Business Case Analysis (BCA) Process – Business Initiatives

References: Refer to Enclosure 1.

1. PURPOSE. This instruction:

a. Provides requirements and guidance for developing BCAs related to business initiatives. Business initiatives include organizational changes, policy changes, process reengineering, functional realignments, assumption of missions, etc., and do not include acquisition and information technology initiatives.

b. Is to be used in conjunction with the overarching DLA Instruction “DLA Business Case Analysis (BCA) Process” (Enclosure 1) which is incorporated by reference.

2. APPLICABILITY

This DLA Instruction applies to all DLA Headquarters and field activities.

3. POLICY

a. It is DLA policy that costs and benefits must be considered for decisions that expend DLA resources. Formally documented analysis is required to justify investments. Investments are defined as requirements that are over certain dollar thresholds, have a potential to significantly impact operations, or are considered of importance by decision makers.

b. Per the DoD Financial Management Regulation (FMR), Volume 11B, Chapter 58, Capital Assets, it is imperative that expenditure of funds for investments be justified based on sound analytical evaluation to ensure competitive operations are reflected in a structure supporting the best value to the customer. Project funding requests shall be justified and supported by a formal, pre-investment analysis. The scope of analysis shall be tailored depending on dollar value of the project and significance of potential impacts.

c. BCAs are analytical tools that enable the methodical identification and comparison of the costs, benefits, impacts, and risks, among other factors, when considering a change to the status quo. They accomplish this in alignment with Agency and DoD strategic goals and objectives. This instruction applies to and should be used for efforts that will require a Business Initiatives BCA.

d. The BCA process gives managers the information necessary to make the best decision possible on initiatives. To ensure managers have the same types of information across the
Agency, standard outputs are expected to result from this process. There are three types of BCAs that should be considered and used.

(1) BCA I.

(a) A BCA I is a short, preliminary BCA that outlines and compares the costs, benefits, impacts, and risks of the status quo method of business with three alternatives. This type of BCA uses the best data available at the time of the document’s development. The BCA I uses the same format and contains the same type of information as the BCA II and BCA III, but in much less detail, using a simple cost element structure capturing total investment costs and ongoing costs, if applicable.

(b) Because of risk associated with the relatively quick systematic overview of costs, benefits, impacts, and risks, this type of BCA is used primarily as a first step into the full BCA process. It is also appropriate where front-end screening of alternatives requires fairly accurate initial assessments to rank projects for out-year programming and funding. It is not, however, a substitute for a full BCA II or BCA III.

(2) BCA II.

(a) A BCA II is a detailed comparison of the expected costs, benefits, impacts, and risks that would result from implementing alternative courses of action. Building on the BCA I cost element structure, the BCA II requires a detailed cost comparison illustrating the breakout of the investment costs and the ongoing costs into their specific components. Like the BCA I, the BCA II must address at least three viable alternatives as well as the Status Quo. If fewer than three alternatives are examined, then a justification statement explaining why must be included in the document.

(b) The comparison includes a cost benefit or cost effectiveness analysis of the alternatives and compares them in a methodical manner, preferably in conjunction with a financial analysis such as discounted cash flow. The analysis considers the long- and short-term impacts (quantitative and qualitative) and risks to the whole organization or business area (e.g., increased throughput/higher productivity, reduced logistics response time, etc.). It considers the broad implications of implementing each alternative, including local and global implications as well as immediate and future costs and savings.

(3) BCA III.

(a) A BCA III is required when the proposed initiative involves a projected cost that exceeds specified dollar thresholds and/or has a significant impact on DoD logistics operations, thereby requiring a greater detailed analysis than a BCA II. Like the BCA I and II, the BCA III must address at least three viable alternatives as well as the Status Quo. No fewer than three alternatives will be accommodated for a BCA III.

(b) The BCA III requires an analysis of the impact on DLA as a whole, as well as the quantitative and qualitative ramifications of the alternatives described within the initiative. It considers the broad implications of the implementation of each alternative, including local and global implications as well as immediate and future costs and savings.
(c) Because of the high dollar value or potential for significant impacts associated with the BCA III, it is much more detailed, rigorous, and quantified than the BCA II. The BCA III includes an economic analysis, as directed in DoD Instruction 7041.3, the DoD FMR, and OMB Circular A-94.

(d) Waivers to conducting a Business Initiatives BCA can be granted on a case-by-case basis when performing a BCA is not beneficial or not feasible. Requests for waivers are submitted to the J-3/4 Business Integration Division (J-332) for review and approval. The waiver, including the justification for it, are documented and retained by J-332.

4. RESPONSIBILITIES

   a. Initiative Manager (IM)

      (1) Articulates and represents the business initiatives requirement and manages the Business Initiatives BCA.

      (2) Leads a BCA study to impartially evaluate the requirement and propose a recommendation.

      (3) Ensures that the Business Initiatives BCA is in conformance with the requirements in this instruction.

   b. The Executive Director, Materiel Policy, Process, and Assessment (J-33)

      (1) Serves as the primary advisory point to all IMs/Action Officers for reviewing and tracking all business initiatives.

      (2) Designates a Point of Contact (POC) to provide liaison support between the IM and the Business Integration Division (J-332).

      (3) Identifies a HQ DLA sponsor for Primary Level Field Activity (PLFA) business initiatives.

      (4) Requires all Business Initiatives BCAs are submitted to the Business Integration Division (J-332) for tracking, analysis, coordination, and possibly sponsorship.

      (5) Coordinates with HQ and PLFA offices to ensure that requirements for completed BCAs have been properly addressed and ensures that the BCA has met those requirements.

      (6) Forwards coordinated Business Initiatives BCAs to J-8 for inclusion in Program Budget Reviews

      (7) Ensures inclusion of the initiative and related funding in the programming and budgeting process.

   c. The Director, Information Operations (J-6)
(1) Assesses the IT impact of business initiatives on DLA and the customer.

(2) Reviews, coordinates, possibly sponsors, and monitors business initiatives related to IT impacts.

(3) Designates a Business Initiatives BCA POC.

d. The Director, Acquisition Management (J-7)

(1) Assesses the acquisition impact of business initiatives on DLA and the customer.

