefield, 10 U.S.C. Section 2464 (the necessity for the Department to maintain core logistics capabilities), 10 U.S.C. Section 2466 (the limit on contracting for depot level maintenance), ability to

synchronize with the Defense Transportation System, and flexibility to support contingencies and surges. The BCA will specifically consider the full range of minimum and maximum essential logistics capabilities (peacetime to full mobilization and wartime requirement), existing infrastructure, and common consumables support.

- PSS BCAs will include risk assessment of expected performance, supply chain responsiveness, and surge capabilities. Consideration of performance and cost risk will explicitly consider contract versus organic risk management, financial accountability, and recovery actions. The risk assessment should address the probability of confidence level of the following events occurring: poor performance, cost growth, extended labor disputes, and change over in product support integrator/provider(s) (PSI/PSPs).
- For all PSS contracts, warfighter requirement(s) will be linked to metrics and metrics to contract incentives. For all organic PSS PSIs, warfighter requirement(s) will be linked to metrics and metrics to PBAs between the Program Manager and the organic PSIs.
- PSS BCAs will be developed using information provided by all appropriate product support stakeholders, including government and industry providers. In order to maintain a competitive environment, industry participation will be determined in accordance with the Federal Acquisition Regulation (FAR), Defense Federal Acquisition Regulation (DFAR), and any other appropriate federal or agency policy or regulation.
- PSS BCAs will be conducted using analytical tools approved by the Army.

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

BCA CONSIDERATIONS

Executive Summary

- Contains the whole case in miniature:
    - Subject, purpose, scope
    - Important objectives
    - Key financial results
    - Significant non-financial impacts
    - Major assumptions that control results
    - Conclusion and recommendations
- Convey in a few, terse, well-written sentences. It should not be more than one page in length.
- Write carefully; some recipients will *only* read the executive summary.

Section 1 – Introduction/Overview

- *Subject*. Every case needs an explicit *subject* statement describing what the case is about. It is critical; it helps shape or define everything else in the case.
- *Purpose*. The reader/decision-maker must know specifically *what* the case will be used for and *how* it will be used.
    - *Problem Identification*.
        - For current (legacy) systems, describe the current sourcing/product support situation and the problem that needs to be resolved by the business case initiative.
        - For new systems, describe the performance requirements established by the warfighter and summarize the product support alternatives considered.
    - *Issue(s) Assessment*. Provide an assessment of the issues associated with the current means of sourcing/product support including (as appropriate):
        - Trend descriptions/extrapolations
        - Analysis of conditions
        - Identification of root causes
        - Market research
        - Projection of developments
        - People and organizations that are impacted (including customers and stakeholders)
        - Questionnaires from customer,
        - Information from customer representatives
        - Audit findings
        - Modeling
        - Data arrays
        - Other means of describing or presenting the problem
    - *Performance Measure/Metrics Identification*. Identify the DoD and DA performance measures/metrics or goals that relate to the

warfighter's performance requirements; discuss the performance requirements that are not being met. If there are no established measures/ metrics, explain why there is a need to improve performance.
    - *Data Scope.* Use information that is available to describe the problem; generate new data when it is cost effective.
- *Objectives.* Objectives describe the desired end state, regardless if the status quo exists, remains, or is replaced by another alternative. Objectives are the reason for considering a decision in the first place.
    - *Problem Analysis.* Analyze the problems related to the sourcing/product support and discuss what needs to be changed to resolve them.
    - *Goals and Objectives Statement.* State the goals, objectives, and desired outcomes or outputs of the alternatives and address the consequences of not pursuing the initiative. Define and quantify the goals and objectives as clearly as possible as these goals and objectives will be used as your selection criteria for choosing the most appropriate alternative.
    - *Strategic Alignment.* State, as appropriate, how these improvements align with Defense Planning Guidance (DPG), DoD Strategic Planning Guidance (SPG), the DoD Strategic Plan, DA Strategic Goals and Objectives, DA/PEO/PM Balanced Scorecard, and/or associated Business Plans.
- *Background.* Self-explanatory.
- *Organization.* Self-explanatory.

Section 2 - Methods and Assumptions

- *Major Assumptions.* Assumptions predict, simplify or clarify. A case may predict future financial results or states that could change over time. Assumptions often simplify information that would be otherwise difficult to portray or collect, such as sensitive or privacy act information. Clarification is used to scope the case simply to keep from assuming all possible contingencies, and also to establish appropriate comparisons.
    - *Discussion.* Discuss the assumptions made when describing the problem with the current sourcing/product support method (include such considerations as workload, demand, 'color of money', budget flexibility, etc.) as well as all assumptions made regarding the stated alternatives. Since analysis deals with costs and benefits occurring in the future, assumptions must be made to account for the uncertainties. Sunk costs and realized benefits should be discussed in the assumptions.
    - *Judgment.* Include a judgment whether assumptions are strong or weak, and explain why (include narrative and quantitative justification, if possible).
    - *Assessment.* Assess what percentage of the uncertainty underlying the assumption can be quantified, what percentage is due to other factors, and does this affect its credibility for use.

