Logistics Assessment Guidebook

FOREWORD

The DoD Weapon Systems Acquisition Reform Product Support Assessment (WSAR-PSA) identified eight principle areas to improve product support effectiveness. One of those areas, "Governance," included the recommendation to implement independent Logistics Assessments during weapon system development, production and Post-Initial Operational Capability (Post-IOC) acquisition phases. Thorough Logistics Assessments provide leaders with a health assessment of each Integrated Product Support element and assist in making informed decisions at milestones and/or at key program decision points.

This Guidebook supports the USD(AT&L) November 2010 memorandum on "Better Buying Power" by addressing the themes of affordability, controlling cost growth, and innovation in industry. It provides a structure for conducting Logistics Assessments and helps Components establish baseline assessment criteria specific to their weapon systems. Logistics Assessments should be performed at Milestones B and C, prior to Full Rate Production (FRP) decisions, at Post-IOC reviews, or at least every five years. These assessments will ensure that there is adequate supportability planning, management, resource identification, and risk mitigation for each program at different phases of its life cycle.

The Program Manager must continuously assess system performance, affordability, supportability, cost, and schedule and use these key factors to make program tradeoffs and decisions. The Milestone Decision Authority (MDA) must then validate system viability and the program's ability to meet established performance requirements, as well as total ownership cost targets at major program reviews and milestone decision points. A periodic and formal assessment of a program's supportability plan validates its ability to meet established performance requirements. Use of this guidebook, together with the Product Support Manager and Business Case Analysis Guidebooks, will assist the Program Manager and senior acquisition stakeholders with the information and process to successfully deliver a supportable system to the Warfighter.

Alan F. Estevez

Principal Deputy Assistant Secretary of Defense
for Logistics and Materiel Readiness

Contents

INTRODUCTION

A Logistics Assessment (LA) is an analysis of a program's supportability planning. Preferably, it is conducted by an independent and impartial team of Subject Matter Experts (SMEs) not directly associated with the program being assessed. An LA is not a compliance audit, but an effective and valid assessment of the program office's product support strategy, as well as an assessment of how this strategy leads to successfully operating a system at an affordable cost. As part of the LA, statutory, regulatory, and Component required documentation is reviewed and assessed for completeness and compliance prior to the milestone decision. The focus is on whether the program planning and methodology has a basis and can be successfully executed. Conducting the LA early in the program phase where the design can be influenced, and re-assessing the planning at each milestone and periodically thereafter as the design matures, is critical to fielding a sustainable system. It also provides senior decision makers critical information for making strategic trades within and across various programs, especially as today's Acquisition Category (ACAT) programs are becoming increasingly complex and integrated with other systems.

Unfortunately, the Department has not had an effective way of measuring and documenting cost savings and cost avoidance from LAs. The earlier the product support issues are identified and corrected, however, the more potential there is for cost savings and avoidance. For example, during a review of ship manpower, it was identified that the design did not reflect crew size for the appropriate number of officer and enlisted berthing. Had this been identified after ship construction, the cost and schedule impacts would have been significant. Another case involved the integration of an aircraft and ground vehicle system. Integration issues were identified early in the design phase—the system and its components were not compatible with the ship platform they were planned to be deployed on the resulting insufficient clearance for height and width; insufficient power requirements to support maintenance actions; and insufficient design of the autonomic logistics system, would have prevented the system from carrying out its mission once deployed from the ship. These issues resulted in senior leadership reviewing the design and implementing corrective actions.

While the above case issues are easier to quantify in terms of costs if not corrected, the issues that are more commonly identified and may have greater cost impacts have to do with incomplete or insufficient analysis, or results that suggest the program will not be able to achieve planned supportability thresholds.

For example, several independent LAs that were sampled identified that reliability analysis was not conducted to support maintenance planning decisions (sparing levels and manpower determinations), as data from reliability testing indicated the program would not be able to meet the required reliability thresholds. Additionally, analyses such as maintenance task analysis, operator task analysis, and diagnostic analysis, while key to supportability decisions and the design, were either not always completed, or showed the system could not be supported as planned. While "findings" are typically viewed in a negative light, they are intended to help the program in a positive manner, identifying issues that may need more senior-level attention to correct.

The Department of Defense (DoD) Weapon Systems Acquisition Reform Product Support Assessment (WSAR-PSA) identified eight principle areas that make product support more effective. One of these areas, "Governance," included the recommendation to implement an independent LA process across the DoD. This document provides guidance on how to implement these recommendations in anticipation of future DoD policy which will require the Components to conduct LAs on all Acquisition Category (ACAT) I and II programs at Milestones B, C, and Full Rate Production (FRP), and after initial fielding. Execution of the LAs is at the discretion of the Components, but preferably by a team independent of the program. The requirement to conduct LAs for ACAT III and below programs is left up to the individual Components. During sustainment, LAs are also required to be conducted periodically based on criteria identified in Part VI, "Post Initial Operational Capability (IOC) Assessments," but not to exceed five years between assessments. This guidebook provides:

- the process for conducting LAs
- criteria for assessing a program during Milestones B, C, and FRP
- criteria for assessing a program Post-IOC
- reporting requirements

This independent attribute and approach is key to an objective evaluation of the system's supportability profile. This guidebook was developed with this independent preference upfront, as an independent LA mitigates the risk of bias during analysis and reporting. It is highly encouraged that utilization of subject matter experts not assigned to the program office be made part of the Logistics Assessment Team, as this allows valuable independent observations and an objective view when looking at a weapon system's supportability profile. If an independent assessment is not feasible, the responsible program management office should certify to the MDA and other stakeholders to an equivalent alternative LA, conducted with maximum basis on a structured, objective and transparent analysis.

Each Component may develop their own implementing processes and guidance to meet their unique requirements. During acquisition there are several other assessments, reviews, and test events between milestones, such as the Systems Engineering Technical Reviews (SETRs) and Defense Acquisition Program Support (DAPS) Assessments, that feed into milestone decisions. These assessments, reviews, and tests should be considered when scheduling LAs, since information from these events can complement the LA and provide valuable information for use by the LA team.

This guidebook is divided into six parts identified below. Each part provides detailed guidance to the program and LA team on conducting, assessing, reporting and closing the LA:
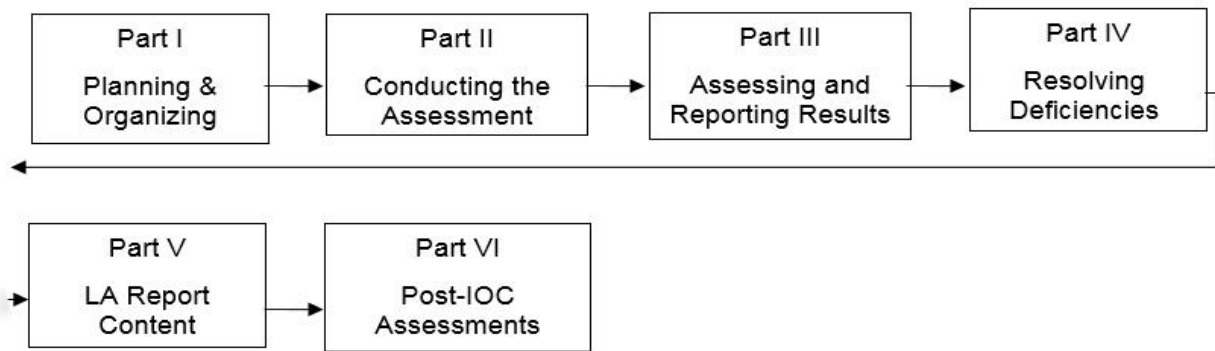
PART I: PLANNING AND ORGANIZING

Objective

The objective of Part I, "Planning and Organizing," is to ensure the required preparation takes place in sufficient time to properly initiate the LA.