(2) Reviews, coordinates, possibly sponsors, and monitors business initiatives related to acquisition impacts.

(3) Designates a Business Initiatives BCA POC.

e. The Director, Financial Operations (J-8)

(1) Assesses the financial impact of business initiatives on DLA and the customer.

(2) Reviews, coordinates, possibly sponsors, and monitors business initiatives related to financial impact.

(3) Ensures that funding required for approved business initiatives is available.

(4) Designates a Business Initiatives BCA POC.

f. Other HQ DLA Offices

(1) Review, coordinate, possibly sponsor, and monitor all business initiatives relevant to their office.

(2) Designate a Business Initiatives BCA POC.

g. Commanders, Primary Level Field Activities:

(1) Review, coordinate, possibly sponsor, and monitor business initiatives.

(2) Ensure that the PLFA’s Business Initiatives BCAs are in conformance with the requirements in this Instruction.

5. PROCEDURES

a. Define the initiative.

(1) A requirement to take advantage of an opportunity or the need for a solution to a problem is identified.
The functional proponent selects an Initiative Manager (IM) who is responsible for articulating, representing, and managing the initiative. The IM will lead a study to evaluate the requirement.

b. Develop and submit the BCA.

(1) If the initiative is not an IT initiative or a materiel or services acquisition initiative, the IM develops the BCA according to the “DLA Business Case Analysis (BCA) Process – Business Initiatives” direction in this DLA Instruction. Note that in certain situations, a business initiative may contain IT or materiel or services acquisition components. Consult with the J-332 Business Initiatives POC on how to proceed.

(2) The IM first develops an initial short BCA I. Using the Business Initiatives BCA template (enclosure 2), the IM defines the goals and objectives of the initiative (selection criteria) and performs research and analysis to define viable alternative solutions to the current process that will resolve or minimize the problem or take advantage of an opportunity. The IM evaluates the alternatives by comparing the quantitative and qualitative impacts. The evaluation and analysis is performed using the guidance provided in this instruction. The IM recommends the alternative that best meets the goals and objectives identified for the initiative.

(3) The IM submits the BCA I through the appropriate approval chain which will vary according to the subject of the BCA and the initiating activity. This approval provides the authority to proceed with the initiative if a BCA II or BCA III is not necessary, or it provides the authority to proceed with a more detailed BCA II or BCA III. If the business initiative’s cost will meet or exceed the funding threshold of $1M and/or has the potential for significant impact on DoD/DLA operations, a BCA III (which follows OMB and DoD directives for conducting a rigorous economic analysis) will be required instead of the BCA II.

(4) Using the Business Initiatives BCA template (enclosure 2), the IM develops the BCA II or BCA III.

(5) The IM then submits a BCA II or BCA III through the review/validation/approval process related to the adequacy of the BCA itself (analytical logic, methodology, conformance with this instruction, etc.) prior to proceeding with review of the actual initiative and approval of resources.

(6) The IM briefs and receives approval of the BCA through his/her chain of command.

(7) The BCA is signed by the J-code Executive Director or Commander or designated official, documenting that it meets the requirements in this DLA Instruction for a Business Initiatives BCA and that the proposed business initiative is supported by the signing official.

(8) If the business initiative is ≥ $1M per year and/or has the potential for significant impact on DoD/DLA logistics operations, the IM submits the BCA to the Business Integration Division (J-332). The Business Integration Division (J-332) ensures that the Business Initiatives BCA meets the requirements in this DLA Instruction and then sends the BCA to appropriate offices for review and comment. Comments must be returned to the Business Integration
Division (J-332) within ten business days. The Business Integration Division (J-332) then collects and evaluates other HQ office comments. The Business Integration Division (J-332) informs the IM of the comments/changes. The IM revises the BCA as appropriate.

c. Identify and approve resources.

   (1) If the initiative is <$1M per year, the PLFA Commander reviews. If the PLFA Commander approves resources, the BCA can be implemented and tracked.

   (2) If the initiative is ≥ $1M and/or has the potential to significantly impact DoD/DLA logistics operations, the IM briefs the proposal during the Program Budget Review (PBR) for the Program Budget Review Group (PBRG) recommendation. The PBRG makes a recommendation to fund or not fund the initiative. This recommendation is submitted to the DLA Director, through the Vice Director, for final funding approval.

   (3) If approved, the Command and HQ DLA ensure that investment requirements are included in appropriate budget and long range planning documents.

d. Execute the initiative.

   (1) Updates to the original BCA are required at a frequency based on the timeframe of the initiative, performance metrics, and other factors (initial cost investment, benefits established, risks documented, negotiations agreed to, etc.). BCA updates are required throughout the implementation period.

   (2) Appropriate program/project management techniques must be used to implement the initiative.

e. Review the initiative during implementation.

   (1) Periodic reviews are conducted using program/project management techniques. These reviews compare the planned scope, cost, schedule, quality/performance, and risk defined in the BCA with the actual scope, cost, schedule, quality/performance, and risk. Changes are noted and appropriate actions taken to keep the initiative within the approved parameters that are defined in the BCA and to minimize risk as appropriate.

   (2) The frequency of these reviews is recommended by the IM and agreed to during the BCA approval process. Once the IM has an approved initiative, the IM begins tracking and briefing the results and status of the initiative as well as subsequent updates to the BCA to senior leaders using the Investment Performance Summary chart. The Investment Performance Summary chart is a one-page representation of an initiative’s BCA information associated with Operation and Resource Return on Investment (ROI) and the investment baseline of the BCA. It compares the scope, cost, schedule, quality/performance, and risk data in the approved BCA with actual data gathered during implementation of the initiative. An example is provided at the DLA Instruction “Business Case Analysis”, enclosure 4.

f. Evaluate the initiative post-implementation.
(1) The sponsoring organization is responsible for tracking the business initiative throughout its lifecycle, ensuring that adequate resources are available, and that the goals and objectives identified in the BCA related to the business initiative are met. The organization shall also ensure that any programmatic data associated with the initiative is accurately maintained and accessible for internal DLA or external DoD or Federal reporting requirements.