    - *Data Sources*. State if any data has been extrapolated or estimated. Document the sources of the data.
- *Scope and Boundaries*. Scope and boundaries define the range of coverage encompassed by the case along several dimensions. Most cases have a "time" (costs over fiscal years) dimension. Others include geography/location, organization or function, and technology.
    - *Requirements and Constraints*. Discuss the requirements and constraints of the analysis. These should include the following considerations over the projected life of the system:
        - Time
        - Cost
        - Quality/performance
        - Budgetary impacts
        - Legal/legislative
        - Internal review
        - Ethical
        - Political
        - Technical
        - Social
        - Institutional
        - Economic
        - Environmental
        - Other requirements or constraints
    - *Small Business*. Include any requirements or constraints related to the consideration of small businesses.
- *Financial Metrics Used and Defined*.
    - Net Present Value (NPV)
    - Benefit Cost Ratio
    - Payback Period
    - Break Even Point
    - Return on Investment (ROI)
    - Internal Rate of Return (IRR)
    - Total Ownership Costs (TOC).
    - Discounted Cash Flow Time Value of Money Considerations:
        - Current or constant dollars (base year)
        - Discounted dollars
- *Analysis Methodology*. State and define the analysis model(s) and/or methodology used in the business case.
- *Cost and Benefit Model Used*. The cost and benefit model rationale provides a direct means of assuring the case includes all relevant line items, and only relevant line items. It is an organized list of cost and/or benefit items arranged in cells.

Section 3 – Business Impacts

- *Description of Alternatives*. Identify and describe feasible alternatives to the current sourcing/support method and include any assumptions specific

to each alternative. The alternatives considered should include organic, commercial, and partnership arrangements. See DOD Directive 5000.1, paragraph E1.1.17. A pre-proposal conference may be necessary to obtain input from potential providers, improvements, and new or alternative approaches to acquiring the requirement.

  - *Status Quo.* Describe the status quo as the first alternative, if applicable.
  - *Each Alternative*. Provide a detailed description of each alternative's scope, cost, quality/performance expectations, a schedule for implementation, and the expected timeframe for achieving identified goals and objectives. A brief discussion of each alternative is adequate, but the discussion should be detailed enough to serve as a foundation for a contractual arrangement or in the case of an organic PBL PSI, a Memorandum of Understanding (MOU) or PBA. As part of the analysis, cost(s) for the PSI should be identified for each alternative support strategy described.
  - *Scope*. Describe the alternative in terms of what it is intended to accomplish and what it will not accomplish. For uncertain outcomes/outputs, show the expected variance if possible and estimate the probability of occurrence. Uncertainty may be discussed quantitatively or can use relative measures to describe the probability of occurrence such as "high, medium, low".

- *Cost and Benefits over Time/Financial Analysis*. Costs include all expenditures required to maintain the current sourcing method as well as the costs associated with implementing each alternative (e.g. functional activity costs, operations costs, transportation costs, etc.).
  - *Savings Estimate*. For a Type I BCA, an estimate of the potential savings is included; for a Type II BCA, the cost/price proposal information is analyzed and compared with the status quo/projected support costs to determine the most efficient and effective support.
  - *Life Cycle Costs (LCC)*. Identify the life cycle cost of the initiative by fiscal year, including any disposal requirements and costs of risk mitigation. Include the cost of any existing assets that are used since there is an opportunity cost involved. Identify the sources of your data. Include the cost(s) of any new or commercial enterprise management system necessary to interface with the Army STAMIS/ SALE if existing Army systems will not be used. As required, provide justification for the decision.
  - *Data Relationship*. Relate the data across alternatives as closely as possible. Identify any unavoidable differences between data comparison, such as one alternative using actual costs over a year and another showing actual costs over a period of months that are then extrapolated over the same time period.
  - *Timing*. Consider the timing of the costs and benefits. Timing relates costs and benefits over the life cycle of alternatives to allow systematic comparison of Benefit/Cost Ratios (BCRs) or ROIs among alternatives in compliance with the discount rates required in OMB Circular A-94. Average annual cost may be identified for

steady recurring operational cost once the initiative has been implemented or for initiatives that involve minimal up front costs. Solicit input from DLA when DLA products and services are applicable.

- *External Impact*. Impacts outside DA may not be quantifiable, but at a minimum they should be discussed. Identify separately impacts that occur outside DA (Services, other agencies such as DLA, states, foreign governments, non-governmental entities, etc.).
- *Schedule*. Provide a MS chart, such as a Plan of Action and MS, or a Gantt chart that shows start and completion dates, the timeframe for each stage in the life cycle of the sourcing/product support decision, and other important events required to complete the alternative and their dates. After the initiative is implemented, state at what point in time each initiative objective will be achieved. The planned timeline needs to be in enough detail to serve as a baseline against which implementation and achievement of initiative objectives can be compared.
- *Quality/Performance Capabilities*.
  - *Key Features*. Describe the key features of the initiative in terms of quality and performance. Performance characteristics generally relate to improved organizational productivity and/or value added events enabled by the chosen alternative (such as improved inventory, or higher production of the organization's primary output, reduced logistics response time and/or time definite delivery for requisitions, etc.).
  - *Performance Capabilities*. Describe the performance capabilities for the supply chain management strategy (including resupply and retrograde), repair/overhaul, distribution management, and transportation. The capabilities should also be stated as metrics against which the implemented initiative can be compared.