1.1.   Timing

LAs are conducted prior to each required milestone or decision point to provide senior leadership with the LA results and certification (see Appendix C). For milestone B, C, and the FRP decisions, the certification should be provided to the Deputy Assistant Secretary of Defense for Materiel Readiness (DASD(MR)) at least 30 days prior to the milestone or decision point for ACAT I and II programs. The report should be completed and distributed in accordance with Component directives. For Post-IOC LAs, the timing is determined by triggers identified in Part VI, "Post-IOC Phase Assessments," but not to exceed five years between LAs.

1.2.   Process
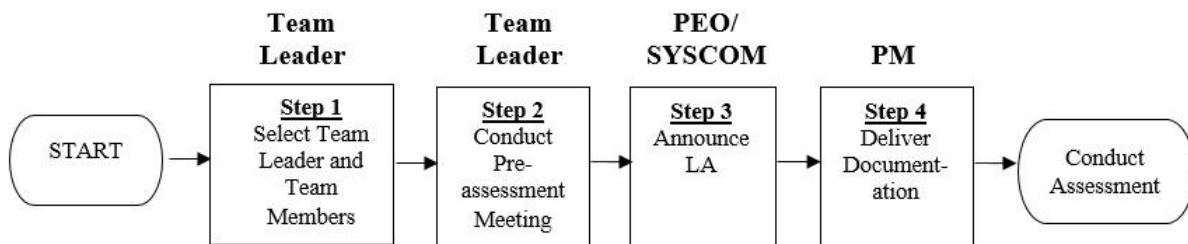
1.3.   Process Description

Step 1: Select Team Leader and Team Members

As identified in Component implementing requirements, a qualified Team Leader is selected to establish an assessment team. The Team Leader should be a Government employee who is Defense Acquisition Workforce Improvement Act (DAWIA) Level III certified (preferably in Life Cycle Logistics or Program Management) who is selected based on the Team Leader's experience with supportability and knowledge of the type of system or technology under development or in operations.

The potential for an objective assessment is higher when the Team Leader and team members are independent of the responsible program management office. The Components may define qualifications and independence in their own process guidance. Independence in this context may be generally defined as not active, nor has been recently active, in the management, design, test, production, or logistics planning of the program being assessed, whether from the program office, supporting field activity, or a member of a contractor activity. The Team Leader is also responsible for assembling and managing the assessment team, and providing interface between the team and the program under review.

Step 2: Conduct Pre-assessment Meeting
The Team Leader conducts a pre-assessment meeting with the Program Manager (PM), Product Support Manager (PSM), or designee addressing the following:

- Confirm the responsibilities of the program office, Team Leader, and team members in support of the review.
- Confirm the purpose, scope, and timing of the review.
- Coordinate the availability and location of supportability and other program documentation.
- Discuss specific review procedures.
- Request a tailored listing of supportability and program documentation be prepared prior to the assessment for distribution to team members based on Appendix A and Appendix B.
- Clarify the specific logistics assessment schedule of events/agenda.
- Identify the location of all assessment activities.
- Identify SMEs to respond to LA team member questions.
- Identify security requirements and arrangements, as well as access to classified material.
- Discuss the conduct of the assessment, including program office responsibilities to develop a program brief.
- Discuss the issuance of draft and final reports.
- Discuss post-review procedures to include follow-up on identified issues.
- Discuss certification criteria and rating process.
- Discuss issuance of the supportability certification letter (certification letter stating supportability of the program as fully, conditionally, or not certified).
- Discuss rationale for not reviewing any specific LA elements.

Step 3: Announce LA
Official correspondence announcing the LA is defined by each Component, however, it is typically sent by either the Team Leader's organization, or a representative of the program office, Program Executive Officer (PEO) or Systems Command (SYSCOM) whose system is being assessed. The announcement should include the dates of the LA, the scope, team member listing, documentation request list, meeting site, schedule, agenda, security and contact information. This correspondence is distributed to the participants and stakeholders as identified in Component policy and guidance.

Step 4: Deliver Documentation
The program office provides requested documentation to the LA Team Leader as previously agreed to, but typically at least one week before the opening brief. Documentation should reflect the most current version identified during the pre-assessment and subsequent meetings. The Documentation Request List, Appendix B, outlines typical documentation that should be provided to the LA team prior to the assessment. The scope and depth of logistics support information in these documents can vary significantly from program to program and by acquisition phase. Some programs may be in a source selection process, or have sensitive/proprietary data issues. Team Leaders need to identify team member composition to the program office to determine if there are sensitive/proprietary data issues and to ensure non-disclosure agreements are completed as required.

1.4.   Process Deliverables

- Team member listing
- LA announcement/schedule
- Program documentation

PART II: CONDUCTING THE ASSESSMENT

Objective

Part II identifies the basic methodology for conducting a successful LA when used in conjunction with the Integrated Product Support (IPS) Element Assessment Criteria in Appendix A.