(2) Once a business initiative is fielded and operational, one or more Post Implementation Reviews (PIRs) are conducted. The PIR determines whether the operational goals, objectives, and expected resource return identified in the BCA were achieved and that the project was completed within the scope, cost, schedule, and quality/performance that were approved. The initiative’s sponsor or functional proponent has responsibility for conducting the PIR. Contents of the PIR are described at 10.0 Verification in the Business Case Analysis (BCA) Template and Guidance – Business Initiatives (enclosure 2).

(3) The Post Investment Analysis (PIA) is one of the documents resulting from the PIR and concludes the BCA process once completed. The PIA is prepared for those business initiatives with a unit cost ≥ $1M. The PIA format and technique is similar to the cost comparison or economic analysis used for the project justification (i.e., the BCA). As part of the PIR, the PIA should be completed within one year of deployment or completion of the initiative. Specific instructions on how to accomplish a PIA can be found in the DoD Financial Management Regulation (FMR), Volume IIB, Chapter 9 at http://www.defenselink.mil/comptroller/fmr/02b/02b_09.pdf


ENCLOSURE(S)

1. References
2. Business Case Analysis (BCA) Template and Guidance – Business Initiatives
3. Business Case Analysis (BCA) Glossary – Business Initiatives
Enclosure 1

References

1. DLA Instruction “Business Case Analysis”
   https://headquarters.dla.mil/DES/policy/j86bca.htm


4. DoD Instruction 7041.3 Economic Analysis for Decision Making
Enclosure 2

Business Case Analysis (BCA) Template and Guidance – Business Initiatives

Project Title:

Date:

Point of Contact: (name, organization, e-mail, phone number)

Business Initiatives BCA: (state type – organizational change, policy change, process reengineering, functional realignment, mission assumption, etc.)

Initiative Impacts (check as applicable):

____ Information Technology Requirements (coordinate also with J-6)
____ Materiel Acquisition (coordinate also with J-7)
____ Services Acquisition (coordinate also with J-7)
____ Non-ADP Equipment
____ Minor Construction/MILCON (submit DD form 1391)
____ Other Capital
____ Other (state)

Executive Summary

Include an Executive Summary if the BCA is greater than 15 pages.

1.0. Opportunity or Problem Identification

Describe the current business situation and identify the opportunities or problems with that current situation. Provide an assessment of the situation including, as appropriate, trend descriptions/extrapolations, analysis of conditions, identification of root causes, projection of future developments, people and organizations that are impacted, questionnaires from customers, information from Customer Service Representatives, audit findings, modeling, data arrays, or other means of describing or displaying the situation. Identify the DoD and DLA performance measures or goals that relate to the current situation, and discuss any that are not being met. If there are no established measures, explain why there is a perceived need to implement a change.

[For a BCA I and BCA II, use information that is available to describe the opportunity or problem; generate new data when it is cost effective. For a BCA III, describe the opportunity or problem as thoroughly as possible; this may involve generating new data.]

2.0. Purpose of the Initiative and Selection Criteria

Based on the analysis of the situation, address the possible solutions or alternatives. 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 since these goals and objectives will be used as your selection criteria for choosing the most appropriate alternative. [The statement should not assume a specific means of achieving the desired result. If such an assumption is made, the statement of the objective undermines the analytical purpose of the BCA by prejudging the result before the analysis is complete.] Weights or values may be applied to the selection criteria to give some objectives higher importance than others, but weighting should be justified. State how these improvements align with DoD regulations or guidance, DoD Strategic Plan, DLA Strategic Goals and Objectives, DLA Balanced Scorecard, and DLA Business Plans.

Identify those individuals or offices having primary program responsibilities, program participants, and stakeholders.

[Note: During the development of the BCA, periodically reevaluate it to ensure that no changes to selection criteria are needed.]

For a BCA I, use information that is readily available. For a BCA II, selection criteria should be quantified, if possible. For a BCA III, selection criteria must be quantified and a greater emphasis should be placed on cost factors/variables in the evaluation of alternatives.

3.0. Assumptions

Discuss the assumptions made in the analysis and the rationale behind them with regard to the status quo and alternatives. Include such considerations as workload, demand, workforce characteristics, available technology, etc. 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 this section. State if any data has been extrapolated or estimated, and document the sources and dates of this data. [Note: During the development of the BCA, periodically reevaluate it to ensure that no changes to assumptions are needed.]

For a BCA I, use information that is readily available. For a BCA II, a list of assumptions is adequate unless clarification is needed to understand the assumptions; include a judgment of whether confidence in the assumptions is strong or weak. For a BCA III, the assumptions should include a detailed discussion of each including the rationale for the assumption; discussion should include an assessment of the importance of the assumption to the analysis and identify any strengths and weaknesses.

4.0. Requirements and Constraints

Discuss the requirements and constraints of the analysis. These should include time, cost, quality/performance, legal/legislative, internal review, ethical, political, technical, social, institutional, economic, environmental, or other requirements or constraints.

For a BCA I, use information that is readily available. For a BCA II, a list of requirements and constraints is adequate unless clarification is needed to understand the requirements and constraints. For a BCA III, requirements and constraints should be exhaustive and should include a discussion of each including its importance to the analysis.]
5.0. **Description of Alternatives**

Identify and describe feasible alternatives to the current business situation and include any assumptions specific to each alternative. A BCA I, BCA II, and BCA III must include the status quo and at least three viable alternatives. The criteria identified in the BCA at 2.0 *Purpose of the Initiative and Selection Criteria* and 4.0 *Requirements and Constraints* provide screens and filters that may eliminate alternatives (e.g., it might be known that the alternative would not satisfy the goals and objectives without conducting an analysis, an alternative might cost more than available funds, an alternative might not be able to be completed by the required date, etc.), and reduce the number of alternatives to only those that are feasible.

Describe the status quo as the first alternative. Examine the differences among the alternatives and how they work to solve the identified problem. Highlight differences from the status quo. For IT and capital assets, the alternatives include:

- Status quo (first alternative)
- New Acquisition (including cost to phase out the status quo)
- Leasing
- Modification of existing assets (includes renovation, conversion, upgrade, expansion, or other forms of improvement of existing assets and/or services).