- *Non-Quantitative Factors, Criteria, and Rationale*. Non-quantifiable factors, when possible, should be compared using weighting and/or ranking schemes against common decision criteria.
  - *Issue Discussion*. Discuss any political, social, economic, ethical, and legal/legislative issues, including compliance of the alternative with public policy and legislation and requirements for Congressional notification or review. Issues might include such things as:
    - Impacts on foreign nationals
    - Foreign military sales (FMS)
    - Status of Forces Agreements
    - Small business
    - A-76, etc.
- *Comparison of Alternatives (Quantitative and Qualitative)*

- *Advantages and Disadvantages of Each Alternative*. The advantages and disadvantages associated with each alternative under consideration should be quantified whenever possible so they may be included in cost benefit calculations. When quantification is not possible, the BCA should still attempt to document significant qualitative advantages and disadvantages. Qualitative advantages or disadvantages should be discussed in narrative format, with justification provided for all cited.
- *Compare the quantitative and qualitative costs and benefits* identified in Advantages and Disadvantages of Each Alternative above against the selection criteria identified in Purpose of the Initiative and Goals and Objectives above.
    - Determine the probability distributions of benefits, costs, and net costs or benefits.
    - Identify any screens or filters used in the analysis (eliminating alternatives due to cost, time needed for implementation, etc.).
    - Discuss any limitations/qualifications in the analysis.
- *Logistical Benefits.* Document the logistical benefits of each alternative considering the following:
    - Reduced administrative lead time
    - Reduced production lead time
    - Reduced inventory
    - Reduced customer wait time
    - Increased supply availability
    - Improved readiness
    - Value-added provider services such as forecasting, inventory management, and quality
    - Reduced manual purchase requests (PRs)
    - Configuration control management
    - Distribution management
    - Logistics Assistance Representatives (LARs)/Field Service Representatives (FSRs) usage
    - Transportation services
- *Supply Chain Management (SCM) Impact*. Discuss the impacts of each alternative on the SCM system and how well each alternative can be incorporated into the larger system of the supply chain.
    - *Inventory Control Points (ICP)* – Specify the impact to other ICP operations and resources. Examples of operations impact are supply availability, weapon system readiness, backorders, purchase request pipeline, customer wait time, long-term contracts, and leveraged buying power across systems, Services/agencies, and coalition partners for repairable components and consumable parts. Additionally, there may be organizational and manpower level impacts. Examples of resource implications are increase/decrease in sales and cost. Identify the cost(s) of not utilizing existing

organic infrastructure or assets (i.e., residual values from past expenditures).

- *Depot Supply Operations* – Specify the impact to depot supply operations including inventory levels, distribution processes, and infrastructure requirements. Include impacts to workload projections such as receipt processing, wholesale returns, high price materiel release orders (MROs), routine MROs, stock location, inventory accuracy, materiel denials, space utilization, transportation, facilitization, test/repair equipment, etc. Additionally, there may be organizational and manpower level impacts.
- *Depot Repair/Maintenance Operations* – Specify the impact to depot repair/maintenance operations including inventory levels, distribution processes, and infrastructure requirements. Comply with statutory requirements of Sections 2464, 2466, and 2469 of Title 10 of the US Code (USC).

- *Security Cooperation Support* – Specify how alternative impacts current or anticipated transfers to international Security Cooperation customers.
- *Customer Input*. Discuss customer input used in establishing initiative requirements and functions.
  - Specify impact to customers' current operations (e.g., reduction in inventory at the customer level, reduced logistics response time, and improved time definite delivery, etc.).
  - Discuss the impact of each alternative on stakeholders and their preferences.
  - Discuss any problems or benefits related to surge and sustainment requirements.
  - Discuss any considerations, problems, or benefits related to the flow and synchronization of materiel flow into the theater.
- *Future Changes*. Describe difficulties with changing/adjusting the initiative in the future as the situation changes. Can the alternative be modified to adjust to a changing situation? What is its upgrade/downgrade capability?
- *Disruptions*. Identify the type and extent of any disruptions that the alternative would cause.

Section 4 – Sensitivity and Risks

- *Sensitivity Analysis*. Sensitivity analysis attempts to explain what happens if assumptions change or are wrong. How sensitive are your financial model's overall outputs, to changes of individual inputs? If this cost changes, how does it affect the "bottom-line". A sensitivity analysis should always be performed on feasible alternatives to determine how much other alternatives must change in certain key areas or variables to be

preferred over the best alternative. Sensitivity analysis should always be performed when (1) the results of the analysis do not clearly favor any one alternative, and (2) there is uncertainty about an assumption that can impact the estimate of costs and benefits.