2.1. Process
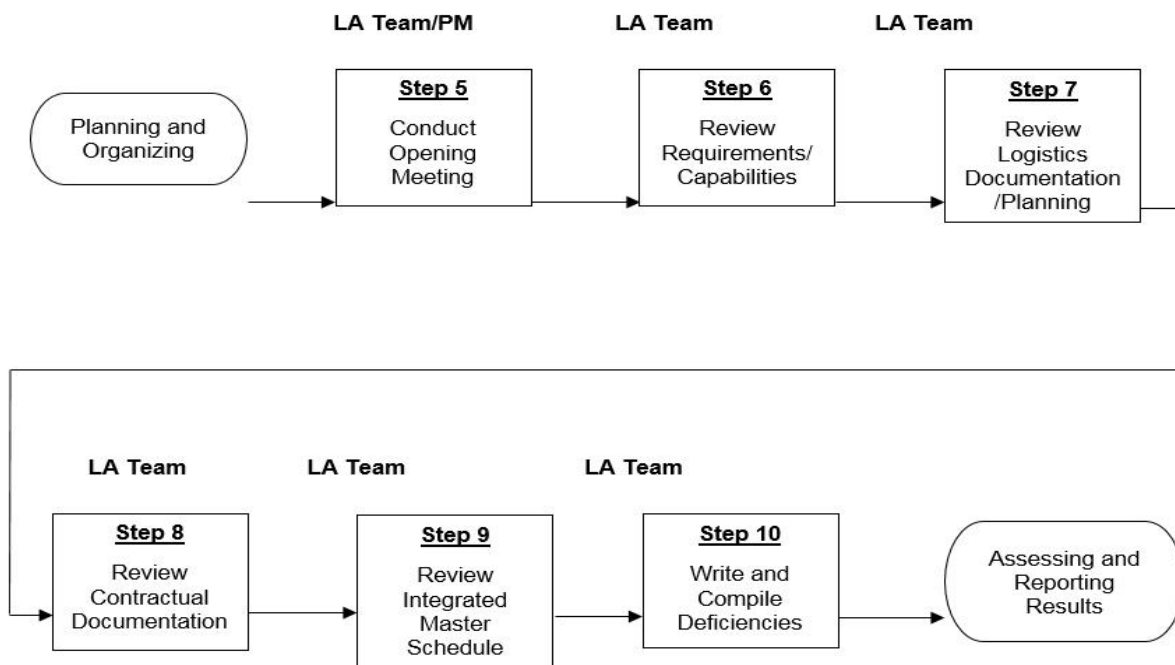
2.2. Process Description

Step 5: Conduct Opening Meeting

The opening meeting provides the LA team with a foundation of information regarding program background, current status, and logistics structure. It also provides a review of what is expected during the assessment. It is important to anticipate that assessment team members are not familiar with the subject program. As such, the opening briefs are the best opportunity to impart the needed information to understand the program in its proper context. The opening briefs consist of the following:

Program brief: The purpose of the program brief, normally presented by the Program Manager (PM) or the Deputy PM, is to impart a basic understanding of the acquisition program. It should address:

- The general description of the system, both physical as well as functional
- A clear description of the scope of the program being assessed, including hardware/software elements
- System interfaces

9

- Planned operational use of the system
- Support strategy, e.g., Life Cycle Sustainment Plan (LCSP), including unique considerations and performance objectives, metrics, supportability requirements, and assessment strategy
- Hardware, if available
- Current status of the program, including any pertinent history and program peculiarities
- Configuration management approach or plans
- Size of the program in terms of number of units and dollars
- Delivery schedules (end items and support elements)
- Program funding status
- Organizational structure of the program office
- Acquisition and sustainment strategy, including contract status and milestones
- Status of the program's documentation (outstanding items from the documentation request)
- Program office and logistics points of contact
- Identification of any developing or signed Program Manager Warfighter Agreements and Performance Based Agreements (PBAs)
- Identification of any Memorandum of Agreement/Understanding (MOA/U), Expectation Management Agreements, etc. with participating or supporting organizations

Logistics brief: The logistics brief, normally presented by the program's PSM, addresses each of the areas of supportability that will be reviewed by the logistics assessment team. At a minimum, it should address:

- Structure of the program support organization
- Status of supportability documentation (e.g., approval status)
- Contracting approach
- Results of any Business Case Analyses (BCA)
- Support agreement strategy and status (e.g., extent of Performance Based Logistics (PBL) life cycle support (industry/organic) and associated BCAs)
- Top-level schedules and milestones for each IPS element, including detailed support/PBL strategy
- Status of detailed supportability tasks, schedules, and milestones tied to the Integrated Master Schedule (IMS) and LCSP for each IPS element
- Logistics and program risk assessment
- Life Cycle Cost Estimate (LCCE)
- Names and phone numbers of program office counterparts
- Budgets (identifying the required, funded, and delta amounts) for each IPS element
- Data rights requirements and options pursued/obtained
- Warranties
- Product Support Arrangements
- Any other special interest items

Team brief: The purpose of this brief, presented by the LA Team Leader, is to provide information to the LA team members and program personnel on conduct of the review. This addresses the following:

- A review of the responsibilities of the Team Leader and team members
- Specific logistics assessment schedule of events
- Instructions on documenting deficiencies and desired format
- Guidance on determining the timeframe in which recommended actions need to be completed
- Post-review follow-up and certification procedures

Step 6: Review Requirements and Capabilities

Warfighter needs and capabilities form the basis for the support system performance requirements. LA team members must familiarize themselves with not only the requirements but also the established metrics for measuring attainment of these Warfighter needs. Team members must understand and focus on Warfighter requirements when assessing the program using the individual assessment criteria.

Review the basic program requirements, including: Performance Agreements; Key Performance Parameters (KPPs); Key System Attributes (KSAs) and critical system parameters in the Initial Capabilities Document (ICD), Capability Development Document (CDD), and Capability Production Document (CPD), depending on the program phase; the Acquisition Program Baseline (APB); Acquisition Plan (AP); Acquisition Strategy (AS); and accompanying LCSP.

Step 7: Review Logistics Documentation and Planning

Review the AS, LCSP, Systems Engineering Plan (SEP), design specifications, and implementing supportability plans to ensure the basic requirements have been translated into logistics requirements. The LCSP should map to the primary support technical documentation, logistics schedules, and should be supported by the product support budget and funding. The SEP needs to adequately reflect the Supportability Analysis (SA) that is required in the LCSP or its supporting stand alone SA strategy and Plan to ensure timely execution, integration, and the ability to influence the inherent design of the system under review.

Determine if performance agreements, specified supportability KPPs/KSAs, and critical system parameters in the ICD/CDD/CPD can be met from a supportability standpoint. Depending on the program phase, the information required to perform this assessment can generally be found in Reliability, Availability, and Maintainability (RAM) models and predictions; development and operational test data; RAM and Built-In-Test (BIT) requirements in the contract/statement of work; RAM analyses; and test results. If the RAM KPPs and critical system parameters of the ICD/CDD/CPD are not met, then the IPS elements must be reassessed to determine what impact the lower RAM numbers will have on the supportability of the system. For instance, if the actual reliability number does not meet the reliability stated in the CPD and spares are being reviewed, then the originally calculated requirements for spares may not be correct and may need to be recalculated. If manpower is being reviewed, the manpower analysis may be at risk since it does not take into account more frequent failures and longer times to repair and maintain systems. If there is an impact, assess risk to the program and document a recommendation or deficiency.

Review the primary and supporting documentation for each IPS element to ensure logistics requirements are further detailed and required analyses have been performed. This includes a review of logistics funding requirements for each IPS element in each Fiscal Year (FY) by appropriation, the amount funded, and any deltas between the two. This includes the associated funding documents and exhibits to ensure funding requirements for each IPS element are appropriately identified, funding is available, and shortfalls are identified. Ensure each IPS element is funded in the year funding is contractually required to produce the support deliverable in the correct timeframe per the IMS.

Elements Requiring Review: The following IPS elements require review during an LA regardless of the support strategy. In addition, it's recommended that Product Support Budgeting and Funding; and Environment, Safety, and Occupational Health (ESOH) should be assessed separately from their respective parent elements of Product Support Management and Design Interface.