Besides discounting procedures, the treatment of inflation, and economic comparison criteria, an analysis of investment alternatives consists of basic parameters necessary to account for how costs and benefits for each alternative are displayed, treated, and reported. The basic parameters to be discussed are summarized below:

- **Economic Life** - The period of time when the benefits from an alternative are expected to accrue. The economic life is usually constrained by technological or mission life.

- **Physical Life** - The estimated number of years that an asset can physically be used in accomplishing the function for which it was intended.

- **Mission Life** - The estimated number of years over which the need for the asset is anticipated.

- **Technological Life** - The estimated number of years a facility or piece of equipment will be used before it becomes obsolete due to changes in technology.

- **Start Year** - The first year in which an alternative incurs a cost or realizes a benefit. The start year is the first year of the period of analysis.

- **Lead Time** - The period from the start year to the time that an alternative begins to produce benefits.

- **Period of Analysis** – The mission life of the program or project plus the lead time.

- **Base Year** - The year to which all costs and benefits are discounted.
For all alternatives, provide a detailed description of each alternative’s scope, cost, quality/performance expectations, a schedule for implementation, and the expected timeframe for achievement of identified goals and objectives.

[For a BCA I, a brief discussion of information that is readily available is adequate. For a BCA II, a discussion of moderate length is adequate and may require acquisition of additional data that is not readily available. For a BCA III, the discussion of each feasible alternative should be detailed; infeasible alternatives should also be discussed and should include the reason(s) why they were not considered further.]

5.1 Scope

Defining the scope of the alternative enables the analyst to determine changes to the scope and any additional costs and/or savings that will occur during the initiative’s implementation. Identify what the alternative is intended to accomplish and what it will not accomplish. For uncertain outcomes/outputs, show the expected range of deviation from the assumed outcome/output, and estimate the probability of occurrence.

[For a BCA I, use information that is readily available. For a BCA II, the description of each alternative should be brief and concentrate on the pertinent points that need to be made; uncertainty may or may not be discussed quantitatively and can use relative measures such as “high, medium, low”. For a BCA III, the description of each alternative should be exhaustive and include quantitative probabilities using statistical or other models.]

5.2 Costs and Benefits

Costs include all expenditures that are required to maintain the current way of doing business as well as the costs associated with implementing each alternative (e.g., system investment costs, functional activity costs, operations costs, etc.). Consider the timing of the costs and benefits. Timing relates costs and benefits over the life cycle of an alternative to allow systematic comparison of the Benefit/Cost Ratio (BCRs), Return on Investment (ROI), and Net Present Value (NPV) among alternatives in compliance with the discount rates required in OMB Circular A-94.

Identify the life cycle cost of the initiative by fiscal year. Identify the sources and dates of your data. Relate the data across alternatives as closely as possible. State 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 a year. Cost calculation guidance is provided below:

- Include the cost of any existing assets that are used or provided since there is an opportunity cost involved.
- Include recurring costs which are those costs incurred on a continuing annual basis to support the alternative.
o Include costs associated with the value of any Federal services provided without charge to the program/project (i.e., base operating support, etc.).

o Calculate residual values for alternatives that have assets (buildings, equipment, and structures, etc.) that will still have useful value at the end of the period of analysis. That value should reflect the remaining worth of the asset(s) at the end of the period of analysis. Market appraisal of similarly-aged assets, appraisal guidelines, and depreciation schedules are all acceptable techniques.

o Include costs of disposal.

o Include cost of risk mitigation.

o Include both one-time and recurring costs.

o Leasing costs should follow the guidance in DoDI 7041.3, Enclosure 3, Attachment 2.

o Do not double count savings and cost avoidance.

o Do not include sunk costs or benefits that have already been realized. These costs and benefits should be discussed in 3.0 Assumptions.

o Average annual cost may be identified for steady recurring operational cost once the initiative has been implemented.

o Identify separate impacts that occur outside DLA (the Military Services, other agencies, localities and states, foreign governments, non-governmental entities, etc.). The impacts both within and outside of DLA may be qualitative and therefore not quantifiable, but it is important to identify these impacts and evaluate the effects they may have on implementing each alternative. These impacts may also be political or social.

o Show formulas used in calculations.

o Perform anomaly checks on outliers and discuss why data variances are occurring.

o Display costs in two ways: constant dollars with no inflation (for decisions) and current dollars with inflation (for PBR/budget submissions).

o Provide a statement concerning your level of confidence in the cost data. Note that the selection of a cost estimating technique influences the level of confidence in a cost estimate and depends on the available data.

o Estimation of costs and benefits should use techniques that fall into at least one of three categories:
  - analogy cost estimating technique - the cost is based on direct comparison with historical information of similar existing activities, systems, or
components. This technique subjectively compares the new system with one or more existing similar systems for which there is accurate cost and technical data.

- **parametric cost estimating** – the cost is based on physical attributes or performance characteristics and their relationships to highly aggregated component costs. A parameter is a definable characteristic of one of the parts that can be added to give an expression of the value of the whole system, device, or item. The results of a parametric estimate depend on the ability of the analyst to establish valid relationships among the attributes of elements that make up the alternative and its costs.

- **industrial engineering cost estimating technique** - a “bottom-up” method of cost analysis that is the most detailed of all the techniques and the most costly to implement. Estimating by the engineering method requires the analyst to have an extensive knowledge of the system characteristics (the system, the production processes, and the production organization).

  - The costs and benefits associated with each alternative should be quantified whenever possible. When quantification is not possible, significant qualitative costs and benefits should be documented in a narrative and considered in the analysis.

  - Include information on staffing levels (FTEs and personnel) and related cost.

The analysis must accurately reflect the time when costs and benefits occur. Cost is discounted in the year in which the Federal Government is expected to incur an expenditure; benefits are discounted in the year in which the Federal Government expects to realize the benefit.

All budget estimates are in current dollars. For analytical purposes, all estimates of the costs and benefits for each year of the period of analysis can be made in either constant dollars or current dollars. Computations in a single analysis should not mix current and constant dollars. If costs and benefits are expressed in constant dollars, a real discount rate should be used to calculate a net present value. If costs and benefits are expressed in current dollars, a nominal discount rate should be used to calculate the net present value. Discount rates to be used in the analysis are specified in OMB Circular A-94 (http://www.whitehouse.gov/omb/circulars/a094/a094.pdf) which is updated annually.