- *Identify the factors* that have been determined to warrant sensitivity analysis, and describe the approach and assumptions used for conducting the sensitivity analysis. Uncertainties should be accounted for in the analysis by testing the sensitivity of the analysis results using various factors. Any limitations of the analysis due to uncertainty or bias regarding the data should be identified and discussed. Examples of factors to consider are:
    - The effects of alternative assumptions on:
        - Program objective
        - Requirements
        - Operations
        - Residual value - the estimated value of a capital asset at the end of its useful life that depends on a careful assessment of the competitive position of the organization at the end of the forecast period.
    - The effects of a shorter or longer economic life.
    - Changes in the magnitude and timing of cost or benefits.
- *Comparison*. A matrix may be used to provide a display for comparing results; preferences may be ordered (such as high, medium, or low), rank ordered (1-5), or other means of ordering when quantitative factors are not available for ranking.

- *Risk Analysis*. Risk analysis attempts to predict the likelihood of an event occurring, and the impact to the case outcome. For some situations, risk analysis can occupy the most volume and level of effort of the entire business case development.
    - *Identification*. Identify the risks that might occur with each sourcing alternative that could keep the alternative from achieving the initiative's objectives. For example, several types of risks that might occur include:
        - Optimizing performance and/or support for the specific system, subsystem, or component at the expense of other systems, subsystems, or components across the Army, other Services/agencies, and coalition partners, to include adverse impact on leveraged buying power and joint total asset visibility.
        - New process improvement not performed traditionally
        - Safety
        - Health
        - Labor
        - Loss
        - Technical (including obsolescence)
        - Interface points
        - Hand-offs of responsibility

        - Cross-functional involvement
        - Social
        - Political
        - Business
        - Legal
        - Environmental, etc.
    - *Impact*. Identify the impact that the risk is likely to have on the alternatives and for resolving the problem or issue.
    - *Cause*. Discuss the cause of the risk. Assess the magnitude of the impact of the risk on the initiative in terms of additional time/schedule, cost, and performance/quality. Assess the probability of the risk occurring.
    - *Management/Mitigation*. Develop risk management strategies. There are four possible strategies for risk management/mitigation:
        - Risk assumption (accept risk).
        - Risk avoidance (do not accept the alternative because it contains too much risk, or eliminate the risk).
        - Risk control (institute risk mitigation measures such as incorporating into the contract incentive/award fee or disincentive elements; selecting a specific type of contract including firm fixed price, fixed price incentive, fixed price with economic price adjustment; encouraging public-private partnerships and use of organic sources of support, not only for the specific system, subsystem, or component(s); or other mitigation measures either before the risk occurs or by developing and implementing contingency plans if the risk materializes).
        - Risk transfer (transfer or share the risk by using such vehicles as insurance, warranties, contractual agreements where the contractor assumes the risk, or other arrangements). Specify who bears the risk, who is affected by the risk, and who is in the best position to mitigate the risk.
    - *Acceptance*. State whether the risk and its consequences will be accepted, whether the risk will be avoided by not accepting the alternative or eliminating the risk, or whether the risk can be controlled or transferred.
    - *Control*. Identify risk control (including level of management control that will be exercised to oversee the entire acquisition process) and risk transfer strategies, the probable effectiveness of each, the cost, people, and additional time needed for risk mitigation, and any other considerations or requirements for managing or transferring the risk.

Section 5 – Conclusions and Recommendations

- *Conclusions*. Conclusion should state the complete case tersely, but completely, using supporting evidence from the preceding sections. Effective conclusions are organized around the objectives stated up front in the case. Point out any surprising or unexpected results or findings that could be misinterpreted.
- *Recommendations and Rationale*. Recommendations bring closure to the case.
    - *Rationale*. Summarize the rationale and justification for the recommended product support strategy.
    - *Supporting Information*. Provide the decision-maker with ample information to make an informed decision.
- *Implementation Plan*. Put together an implementation plan to portray how your recommendation becomes reality. Recommend the alternative that maximizes net benefits and is the best overall value to DoD/DA and the customer/warfighter.
    - *Discussion.* Discuss how well the selected support alternative will solve the problems or issues identified and risks and trade-offs along with fulfilling the requirements identified by the warfighter.
    - *Summary*. Summarize the costs, savings, impact to current/future staffing levels, impact to the customer/warfighter, and the effect on other DA activities and defense agencies, such as DLA, that the alternative will have if the initiative is implemented.
    - *Verification*. Describe the metrics that will be used to measure the implementation progress of the support strategy (cost, schedule, performance, scope changes) and the metrics that will be used to measure the success of the initiative in meeting the goals and objectives stated in the selection criteria.
        - *Responsible Organizations(s)*. Provide the name of the organization responsible for verification.
        - *Conflict Resolution of Metrics.* Ensure the metrics used to measure the "implementation progress of the support strategy" and the "success of initiative in meeting goals and objectives in the Selection criteria" are not in conflict. Those used at selection for the goals and objectives which outline the approach to be used for the PBL concept on the program must be supported during implementation by metrics that measure progress toward those goals and objectives."
        - *Measurable Performance*. Ensure the use of measurable performance and supportability effectiveness standards. Examples include, but are not limited to: quality, fill rate, back orders, logistics response time, contractor processing time, customer wait time, time definite delivery, and customer satisfaction. When establishing metrics, ensure that metrics can be directly linked to the performance incentives.
        - *Top-Level Metrics*. Although actual PBL strategies, as implemented, may delineate metrics at levels lower than warfighter top-level measures/metrics (e.g., System