1. Product Support Management*
2. Design Interface**
3. Sustaining Engineering
4. Supply Support
5. Maintenance Planning and Management
6. Packaging, Handling, Storage, and Transportation
7. Technical Data
8. Support Equipment
9. Training and Training Support
10. Manpower and Personnel
11. Facilities and Infrastructure
12. Computer Resources

* Product Support Budgeting and Funding (part of Product Support Management)
** Environmental, Safety, and Occupational Health (part of Design Interface)

Step 8: Review Contractual Documentation

Review the contract and ensure appropriate elements have been identified and assessed for adequacy of supportability requirements. The review should include an assessment of:

- supportability and related RAM requirements
- required supportability and related RAM supportability tests and analyses, and the use of their results to impact design
- compliance with critical completion and delivery dates

The solicitation package for the next phase, if available, should also be reviewed for adequacy to meet the requirements of the LCSP/ICD/CDD/CPD (as appropriate) and other pertinent program documentation. This is critical for ensuring that planning is complete.

Similarly, field activity tasking documents and processes (both in-place and proposed) should be reviewed to ensure the Government supporting activities are appropriately engaged, tasked, and funded.

Step 9: Review Integrated Master Plan (IMP) and Integrated Master Schedule (IMS)

Review the IPS Element Assessment Criteria against the IMP and IMS. Review whether the tasks are reasonable, and assess the likelihood of completion of each supportability-related task within the allocated schedule and man loading.

A program's IMS can range from being an imposed schedule to one that has some flexibility. The logistics support tasks for each IPS element must be planned, scheduled, and integrated with other program activities. The sequence and dependencies of one task upon another must be included in determining

schedule realism. The IMS timelines must be achievable within funding constraints when considering a bottom-up view of all required detail tasks and their inter-dependencies. The LCSP should contain the detailed Plan of Actions and Milestones (POA&M) for each IPS element for focused supportability management planning, testing, and implementation.

One or more project management charting tools are commonly used to schedule and organize program tasks, graphically showing their schedule and dependencies. The effectiveness of a program's logistics support plan must be reviewed in context of the overall program schedule and the development milestones. Logistics schedules that are allocated from programmatic top-down requirements, however, may not be achievable within the allocated funding and manpower, especially when considering logistics' ability to influence the design for optimized supportability. The program IMS must also factor in the schedule requirements for each logistics factor, based on a bottom-up task analysis. Otherwise, logistics efforts typically become focused on documenting the design without influencing the design.

The schedule and the detailed product support tasks developed and integrated into the overall program IMP must be realistically achievable and consider the sequence of all dependent and interconnected tasks to minimize program risks. All tasks feeding into these milestones and assessments should meet at those milestone/assessment nodes. The critical paths should be reviewed to identify any logistics tasks and supportability testing, followed by identifying the actual start/end dates and review progress of each task against its schedule, including the timeliness of the logistics tasks. Schedules should reflect tasks such as prognostics/diagnostics, maintainability analyses/verifications, Failure Mode, Effects, and Criticality Analysis (FMECA), special test equipment identification, and development of the embedded and on-board training capabilities. Optimistic, success-oriented schedules that do not reflect realistic conditions will mask program cost growth and schedule delays.

Step 10: Write and Compile Deficiencies

LA team members should conduct their review using the assessment criteria contained in Appendix A of this guidebook, their Components' LA criteria, and any supplemental Command or SYSCOM policy or criteria. Each Component may have a documented methodology or process for conducting assessments and documenting any noted issues. A well-written finding identifies the criteria being evaluated (with references requiring the criteria wherever possible), any discrepancies, the impact if not corrected, the recommended action(s), and whether the program representative concurs or does not concur with the facts as documented.[1] A summary of the results of each IPS element assessed, including all deficiencies, is a best practice to include in the report as it provides the decision makers with an overall status of each IPS element. The Team Leader should review all issues or discrepancies turned in by the team members for accuracy to ensure the proposed rating given by the team member is commensurate

---

[1] Periodic Progress Briefs are to be conducted during the LA at a time agreed upon by the Team Leader and the program office representative. The purpose is to brief the program office of any issues noted during the assessment as well as to resolve any remaining issues from previous progress briefs. During these briefs, the LA Team Leader will:

- Discuss new issues with the program manager or authorized representative;
- Obtain the program manager's or authorized representative's concurrence or non-concurrence on each deficiency, as well as on the team leader's logistics certification recommendation; and
- Follow up on open issues from previous progress briefs, as necessary.

with the rating criteria. Part V, "LA Report Content," provides required LA Discrepancy and Recommendation content, LA Finding Grading Guidelines, and suggested report format.

2.3.   Process Deliverables

- Draft Deficiencies and Recommendations.

2.4.   Assessment Criteria

The assessment criteria contained in the tables in Appendix A, as well as the individual Components' requirements, should be used as a guide to assess the planning and status of the supportability program for the system under review, regardless of the support strategy (e.g., organic, PBL, traditional transactional support). These criteria are derived from DoD policy and best practices, both of which have been proven to produce optimal supportability. They are not Component or platform specific. Component-, platform-, or SYSCOM-unique requirements may be used to supplement or tailor these criteria. Additionally, varying program requirements and acquisition strategies may require further tailoring of the criteria, as they may not always fit all program unique requirements. Enclosure 4 of DoDI 5000.02 identifies statutory and regulatory information for all milestones and phases of an acquisition program. The LA team should identify the supportability related documents from those tables for impact on supportability.

As stated in the preceding paragraph, these criteria are used to assess support planning and execution for a program, not just the functions that fall under the purview of the PSM. The LA is not just a logistics assessment; it is a program-wide assessment of how the program has planned and executed support for the system being acquired and sustained. Integration between logistics and systems engineering, contracting, finance, test and evaluation, manufacturing, and other program disciplines is critical for proper support planning and execution, and the level of such integration is assessed during an LA. Many disciplines, organizations, and stakeholders impact the ability of the PSM to execute a successful supportability program (e.g., conflicting requirements, lack of funding, inadequate design, etc.), and those need to be considered as part of the assessment with any negative impacts documented.

PART III: ASSESSING AND REPORTING THE RESULTS

Objective

Part III addresses the preparation of the LA report, coordination with the program office, and submission of the report to the cognizant PEO or SYSCOM. The report will serve as the basis for the program support certification decision by the PEO or SYSCOM.

3.1.   Process
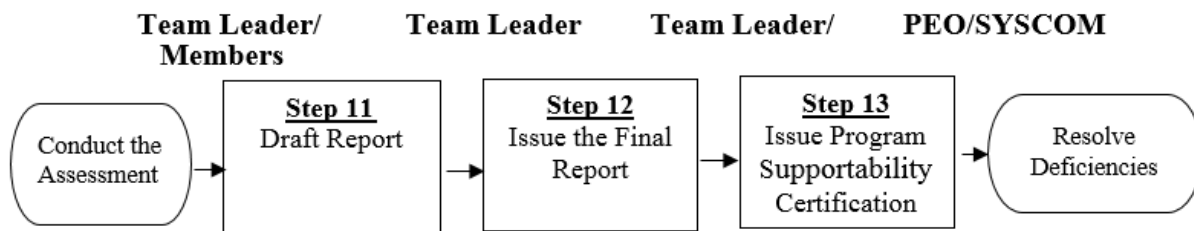
3.2.   Process Description

It is the responsibility of the Team Leader to oversee development of the draft report. The following identifies the process for developing the report.