[For a BCA I, use information that is readily available. The BCA II should use NPV and, as needed, ROI as key cost comparison calculations. The BCA III should also use NPV and ROI, but have very rigorous cost estimates, calculations, and all appropriate comparisons so that they can serve as a baseline for tracking and judging implementation progress and savings that are realized following implementation; confidence levels should be arrived at statistically if possible.]

### 5.3 Schedule

Provide a milestone chart, such as a Gantt chart, that shows start and completion dates, the timeframe for each stage in the life cycle of the initiative (determination of mission need,
concept definition and planning, development and demonstration, fielding/deployment/operational support), and other important milestones. Provide dates for completion of each milestone where possible. After the initiative is implemented, state at what point in time each initiative objective will be achieved. The timeline needs to be in enough detail to serve as a baseline against which achievement of implementation objectives can be compared.

[For a BCA I, use information that is readily available. For a BCA II, all key dates need to be shown. For a BCA III, the timeline should be very detailed.]

5.4 Quality/Performance Capabilities

Describe the 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 (e.g., such as improved inventory, or higher production of the organization’s primary output (such as number of contracts awarded, reduced logistics response time for requisitions, etc.) The capabilities should also be stated as metrics against which the implemented initiative can be compared.

[For a BCA I, use information that is readily available. For a BCA II, the key features of the initiative and the performance and quality results expected should be discussed. For a BCA III, detailed technical or performance specifications or standards are needed to serve as a baseline against which quality and performance can be compared.]

6.0 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.

- Discuss the impacts of each alternative on the Supply Chain Management System and how well each alternative can be incorporated into the larger system of the supply chain.
  - Inventory Control Points – Specify the impact to ICP operations and resources. Metrics for the ICPs include supply availability, weapon system readiness, customer wait time, backorders, purchase request pipeline, long-term contracts, etc.
  - Depot Operations – Specify the impact to depot operations, including inventory levels, distribution processes, and infrastructure requirements. Include impacts on receipt processing, wholesale returns, high priority materiel release orders (MROs), routine MROs, stock location, inventory accuracy, materiel denials, customer returns, space utilization, etc.

- Discuss customer input used in establishing initiative requirements and functions. Specify the impact to the customers’ current operations (e.g., reduction in inventory
at the customer level, reduced logistics response time, etc.). Discuss the impact of each alternative on clientele/stakeholders and their preferences.

- Discuss any problems or benefits related to surge and sustainment requirements.
- Describe difficulties with changing/adjusting the initiative in the future as the situation changes (scalability). Can the alternative be modified to adjust to a changing situation? What is its upgrade/downgrade capability?
- Identify the type and extent of any disruptions that the alternative would cause.
- 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, Status of Forces Agreements, small business, etc. Use weighting factors if appropriate and provide an explanation of and/or justification for the weights assigned.

[For a BCA I, use information that is readily available. For a BCA II, discuss the key considerations that relate directly to the recommendation. For a BCA III, discussion should be very detailed and comprehensive.]

7.0. Risk Assessment

Perform an assessment of the risk involved for each alternative. [When IT is involved in the initiative, for the IT portion, follow J-6 risk management guidance.]

- **Risk Identification** - Identify the risks that might occur with each alternative that could keep DLA from achieving the initiative’s objectives. For example, several types of risks that might occur include safety, health, labor, loss, technical (including obsolescence), interface points, hand-off of responsibility, cross-functional involvement, economic, organizational, customer, social, political, business, legal, environmental, etc.

- **Risk Analysis** - Identify the impact that the risk is likely to have. Discuss the cause(s) of the risk. Assess the magnitude of the adverse impact of the risk on the initiative in terms of additional time/schedule, cost, performance/quality, and scope change. Assess the probability of the risk occurring.

- **Risk Management Strategies** - Develop risk management strategies. There are four possible strategies for risk management:
  - Risk acceptance or assumption (accept risk).
  - Risk avoidance (do not accept the alternative because it contains too much risk or eliminate the cause of the risk).
- Risk mitigation or control (institute risk mitigation measures either before the risk occurs or by developing contingency plans and implementing them if the risk materializes).

- Risk deflection or transfer (transfer the risk by using such vehicles as insurance, warranties, contractual agreements where the contractor assumes the risk, or other arrangements).

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. Identify risk control 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.

Risk Analysis for a BCA I

If possible, briefly assess the known risks for each alternative.

Risk Analysis for a BCA II

For each alternative, identify the potential for risk using the following spreadsheet to show the type of risk, whether the adverse impact of the risk on the initiative is high (3), medium (2), or low (1) if it occurs; whether the likelihood of risk is high (3), medium (2), or low (1); the significance of the type of risk for potential adverse impacts (multiply impact by likelihood of occurrence); the likelihood of success (high, medium, or low); and the cost of the risk reduction measure(s):

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Type of Risk</th>
<th>Impact (adverse impact of risk on initiative if it occurs (high (3), medium (2), low (1)))</th>
<th>Likelihood of Occurrence (high (3), medium (2), low (1))</th>
<th>Significance (impact x likelihood of occurrence)</th>
<th>Likelihood of Success of Risk Reduction/Mitigation Measure (high (1), medium (2), low (3))</th>
<th>Cost of Risk Reduction/Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk 1</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk 2</td>
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<td></td>
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<tr>
<td>Risk 3</td>
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<td></td>
</tr>
<tr>
<td>Score</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Risk Analysis for a BCA III

Define the risk as explicitly as possible. Assess the percentage probabilities of errors in the estimates or the probabilities of occurrence of events. Use statistical and other tools so that a quantitative risk assessment can be made. DAU guidance on performing a risk
8.0. Comparison of Alternatives

Compare the quantitative and qualitative costs and benefits identified at 6.0 Advantages and Disadvantages of Each Alternative against the selection criteria identified in 2.0 Purpose of the Initiative and Selection Criteria above. Where possible, determine the probability distributions of benefits, costs, and net costs or benefits. Identify any screens or filters used in the analysis. Discuss any limitations/qualifications in the analysis.