Availability), it is important that the initial identification of performance outcomes be consistent with the five key top-level metric areas outlined below:

- Operational Availability
- Operational Reliability
- Cost per Unit Usage
- Logistics Footprint
- Logistics Response Time

BCA RESPONSIBILITIES

TOTAL LIFE CYCLE SYSTEMS MANAGEMENT (TLCSM) CORE TEAM
"Collaborate, Validate, and Execute"

Program Manager (PM). In accordance with Army PBL BCA Guidance, PMs shall continue to identify potential candidates for PBL and proceed with conducting the BCA to determine feasibility of applying PBL and the alternatives for implementing PBL. The BCA shall be coordinated with and conducted in partnership with Army Materiel Command (AMC) Life Cycle Management Commands (LCMCs), Training and Doctrine Command (TRADOC) Schools and Centers, and the Defense Logistics Agency (DLA). PMs shall:

- Collaborate with the AMC LCMCs, TRADOC Schools and Centers, and DLA to develop potential product support strategies
- Provide validated cost and economic analyses and other cost comparisons to support the acquisition and Planning, Programming, Budgeting, and Execution (PPBE) processes
- Coordinate cost and economic analyses with supporting Major Command (MACOM) cost analysis activities for validation
- Complete BCA with TRADOC, AMC LCMC, and DLA collaboration, review, and then forward completed BCA to PEO
- Validate and update Type II BCAs prior to the exercise of each contract or PBA option period, when there are significant changes during contract performance, and at completion of contract or PBA performance

Training and Doctrine Command (TRADOC)/Major Commands (MACOMS). Before the BCA goes to the PEO for review and concurrence (ACAT I/II) or approval (ACAT III), PM shall collaborate with TRADOC and MACOMs to review the BCA for the warfighter since they are strategic partners in the early training, doctrine, and requirements development for PBL. MACOMs should also review and validate the BCA for currency, reasonableness, completeness, and compliance with DoD and Army guidance in partnership with TRADOC. TRADOC will assist in validating EAs as requested.

Army Materiel Command (AMC) Life Cycle Management Commands (LCMCs). LCMCs shall validate EA portion of PBL BCAs IAW AR 11-18. The LCMCs will also verify EA portion of ACAT III programs for the PEO. LCMCs may request assistance from the TRADOC cost center as available. LCMC Commander should also review entire BCA for compliance with established Army PBL boundaries and constraints before it is submitted to PEO and ultimately Department of Army (DA). LCMC Commanders/PEOs shall review, concur, and submit BCA to DASA (ILS) Policy for ACAT I and II programs. LCMC Commanders/PEOs will approve ACAT III BCAs after pan-Army review and concurrence is received from DASA (ILS) and DA Staff.

Program Executive Officers (PEO). PEO shall review, concur, and submit completed BCA to DASA (ILS) Policy for ACAT I and II programs. PEOs will approve ACAT III BCAs after pan-Army review and concurrence is received from DASA (ILS), DA Staff, and HQ AMC. If the system/program is considered a Family of Systems (FoS) or System of Systems (SoS), the lead PEO/PM and the PEOs/PMs of the different subordinate programs shall collaborate on and review the subordinate BCAs. A 'macro-level' BCA, if necessary, will fall under the oversight of the lead PEO/PM.

INDEPENDENT VERIFICATION AND REVIEW (IV&R) TEAM
"Verify, Review, and Provide Feedback"

Deputy Assistant Secretary of the Army for Integrated Logistics Support (DASA (ILS)). The DASA (ILS) Policy Directorate will staff BCA with DA staff and HQ AMC for pan-Army functional/operational review, Deputy Assistant Secretary of the Army for Cost and Economics (DASA (CE)) for EA verification, and respective internal/independent ILS Directorates (Combat Systems, Support Systems, etc.) for Independent Logistician review. DA Staff and AMC HQs shall provide concurrence/feedback to DASA (ILS) Policy. Once concurrence is received from all required parties, the BCA is submitted through the DASA (ILS) to the Army Acquisition Executive (AAE) for approval as part of the PBL PSS Package (PSSP).