Step 11: Draft Report

The Team Leader and team members (in conjunction with the program office):

- Document all deficiencies and recommendations, compiling them into a report using the respective Components' internal formats or processes.
- Brief and provide the Program Manager, PSM, and other key program office personnel the draft results of the assessment to ensure the content of the report is accurate and understood. This typically includes a discussion of the following:
    - Assessment overview
    - Summary of each deficiency
    - Rating for the program, including individual assessments
    - Any follow-up discussions on issues requiring action plans
    - Coordination of the final report prior to formal issuance
- Ensure deficiencies describe the LA Team's recommended actions to resolve the deficiency, and include a Green, Yellow, or Red Rating. Ratings can be defined in each Component's guidance, but rating criteria for individual findings, as well as the overall program rating, should be

translatable to the DoD Rating Criteria defined in Appendix B (Rating and Certification Criteria) for reporting to DASD(MR).

Step 12: Issue the Final Report

The final report is distributed in accordance with Component policy. For joint programs, a courtesy copy of the LA report should also be provided to the affected PEO and Component Acquisition Executive (SAE) as appropriate.

Step 13: Issue Product Support Certification

Upon receipt of the final report, the cognizant certification authority as identified by each Component certifies the report in accordance with Appendix C for ACAT I and II programs, and for ACAT III and below programs at the discretion of the individual Component. The certification should be provided to DASD(MR), 30 days prior to a milestone or decision point and contains the reporting content identified in Part V. Certification categories are: Ready to Proceed (Green), Conditionally Ready to Proceed (Yellow/Amber), and Not Ready to Proceed (Red).

3.3.   Process Deliverables

- LA Report, including POA&M
- Product Support Certification Letter

PART IV: RESOLVING DISCREPANCIES

Objective

The objective of Part IV is to ensure the deficiencies identified in the assessment report are adequately resolved. This is one of the most important tasks in the entire LA process. If deficiencies in planning, funding, design, or execution are only documented and not resolved, the end user will not receive the necessary program support required to sustain the system. To ensure discrepancies are adequately resolved, the organization responsible for tracking findings through closure (typically the LA Team Leader in conjunction with the PSM) must remain engaged with the program office until completion of each deficiency can be verified.

4.1.   Process

Team Leader/

PM
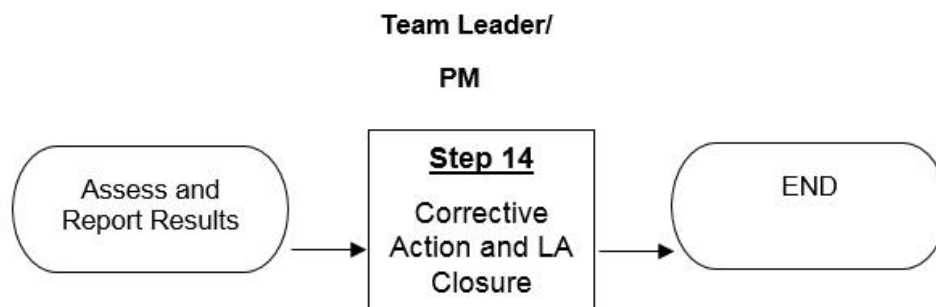
4.2.   Process Description

Step 14: Corrective Action and LA Closure

The responsibility for implementing and completing corrective actions remains with the Program Manager. Written status of the actions in the POA&M must be provided to the organization responsible for tracking corrective actions, typically the LA Team Leader. The regularity of these status reports will be as agreed to between the program office and the Team Leader. An LA is closed when all corrective actions have been satisfactorily closed. Final corrective action status and LA closeout should be documented and reported to Component leadership when completed.

4.3.   Process Deliverables

- Status reports
- Team Leader responses/guidance to status reports
- Memo closing out the LA to the Program Manager, Milestone Decision Authority (MDA), and DASD(MR) as appropriate

PART V: LA REPORT CONTENT

Objective

Part V provides the reporting information and format for those programs requested to provide information on their LAs to the DASD(MR). For programs not providing reports to DASD(MR), report content should be as required by Component policy.

5.1.   Process

The Component's designated certification authority will certify the results of the LA in accordance with their processes and this guidebook. This is typically a one-page memorandum that certifies the program as Logistically Ready to Proceed (Green), Conditionally Ready to Proceed (Yellow/Amber), or Not Logistically Ready to Proceed (Red). The certification is based on the Team Leader's recommended rating, although the certification authority can deviate from that rating by providing rationale for any deviation. The following information is provided by the LA team and provided to the certification authority as an attachment to the certification. It identifies the original rating provided by the LA team. Rating and certification criteria are contained in Appendix C.

I. Introduction

- Program: *(Identify Program)*
- ACAT: *(Identify Acquisition Category)*
- Next Milestone: *(Identify next milestone and date)*
- MDA Authority: *(Identify the MDA)*
- PEO: *(Identify the PEO code or designation)*
- Program Manager: *(Identify the program code or designation)*
- System Description: *(Brief overview of the system being addressed during this decision)*
- Support Concept: *(Brief overview of the product support concept)*
- Purpose of LA Review: *(What milestones/events are being addressed)*
- Scope of LA Review: *(Identify the configuration of the system(s) being addressed during this decision)*
- Review dates: *(Start and finish of assessment)*

II. Summary of LA

- Provide a rating summary of each element in a table or similar format provided in figure B-1.

Sustainment Element	Rating (example)
Product Support Management*	Green
Design Interface*	Yellow
Sustaining Engineering	Yellow
Supply Support	Green
Maintenance Planning and Management	Green
Packaging, Handling, Storage, and Transportation	Green
Technical Data	Yellow
Support Equipment	Green
Training and Training Support	Green
Manpower and Personnel	Red
Facilities and Infrastructure	Yellow
Computer Resources	Green
* Product Support Budgeting and Funding	Green
* Environment, Safety, and Occupational Health	Green

Figure B-1: Example Sustainment Element Rating Summary[2]

III. Overall Program Rating and LA Risk Matrix

Use the following matrix (Figure B-2) to identify the overall risk rating of the program (see Appendix C, Table C-2 for additional information regarding use of the risk matrix and risk rating).
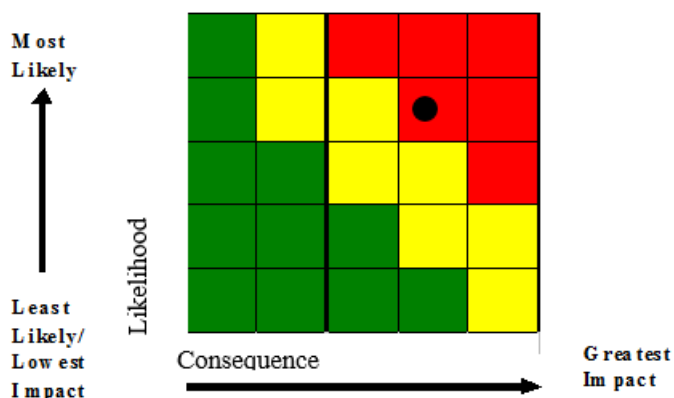
Figure B-2: Overall Risk Rating Provided by the LA Team

IV. Summary

---

[2] Product Support Budgeting and Funding as well as Environment, Safety, and Occupational Health are subcomponents of Product Support Management and Design Interface. These subcomponents typically require subject matter expertise specific to these areas to conduct the assessment.