A sensitivity analysis should 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 economic 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:

1. The effects of changes in assumptions on:
   - Program objective
   - Requirements
   - Operations
   - Discount rate
   - Inflation
   - Residual value

2. The effects of a shorter or longer economic life.

3. Changes in the magnitude and timing of cost or benefits.

Rank order the alternatives as to preference.

[For a BCA I and II, a matrix may be used to provide a display for comparing alternatives against the initiative’s goals and objectives; preferences may be ordered (such as high, medium, or low), rank ordered relatively (1-5), or other means of ordering when specific quantitative data are not available for ranking. For a BCA III, the emphasis is on a quantitative comparison of alternatives, particularly since cost is a greater consideration; concept testing and validation may be appropriate for comparison; and sensitivity analysis is more important and rigorous.]
9.0. Recommendation

Recommend the alternative that maximizes net benefits and is the best overall value to DLA and the customer. The section should begin with a summary of the analysis (based on the benefits and costs of the alternatives) and an interpretation of the results to include a recommendation of the preferred alternative. The actual decision is based on the qualitative as well as quantitative factors. Discuss how well the selected alternative will solve the problem or take advantage of the opportunity identified. Summarize the costs, savings, impact to the customer, and the effect on other DoD and DLA activities that the alternative will have if the initiative is implemented.

10.0 Verification

Verification occurs at regular intervals during the implementation phase of the initiative (Implementation Analysis (IA)) and also at one or more points following the implementation phase of the initiative (Post Implementation Review (PIR)).

- Implementation Analysis. Periodic reviews are conducted during implementation using program/project management. These reviews compare the planned scope, cost, schedule, quality/performance, and risk defined in the BCA with the actual scope, cost, schedule, quality/performance, and risk. Changes are noted and appropriate actions taken to keep the initiative within the approved parameters that are defined in the BCA and to minimize risk as appropriate. The IA is completed and provided to the Business Integration Division (J-332) during the implementation period using a standard one-page format that includes the metrics that will be used to measure the implementation progress of the initiative (see DLA Instruction “Business Case Analysis”, enclosure 4 – “Investment Performance Summary.”

The verification section should identify:

- The organization responsible for the Implementation Analysis.
- The proposed schedule for presentation to DLA executives and management.

- Post-Implementation Review (PIR)/Post-Investment Analysis (PIA). Once a business initiative is completed, one or more PIRs are conducted. The PIR determines whether the operational goals, objectives, and expected resource return identified in the BCA were achieved and that the project was completed within the scope, cost, schedule and quality/performance that were approved. The PIR should be completed within one year or other reasonable and appropriate time from the date that the initiative was implemented, usable, or deployed and provided to the Business Integration Division (J-332). The PIR evaluation criteria metrics are the goals and objectives of the initiative including the desired outcomes or outputs identified in 1.0 Opportunity or Problem Identification and 2. Purpose of the Initiative and Selection Criteria. The intended or planned results of the initiative are compared against the actual results of the initiative. The initiative/system sponsor or functional proponent has responsibility for conducting the PIR. The PIR team can be composed of the owners and users of the initiative or other personnel and consultants. The PIA is one of the documents resulting from the PIR. The PIA format and technique is similar to the cost comparison or economic analysis used for
the project's justification (the BCA). The PIA should be completed within one year of completion of the initiative. The verification section should identify:

- The organization responsible for the PIR(s)/PIA(s).
- The projected time frame the PIR(s)/PIA(s) will cover.
- The fiscal year(s) in which the PIR(s)/PIA(s) will be completed.

11.0 Submitting Organization and Approval Chain

Submitting Organization

- Point of Contact:
- Organization:
- Phone:
- E-Mail:

Command Level Approval from Submitting Organization

- Comments:
- Concur/Non-concur:
- Organization:
  Signature:

HQ DLA Business Integration Division (J-332)

  Signature:

HQ DLA Executive Director Approval (J-1, J-3/4, J-5, J-6, J-7, J-8, J-9, DES, other)

- Comments:
- Concur/Non-concur:
- Organization:
- Signature:
**Business Case Analysis Glossary – Business Initiatives**

**Alternatives** - The different courses of action, means, or methods by which objectives can be attained. The preferred alternative is the one that provides the best value.

**Analogy** – The examination of how similar problems were resolved in the past to identify alternatives for current problems.

**Analogy Cost Estimating Technique** – Estimation of costs and benefits based on direct comparison with historical information of similar existing activities, systems, or components. This technique subjectively compares the new system with one or more existing similar systems for which there are accurate cost and technical data.

**Annual Net Benefits** – Yearly benefits minus yearly costs.

**Assumptions** - Explicit statements used to describe the present and future environment on which the analysis is based. Assumptions are made to support and reasonably limit the scope of a study. Assumptions about the future account for uncertainties.

**Base Year** – The year to which all costs and benefits are discounted.

**Benefits** – Improved outputs or outcomes of a system (e.g., number of units produced, value of service provided, etc.).

**Benefit/Cost Analysis** – This is the technique to use in a formal economic analysis of government programs or projects. It is a systematic method comparing quantitative and qualitative benefits and costs of various alternative courses of action to determine the preferred alternative having the best value. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html)

**Benefit-Cost Ratio** – The ratio of discounted benefits to discounted costs. The alternative with the highest benefit-cost ratio does not necessarily have the highest net present value. This measure can lead to poor choices since additional cost could lead to substantially greater net benefits and qualitative benefits are not necessarily captured; therefore, alternative initiatives that “maximize net benefits” should also be considered as options even if the Benefit Cost Ratio does not show that those initiatives are preferred. Care should be taken not to double count cost savings and avoidances as benefits.

**Break Even Analysis** – Discovering which values for one or more important variables cause the net present value to change from negative to positive (“no-go” decision changes to “go” or causes decision makers to be indifferent as to which of two alternatives is chosen. This helps to focus on whether the values assigned to those variables are acceptable.