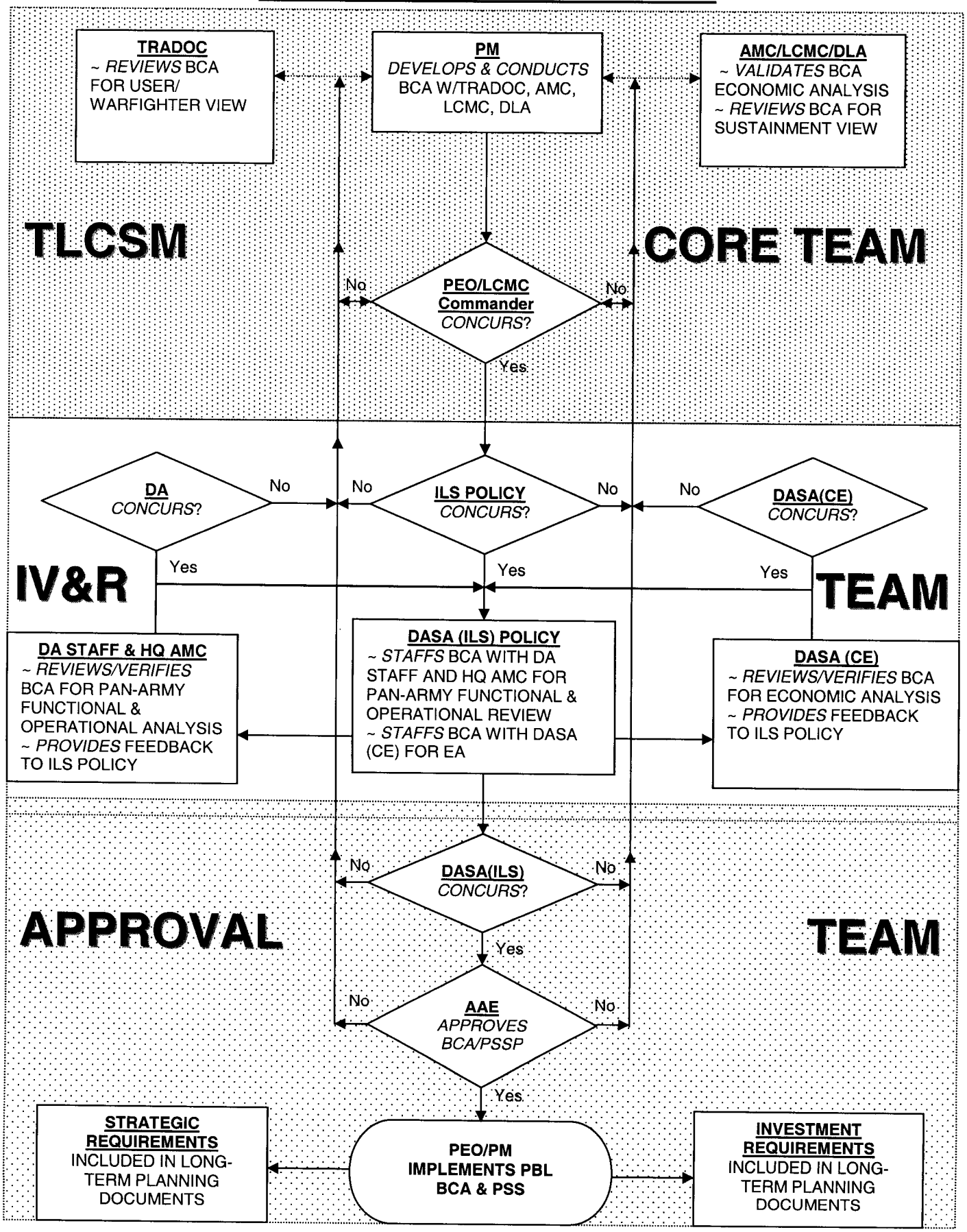
Deputy Assistant Secretary of the Army for Cost and Economics (DASA (CE)). DASA (CE) shall verify cost and EA for Army ACAT I and II programs IAW AR 11-18 and the Army portion of joint/other programs and other cost comparison for currency, reasonableness, and completeness for use in the decision-making or the PPBE process. DASA (CE) will also provide concurrence/feedback to DASA (ILS) Policy concerning EAs.

Deputy Assistant Secretary of the Army for Defense Exports and Cooperation (DASA (DE&C)). As required, DASA (DE&C) shall review Security Cooperation support plans and projected sales for the Army's export activities, including technology transfer, direct commercial sales (DCS), and foreign military sales (FMS).