Provide a summary of individual Red and Yellow/Amber issues. This should include a brief description of the issue with the proposed corrective action and timeline for completion of the corrective action. It can also provide any additional detail needed to summarize the overall health of the program and the associated risks carried forward and how they will be addressed.

PART VI: POST-INITIAL OPERATIONAL CAPABILITY ASSESSMENTS

Objective

This Part addresses the process specific to Post-Initial Operational Capability (Post-IOC) LAs. It will address differences between the LA process as identified in the previous parts of this guide conducted for programs pre-IOC, and those conducted after IOC. Processes that are similar between the pre-IOC and Post-IOC assessments are not restated.

6.1.   Introduction

Post-IOC LAs are conducted to assess if the Program Manager delivered to the user a system that is supportable per the planned requirements, was executed to the program planning documentation, is within the estimated ownership costs, and the status of progress addressing deficiencies noted during previous assessments or during operations, such as low reliability. It also assesses any IPS elements where the planning was implemented to the requirement but the requirement itself was not adequate. If threats or support postures have changed, the LA should review the "as planned" supportability posture to determine how to best support the system in the new environment.

LAs conducted prior to acquisition milestones during system development serve to support that particular milestone decision at hand. However, the Post-IOC assessment results are a snapshot of the system after fielding and provide the basis for a system review unto itself. The Post-IOC assessment brings together sponsors, operators, and stakeholders to resolve any shortfalls or issues that may have emerged since the beginning of operations. The initial Post-IOC LA represents a key transition point between acquisition and sustainment in the system life cycle.

Assessment results can influence future requirements for modifications or upgrades to the system, as well as future capability needs met through successor acquisition programs. Institution of the Post-IOC LA notifies and influences PMs and PSMs of systems in development that actual outcomes of the planned product support strategy will be assessed by senior stakeholders after fielding. Post-IOC LAs will address each IPS element as applicable, including in-service metrics established in the program requirements documents. Overall, Post-IOC LAs assist the Program Manager in the successful implementation of total life cycle management of the product support strategy.

6.2.   Timing

LAs should continue to be conducted after IOC, recommending the first Post-IOC LA to occur five years after the FRP decision, even if IOC status is achieved before this five-year period. The default period for conducting Post-IOC Phase LAs is every five years; however, a review of past best practices indicate certain conditions should trigger this assessment earlier. These triggers include:

- If Operational Availability (A_o) or Materiel Availability (A_m) is < 15% from stated requirements and continues for four consecutive reporting periods (e.g., three quarters), then the respective Component will initiate the LA.

- If the Ownership Cost KSA is > 15 % from stated requirements for four consecutive reporting periods, then the respective Component will initiate the LA.
- If the Business Case Analysis supports fundamental changes in the product support strategy and related contracts
- When requested by an operational commander who is conducting initial operations and maintenance
- When program risk factors warrant an early Post-IOC assessment (Component prerogative)

6.3. Process

The Post-IOC LA focuses on program performance to date. The following entrance criteria should be completed prior to this LA:

- The program has achieved formal IOC (five years after FRP)
- An update is completed of the program life cycle cost estimates with any actual logistics costs and expenditures known as a result of achieving IOC status and operating the fielded system
- The Life Cycle Sustainment Plan (LCSP) has been updated as required
- Any other entrance criteria levied on the program following a previous system review or LA

Criteria for Post-IOC assessments are contained in Appendix A, Part II. At a minimum, Post-IOC LAs will include (as applicable):

- Validation that actual supportability performance is meeting design thresholds identified in KPP/KSA measures of support called out in the program's CPD and/or Warfighter "User" Performance-based Agreement if applicable

- Validation of Life Cycle Cost Estimate (LCCE)

- Review of the life cycle support funding

- Assessment that the life cycle support strategy, as delineated in the LCSP, is being executed as planned or has been revised to ensure satisfactory support of major design and product support improvements based on updated support analyses

- Confirmation of satisfactory configuration control

- Assessment of obsolescence and diminishing manufacturing and material shortages

- Validation with the Product Support Integrator (PSI) and Product Support Provider (PSP) that actual costs and performance are within cost and performance baselines established by the BCA

- Assessment of training effectiveness, customer satisfaction, and product improvements

- Assessment of Configuration Status Accounting, including sponsor owned material, government owned material, and plant property

- Assessment of the weapon system supply chain

- Assessment of contract execution as related to system sustainment

- Assessment of technology, manufacturing, or supply obsolescence risks

- Resolution of test and evaluation issues

- Assessment of actual costs to date, combined with the cost analysis from the FRP decision, reflecting ownership cost projections and trends

- Confirmation of satisfactory delivery and Government acceptance of all contractually ordered technical data, including confirmation of correct data rights and distribution markings on delivered data

- Assessment of overall system and sustainment effectiveness, including system/subsystem failure rates, down time, turn-around times, associated delay times, allowance effectiveness, etc.

- Assessment whether initial product support is meeting performance and cost expectations of the operational commands and repair facilities

- Assessment of customer satisfaction (the degree of satisfaction with the performance of the end item and the overall supportability program)

- Determination how the sustainment strategy will evolve to accommodate continued system effectiveness, affordability, and execution

Post-IOC assessments essentially follow the same process as described in the rest of this guide. However, there are some differences, as identified below:

Step 2: For Post-IOC assessments, request a tailored listing of assessment criteria based on Appendix A, Part II.

Step 7: Review Requirements, Capabilities, and Metrics: Typically, there is no process change, although some documents or material to be reviewed may differ, or the original requirement may have changed, due to CONOPS or threat.

Step 8: Review Logistics Documentation and Execution: Typically, there is no process change, although some documents or material to be reviewed may differ.

Step 11: Draft Report: Rating Criteria for Post-IOC LAs differ from the pre-IOC LAs.

Step 12: Issue the Final Report: The distribution of the report may be different for Post-IOC LAs as defined by the Component. The final report should also be provided to the office of the DASD-MR.

Step 13: Issue Product Support Certification: Rating and certification criteria are identified in Appendix C, Table C-3. Individual Service or Component policy and governance will dictate how formal sustainment reviews and briefs provide the follow-up decision forum for presenting the results of Post-IOC assessments.

6.4. Rating and Certification

The overall program and each of the IPS elements will receive a rating based on the criteria in Appendix C, Part II. Program certification will be based on these criteria as well. These criteria are different from the rating criteria for pre-IOC LAs.

APPENDIX A:
INTEGRATED PRODUCT SUPPORT ELEMENT
ASSESSMENT CRITERIA

Objective

The objective of this Appendix is to provide the assessment criteria used to conduct a Logistics Assessment (LA). They align with the Integrated Product Support (IPS) elements defined by the Department of Defense (DoD). As stated earlier, it's recommended that Program Support Budgeting and Funding, and Environment, Safety, and Occupational Health (ESOH) are broken out separately from their parent support element. Budgeting and funding is normally aligned with IPS element "Product Support Management," and ESOH is aligned with "Design Interface" in the DoD Product Support Management Guide. These are broken out as separate focus areas in this guidebook since they typically require a subject matter expert specific to that area to conduct the assessment.