**Business Case Analysis (BCA)** - A comparative analysis that presents facts and supporting details among competing business alternatives. Documents and identifies functional alternatives and presents economical and technical arguments for carrying out
alternatives over the life cycle to achieve stated business objectives or imperatives. To be effective as a management tool, a business case must never begin with any predetermined notions of the outcome or predetermined technological solution.

**Business Initiatives** – Business initiatives that are not acquisition or information technology initiatives. This is a broad category that can include such things as business process reengineering, organizational change, policy change, etc.

**Capital Asset** – Tangible property, including durable goods, equipment, buildings, installations, and land.

**Confidence Level** – Often referred to as a significance level, answers the question how likely we are to be wrong in our estimates: 1 out 100 times, 5 out of 100 times, 10 out of 100 times, etc.

**Constant Dollars** – Economic units measured in terms of constant purchasing power. A constant dollar value is not affected by general price inflation. Constant dollar values can be estimated by deflating nominal values with a general price index such as the implicit deflator for Gross Domestic Product or the Consumer Price Index. Contact your budget office for the DoD deflators.

**Costs** - Costs are resource inputs to achieve a mission or program.

**Cost/Benefit Analysis** – See Benefit/Cost Analysis.

**Cost Effectiveness Analysis** – This is an appropriate technique when the benefit from competing alternatives are the same or where a policy decision has been made that the benefits must be provided. A program is cost-effective if, on the basis of life cycle cost analysis of the competing alternatives, it is determined to have the lowest costs expressed in present value items for a given amount of benefits. Cost effectiveness analysis is appropriate whenever it is unnecessary or impractical to consider the dollar value of the benefits provided by the alternatives under consideration. This is the case whenever (1) each alternative has the same annual benefits expressed in monetary terms; or (2) each alternative has the same annual effects, but dollar values cannot be assigned to their benefits. A tool for finding the alternative that accomplishes the specified goal at the lowest cost. Differs from cost-benefit analysis, which may be used to compare alternatives that have very different goals. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html)

**Cost Savings or Cost Avoidances** - Result when resources which would have been consumed under existing operations are not consumed due to the alternative course of action

**Direct Costs** – Resources that must be committed to implement the initiative. This includes one time fixed costs and operation and maintenance costs.

**Direct Impact** – An impact of an initiative that is directly associated with one of its stated objectives.

**Discount Factor** – The factor that translates expected benefits or costs in any given future year into present value terms. The discount factor is equal to \( 1 / (1 + i)^t \) where “i” is the interest
rate and “t” is the number of years from the date of initiation for the program or policy until the given future year.

**Discount Rate** – The interest rate used in calculating the present value of expected yearly benefits and costs. The rate estimated to approximate the time preference for money of the decision-making unit, or the rate at which a benefit declines in value if the decision making body cannot have it now, but must postpone receiving it. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html) for examples of discounting and a sample format. The rate used in calculating the present value of expected yearly benefits and costs is updated annually in OMB Circular A-94, Appendix C, [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html).

In order to compute net present value, it is necessary to discount future benefits and costs. This discounting reflects the time value of money. All future benefits and costs, including non-monetized benefits and costs, should be discounted. The higher the discount rate, the lower is the present value of future cash flows. For typical investments, with costs concentrated in early periods and benefits following in later periods, raising the discount rate tends to reduce the net present value.

The “real” (constant dollar) rate is used for most DLA analyses. A nominal rate is provided, which accounts for both interest and inflation, but is generally not appropriate for internal DoD investments. The “real” discount rate considers only the cost of money (interest rate), and not the added effects of inflation. The “nominal” rate, which includes the cost of inflation along with the cost of money, is not normally used except in certain cases where the investment alternative includes leases or rentals which have inflation “built in” to out-year rates. In these cases it is necessary to use “nominal” rates for consistent comparison of purchase investments.

**Expected Value** – Probability multiplied by the value of the outcome.

**Extrapolative Forecasting** – A method of prediction that assumes that the patterns that existed in the past will continue into the future, and that those patterns are regular and can be measured.

**Externality** – An effect, consequence, or phenomenon of an initiative, that can be positive or negative, that has a cost or benefit. Also referred to as “spillover effect”.

**Fixed Costs** – Those costs that do not vary with the level of output.

**HQ Sponsor** – A person from any one of the HQ offices who has a primary interest in the initiative and is consulted on a regular basis by the Initiative Manager, particularly with regard to requirements related to the initiative, as s/he prepared the BCA.

**Indirect costs** – The costs associated with impacts or consequences of an initiative.

**Indirect Impact** – An effect of an initiative that is not associated with one of its stated objectives.

**Industrial Engineering Cost Estimating Technique** – A “bottom-up” method of cost analysis that is the most detailed of all the techniques and the most costly to implement. Estimating by
this engineering method requires the analyst to have an extensive knowledge of the system characteristics (the system, the production processes, and the production organization).

**Inflation** – The proportionate rate of change in the general price level, as opposed to the proportionate increase in a specific price. Inflation is usually measured by a broad-based price index, such as the implicit deflator for Gross Domestic Product or the consumer Price Index. Inflation is included when budgeting for the initiative. Check with your budget office for DoD inflation factors.

**Information Technology Initiative/Solution** – Can be characterized as the use of hardware and/or software, and often includes networking and telecommunications, to manage and/or process information.

**Initiative Manager (IM)** – Action officer responsible for the development and implementation of the initiative. The Initiative Manager is the primary point of contact responsible for an initiative. As such s/he is responsible for the identification of all funding requirements as well as the implementation of the initiative. An Initiative Manager can be located at either HQ or an FA and is required to periodically provide J-363 with updated status of their initiatives.

**Integrated Acquisition Review Board (I-ARB)** - The I-ARB is the decision authority to continue the acquisition, modify the strategy, terminate the process, or determine how to proceed into the next phase of the acquisition. The Board convenes for the purpose of approving acquisitions and the supporting BCA at specified milestone decision points, and at other times as necessary.

**Lead Time** – The period from the start year to the time that an alternative begins to produce benefits.

**Life Cycle Cost (LCC)** - The overall estimated cost for a particular program alternative over the time period corresponding to the life of the initiative or program, including direct and indirect initial costs plus any periodic or continuing cost of operation and maintenance. The total Present Value cost of a program over its expected life. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html)

**Materiel Acquisition Initiatives** – Are defined as “shift to commercial practices” initiatives in support of

(1) Performance Based Logistics (PBL) support which may include long term contracts, prime vendor, virtual prime vendor, and corporate contracts.