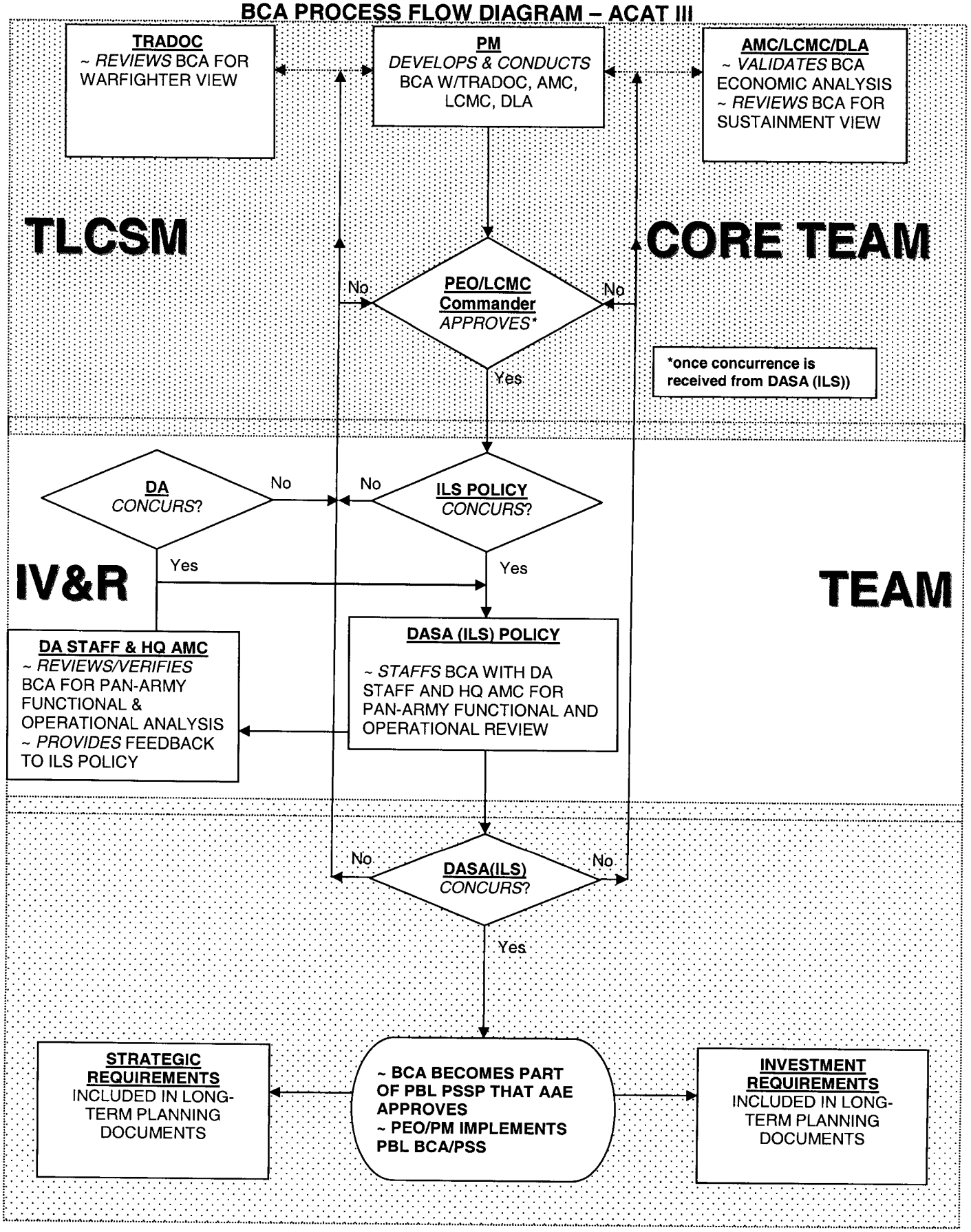
Headquarters, Army Materiel Command (HQ AMC). The HQ AMC shall review and concur on the BCA concurrent with DASA (ILS) staffing.

Other Organizations. As requested/required, the Army Materiel Systems Analysis Activity (AMSAA) shall verify technical analyses for ACAT I and II programs as requested by DASA (CE). The Army Test and Evaluation Command Army Evaluation Center (ATEC AEC) shall also verify technical/operational analyses for ACAT I and II programs as requested by DASA (ILS). The Defense Logistics Agency (DLA) will provide assistance in gathering data and information associated with DLA products and services when applicable to the scope of the PBL PSS and BCA.