A.1. Process

The IPS Element Assessment Tables provide standard assessment criteria and are neither platform nor system specific. Rather, they are critical evaluation factors which may be further defined in respective Component guides and identify Component specific or platform unique requirements. Individual LA team members should conduct their assessments using these criteria and any other Component, System Command (SYSCOM) or Program Executive Office (PEO) specific criteria, as assigned by the LA Team Leader.

The Milestone (MS) columns in the Assessment Criteria tables are marked to indicate the MS that the criteria apply to for a typical program with program initiation at MS B (MS A for ships). The MS columns are either marked by an I, IP, F, or U. Definitions for each are provided below.

Since programs vary in their acquisition approach and strategy (e.g., Rapid Development Capability Programs, Urgent Operational Needs programs, evolutionary programs, etc.), the letters in the milestone columns may vary and should be used as a guide and not a hard requirement.

- **I (Initiated):** The strategy and approach have been defined and documented in program plans to include the IMS, and funding is identified in the appropriate funding documents. The activity/product is included in contractual documentation (Request for Proposal (RFP), contract, tasking orders, etc.).
- **IP (In process):** Efforts for the activity or product are in process, to include analyses, assessments, studies, surveys, etc. Predecessor activities have been completed and precursor actions have been initiated or are in process as appropriate.
- **F (Finalized):** The activity or product has been completed and is finalized, and has resulted in approval or decision by the approving/decision authority. The activity/product may also be in a completed state but not approved if a pending decision or approval will not impact dependent decisions or activities and the effort will be finalized prior to the milestone.
- **U (Update):** The activity or product is updated as required by statute, regulation, or to reflect new data as the product/process matures.

1.0 Product Support Management	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
1.1 Program Staffing			
1.1.1 The program office billets are filled with sufficient personnel who have the required experience and training.	F		
1.1.2 A Product Support Manager (PSM) responsible for the management of supportability during acquisition and fielding is in place and has the needed experience, training and education, and certifications. The PSM is an equal participant in the different forums to ensure program support is considered during design, production and deployment.	F		
1.1.3 Personnel have the appropriate level Acquisition Professional Development Plan or Defense Acquisition Workforce Improvement Act (DAWIA) Certification Level commensurate with their tasking.	F	F	F
1.2 Management Planning			
1.2.1 Processes to plan for or manage supportability have been identified or are in place to a level of maturity as appropriate to the program phase. These are documented in the program Life Cycle Sustainment Plan (LCSP)[1] and implementing program supportability documents, and are derived from statutory, regulatory, System Command (SYSCOM), and other requirements documents (system specification, etc.) (ref DoDI 5000.02/CJCSM 3170.01 series, etc.). [1] The LCSP is a regulatory requirement and is submitted as part of the AS approval package. Assessor Note: Appendix B of this guidebook should be consulted to review those documents that impact supportability. These documents (as well as program plans) should be stable and mature enough that the document will be approved by the milestone. However, an unsigned document does not necessitate a finding.	F	U	U
1.2.2 Program requirements documents quantify a threshold/objective range for each support and sustainment related performance parameter, with measurement metrics for each. Each parameter is associated with its programmatic resource cost to plan and execute across the projected life cycle (see par 2.2.1). Supportability/ Sustainment Key Performance Parameters (KPP)/Key System Attributes (KSAs) are defined consistently across documents (Joint Capabilities Integration and Development System (JCIDS) Documents, Acquisition Strategy (AS), LCSP, contractual documentation, System/Subsystem Specification (SSS) (ref DoDI 5000; CJCSM 3170.01 series).	F	U	U
1.2.3 Performance threshold values are on target or have been met for evaluation at IOT&E and thus on track for Initial Operational Capability (IOC). If not, a plan is in place to ensure they are met (ref DoDI 5000; CJCSM 3170.01 series).	IP	F	F
1.2.4 A risk management program has been established. Logistics support program risks and mitigation plans have been identified and assessed (ref DoDI 5000.02, Risk Management Guide for DoD Acquisitions).	F	U	U

1.0 Product Support Management	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
1.2.5 Deficiencies identified during previous LAs; assessments; Systems Engineering Technical Reviews (SETRs) (e.g., Preliminary Design Review (PDR); Critical Design Review (CDR); Production Readiness Review (PRR)); program reviews; or testing that impact supportability planning have been corrected or an acceptable plan is in place to mitigate the deficiency.	F	F	F
1.2.6 A Systems Engineering Plan (SEP) has been developed in accordance with DoDI 5000.02 and DoD SEP Preparation Guide. Supportability is included and considered in the engineering process. Reference the Defense Acquisition Guidebook (DAG) Chapters 4.4, 5.2, and 5.4.1–5.4.5 for specific supportability information to be included in the SEP.	F	U	U
1.2.7 Memorandum of Agreements/Understanding (MOA/Us) or other formal agreements have been developed between the program office, gaining command or platform, participating acquisition resource manager, user, (e.g., those identified in the SEP), field activities, software support activities, etc. that defines supportability requirements, administrative and personnel resources, funding, physical resources, etc. Examples are MOAs to a field activity to provide support, DoD activity to host a backup disaster recovery site, etc.	I	IP	F
1.2.8 A standardization process/program is in place (and summarized in the AS) to reduce proliferation of non-standard parts and equipment and optimize parts commonality across system designs (ref 10 USC 2451, DoD 5000.02).	IP	F	U
1.2.9 If a warranty is used: • A cost-benefit analysis is conducted to determine the appropriate spares/warranty strategy (ref FAR 46.7, Defense Federal Acquisition Regulation Supplement (DFARS) 246.7, DoD Warranty Guide, dtd Sept 2009)	I	IP	F
1.2.10 If a warranty is used: • A written warranty plan has been developed that includes tracking and assessment of essential performance requirements as identified in the DoD Warranty Guide, dtd Sept 2009 (ref FAR 46.7, Defense Federal Acquisition Regulation Supplement (DFARS) 246.7, DoD Warranty Guide, dtd Sept 2009)	IP	F	U
1.2.11 A fielding schedule has been developed.	IP	F	U
1.2.12 A fielding plan has been developed.	I	IP	F
1.2.13 Fielding authorizations have been obtained, including required certifications and approvals.		IP	F
1.2.14 Interim support planning for all required program support is in place, including rationale for any lifetime interim support strategy.	I	IP	F
1.3 Performance Based Logistics (PBL)			
1.3.1 System level performance metrics have been established for the Performance Based Agreement (PBA) between the Warfighter and the program manager, and directly support KPPs. Metrics are in synchronization with the scope of support provider's responsibility.	I	F	U