(2) Contracts with DVD Arrangements

**Net Present Value** – The difference between the discounted present value of an initiative’s benefits and the discounted present value of its costs. This is the standard criterion for deciding whether a government initiative or program can be justified on economic principles. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html).
Objectives – More focused and concretely worded statements than goals. Objectives also deal with end states, most usually with a specified time dimension.

Operationalize – To make more specific for the sake of consistency. An operational definition should be sufficiently precise so that all persons using it will achieve the same result.

Opportunity Cost – The resources diverted from other uses to make a given initiative possible. These include those resources that can be expressed in dollars, non-monetary but tangible costs, and intangible costs. The maximum worth of a good or input among possible alternative uses.

Parametric Cost Estimating Technique – The cost is based on physical attributes or performance characteristics and their relationships to highly aggregated component costs. A parameter is a definable characteristic of one of the parts that can be added to give an expression of the value of the whole system, device, or item. The results of a parametric estimate depend on the ability of the analyst to establish valid relationships among the attributes of elements that make up the alternative and its costs.

Performance Based Logistics (PBL) Acquisition - Acquisitions of material and/or logistics support (such as inventory management, storage, materiel handling, and transportation (customer direct or DLA direct)) where contractor performance is evaluated based on measurable outcomes to ensure improved readiness, availability, or reduced overall costs to the customer and DLA. PBL acquisitions may include long term contracts, prime vendor contracts, virtual prime vendor contracts, direct vendor delivery, and corporate contracts.

Political Viability – A criterion for evaluating alternatives. Assessment of whether the alternative is acceptable or can be made acceptable to relevant groups.

Present Value (PV) - The current value of discounted future dollars using a specified value for the interest rate or cost of money.

Qualitative Analysis - Analysis that provides non-numerical assessments or assessments of intangibles. This type of analysis typically relies on narrative format to convey meaning. Qualitative analysis can use relative terms (high, medium, low; greater or lesser; etc.).

Quantitative Analysis - Analysis that provides an assessment expressed in numerical terms such as statistics or calculations.

Real or Constant Dollars – Economic units measured in terms of constant purchasing power. A real value is not affected by general price inflation.

Return-On-Investment (ROI) - An often used ratio which allows comparison of the relative pay back for a given investment (e.g., Alternative A allows a 4-to-1 pay back versus Alternative B’s 3.5-to-1 pay back). In this form, ROI is synonymous with Benefit/Cost Ratio (BCR) where productivity benefits plus saving/cost avoidances occur.

- For the BCR, the ratio is computed as the Benefits plus Cost Savings/Cost Avoidances divided by Investment Costs. Benefits are computed for functional mission productivity improvements resulting from the overall change in business operational efficiencies enabled
by initiatives such as AIS development, training, business process reengineering, etc. Multi-year programs are normalized to the Present Value of the multiple year benefits, savings, and investments using the appropriate OMB discount rate. Usually, the OMB “real” or constant dollar rate is used.

- As an absolute number, the ROI is the benefits/cost savings minus the investment costs. Multi-year programs are normalized to the Present Value of the multiple year benefits, savings, and investments using the appropriate OMB discount rate.

See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html).

**Risk Analysis** – Risk analysis refers to the probabilities of errors in the estimates or the probabilities of occurrence of events or possible outcomes. The more explicitly the risk is defined, the greater the possibility for the decision maker to safely utilize the analysis. The probability results of available choices should be described as definitively as possible. Many statistical and other tools exist so that a quantitative risk assessment can be made. The Risk Management Guide for DoD Acquisition can be found at [http://www.dau.mil/pubs/gdbks/risk_management.asp](http://www.dau.mil/pubs/gdbks/risk_management.asp).

**Sensitivity Analysis** – A process used to discover which assumptions are critical (or sensitive) to the analysis. This is done by testing a number of plausible values for each important variable. Critical sensitivities are those that, when varied, change the nature of the recommendation. Sensitivity analyses should be performed if results of the BCA do not clearly favor any one alternative, or there is uncertainty about an assumption that can impact the estimate of costs and benefits. See OMB Circular A-94 for additional guidance [http://www.whitehouse.gov/omb/circulars/a094/a094.html](http://www.whitehouse.gov/omb/circulars/a094/a094.html).

**Sunk Costs** – Resources that have already been spent before the decision on the new initiative is considered. Sunk costs should be ignored in determining whether a new investment is worthwhile since there is no way to recover them.

**Tangible Costs or Benefits** – Costs or benefits that can be measured in some type of recognized unit. These may or may not be monetary units.

**Total Ownership Costs** – Is the sum of all financial resources necessary to organize, equip, train, sustain and operate military forces sufficient to meet national goals in compliance with all laws, all policies applicable to DoD and its components. TOC is comprised of cost to research, develop, acquire, own, operate, and dispose of weapon and support systems, other equipment and real property, the costs to recruit, train, retain, separate and otherwise support military and civilian personnel, and other cost of business operations in DoD.

**Technical Feasibility** – A criterion for evaluating alternatives. Measures whether the alternative will actually produce the desired result – meeting the major objectives.

**Uncertainty** – Estimates of benefits and costs are typically uncertain because of imprecision in both underlying data and modeling assumptions. Because such uncertainty is basic to many analyses, analyses should attempt to characterize the sources and nature of the uncertainty, and
its effects should be analyzed and reported. Useful information would include the key sources of uncertainty; expected value estimates of outcomes; the sensitivity of results to important sources of uncertainty; and, where possible, the probability distributions of benefits, costs, and net benefits. Ideally, probability distributions of potential benefits, costs, and net benefits should be presented. The basis for the probability distribution assumptions should be reported. Any limitations of the analysis because of uncertainty or biases surrounding data or assumptions should be discussed. See OMB Circular A-94 for additional guidance http://www.whitehouse.gov/omb/circulars/a094/a094.html.

Variable Costs – Costs that vary with the level of output.