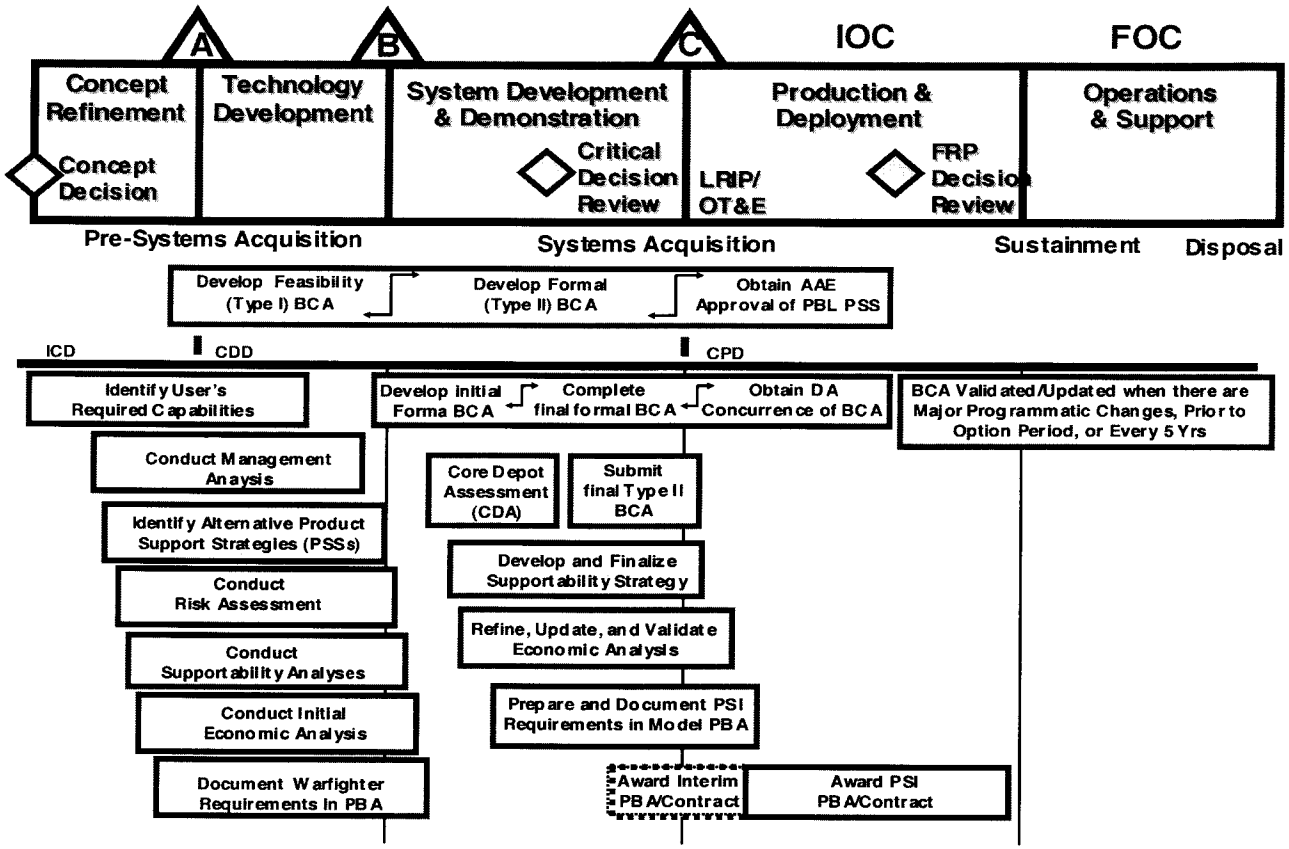
BCA PROCESS FLOW DIAGRAM – ACAT I/II



BCA PROCESS FLOW DIAGRAM – ACAT III



BCA LIFE CYCLE FRAMEWORK



Economic Analysis References

OMB Circular A-94, http://www.whitehouse.gov/omb/circulars/a094/a094.pdf

DoDI 7041.3 Economic Analysis for Decision Making, dated November 7, 1995, www.dtic.mil/whs/directives/corres/pdf2/i70413p.pdf

DoD 5000.4-M Cost Analysis and Procedures Guidance, dated November 16, 1994, http://www.dtic.mil/whs/directives/corres/pdf/50004m_1292/p50004m.pdf

DoD 5000.1. The Defense Acquisition System, dated May 12, 2003, http://www.dtic.mil/whs/directives/corres/html/50001.htm

Army Regulation 11–18, Army Programs: The Cost and Economic Analysis Program, dated 31 January 1995, www.army.mil/usapa/epubs/pdf/r11_18.pdf

Department of the Army Cost Analysis Manual, U.S. Army Cost and Economic Analysis Center, dated May 2002, http://www.asafm.army.mil/pubs/cdfs/cam/CAM.pdf

Document Management References

Army Regulation 25–400–2, Information Management: Records Management: The Modern Army Recordkeeping System (MARKS), dated 1 Oct 2001, https://134.11.61.26/ArchivePub/Publications/DA/AR/AR%2025-400-2%2020011001.pdf

Users Guide, United States Army Records Management and Declassification Agency (USARMDA) Army Records Information Management System (ARIMS) Version 1.4, dated June 04, https://www.arims.army.mil/downloads/ARIMSUsersGuide.exe

General BCA Reference/Resources

Army Economic Analysis Manual, US Army Cost and Economic Analysis Center (CEAC), Feb 01. Manual

Business Case Development Guide, Template, and Spreadsheets. DAU's LogCop Website

Business Case Model For the DoD Logistics Community; A Guide to Business Case Development, Sep '99, DUSD for Logistics. DoD Guide

Defense Acquisition Guidebook, Oct 04 DAU Defense Acquisition Guidebook Homepage

NAVAIR Guidebook Business Case Analysis Investment Initiative, 16 Oct 00. Guidebook

Service PBL Implementation Guide. Army Navy Deskguide

The Business Case Guide, 2nd edition, Marty Schmidt, Solution Matrix. Solution Matrix Website