1.0 Product Support Management	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
1.3.2 PBL strategies have been considered for all support areas (including Technical Assist, Support and Test Equipment (S&TE), calibration requirements, training, etc.) which incentivize performance, are metrics-based, and consider legacy systems (ref DoDI 5000.02/DoD PBL Guidance).	I	IP	F
1.3.3 Business Case Analyses (BCAs) are conducted per DoD Product Support BCA Guidance. The Product Support BCA Template identifies the following areas to be covered: • Executive Summary • Introduction • Desired Outcomes and Requirements • Assumptions and Methods • Alternatives • Mission and Business Impacts • Risk Analysis and Mitigation Plans • Sensitivity Analysis • Conclusion • Recommendations	I	F	U
1.3.4 A methodology has been established to collect supportability performance metrics. These metrics are defined and are measureable. Metrics should: • Be linked to system KPPs • Address system reliability and incentivize use of common DoD components • Motivate desired long-term behavior • Be understood and accepted by all stakeholders • Be assessable and verifiable by system stakeholders	I	IP	F
1.3.5 Supportability performance metrics are collected and assessed.	I	IP	F
1.3.6 A range of performance-based options from single Product Support Integrator (PSI) to PBL opportunities with major sub-system and component Original Equipment Manufacturers (OEMs) has been evaluated.		IP	F
1.3.7 Work agreement/contract performance work statement includes required metrics, which will be tailored to the unique circumstances of the PBL arrangements, for evaluating required performance results in support of Capability Development Document (CDD)/Capability Production Document (CPD) and PBA performance parameters. Metrics support overall DoD PBL measures (Operational Availability (A_o), Mission Reliability, Logistics Footprint, Cost Per Unit Usage, Logistics Response Time, etc.). Sufficient cost data shall be included to validate BCAs with actual costs during in-service reviews.		IP	F
1.3.8 Exit criteria have been established in the performance-based contracts to ensure the orderly and efficient transfer of performance responsibility back to the Government upon completion or termination of the PBL contracts. Contains provisions for the acquisition, transfer, or use of necessary technical data, support		I	F

1.0 Product Support Management	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
tooling, support and test equipment, calibration requirements, and training required to reconstitute or re-compete the support workload.			
1.3.9 A support performance data collection system is planned/in place and operating; trends are monitored and fed back for appropriate corrective actions. A corrective action process is defined if PBL performance does not meet PBA/Warfighter Agreement thresholds.	I	IP	F
1.4 Schedule			
1.4.1 A program Integrated Master Plan (IMP) has been developed that includes logistics support as criterion or accomplishments to meet criteria to meet program milestones as specified within program requirements documents (ICD/CDD/CPD, etc.).	U	U	U
1.4.2 A program Integrated Master Schedule (IMS) has been developed that: 1) is reflective of the program IMP; 2) contains detail on program support activities for both Government and contractor, to include precursor and predecessor relationships; 3) is detailed for the current phase of the program's life cycle; 4) reflects tasks identified in the LCSP. (Assessor tip: This is not a contractor delivery/activity schedule.)	U	U	U
1.5 Contractual Package			
1.5.1 The respective contractual package reflects the supportability efforts to be completed and delivered by the contractor as identified in program and program support planning documentation. (Assessor Note: When reviewing the contract package, ensure tasks or requirements identified as options have been exercised.)	F	F	F
1.5.2 Specifications for supportability and the current contract include verification criteria which can be met (to include test, demonstration, analyses, and verification).	F	U	U
1.5.3 Supportability requirements are flowed down to the appropriate specifications.	IP	F	F
1.5.4 Contracts include metrics for tracking and assessing contract performance.	F	F	F
1.6 Configuration Management (CM)			
1.6.1 Requirements for the configuration identification, control, status accounting, Configuration Control Board (CCB) processes and membership (to include logistics participation), waivers/deviations, engineering changes, and verification/audit functions are established for hardware, software, and product/technical data and reflected in an approved Government and contractor Configuration Management Plan (CMP). DAG Chapters 4.2.3.1.6 and 5.1.7 should be consulted for additional information and best practices relating to CM (ref DoDI 5000.2, MIL-DBK-61A; IEEE 12207 for SW).	F	U	U
1.6.2 Appropriate configuration Audits have been conducted. * Functional Configuration Audit (FCA) conducted after Development Test and prior to Milestone C, typically coinciding with System Verification Review (SVR) and PRR. Physical Configuration Audit (PCA) conducted prior to Full Rate Production (FRP).	IP	*	*

1.0 Product Support Management	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
1.6.3 The appropriate baselines (e.g., functional, allocated, and product) have been established by the appropriate technical review events. * Functional Baseline at System Functional Review (SFR); Allocated Baseline at PDR, Initial Product Baseline at CDR and finalized at PCA. (DODI 5000.02).	IP	*	*
1.6.4 The status of configuration change activity and approvals, and the version descriptions for software Configuration Items (CIs) under development and installed in hosting locations are tracked within the Configuration Status Accounting (CSA) function within the program's CM processes per the CMP.	I	IP	F
1.6.5 The CSA information is maintained in a CM database that may include such information as the as-designed, as-built, as-delivered or as-modified configuration of the product as well as of any replaceable components within the product along with the associated product/technical data.	I	F	U

1.7 Diminishing Manufacturing Sources and Material Shortages (DMSMS)

	B	C	FRP
1.7.1 The program has established a proactive DMSMS program that identifies obsolescence due to DMSMS before parts are unavailable. This is reflected in a formal DMSMS program management plan (ref DoD 4140.1-R, DoD Supply Chain Materiel Management Regulation of 23 May 03).	F	U	U
1.7.2 DMSMS forecasting/management tools and or service providers have been researched and selected, and Bill of Material (BOM) has been loaded into the system. The program also has a strategy for obtaining: • Design disclosed items, including sub-tier hardware indenture levels • Form fit function/proprietary design items, including sub-tier hardware indenture levels • Bill of Material (BOM), with a defined periodicity and specified level of indenture, in order to conduct reviews and upload of current BOMs	IP	F	U
1.7.3 DMSMS exit strategy requires the PBL provider to ensure there are no end-of-life issues at completion of period of performance.	I	IP	F

1.8 Failure Reporting, Analysis, and Corrective Action System (FRACAS)

	B	C	FRP
1.8.1 FRACAS process, including failure analysis, is established and failures are analyzed and trended for program support visibility. BIT indications and false alarms are analyzed and included in the FRACAS process.	I	F	U
1.8.2 A FRACAS review is performed on engineering development models, pre-production units, production, and deployed units.	IP	IP	IP
1.8.3 Safety/mishap reports associated with materiel and design deficiencies are linked with or provide input into the FRACAS.	IP	IP	IP

2.0 Design Interface	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
2.1 Parts and Materials Selection			
2.1.1 Design guidelines for the contractor are provided that optimize supportability and maintainability of the system. The degree of adherence to the design guidelines for supportability and maintainability should be assessed at PDR and CDR (ref DoDI 5000.02).	F	U	U
2.1.2 System, subsystem, and component specifications reflect the Design Reference Mission Profile (DRMP) environmental, functional, and logistics use profiles.	IP	F	U
2.1.3 A Modular Open Systems Approach (MOSA) has been implemented (ref DoD 5000.02, Program Manager's Guide: A Modular Open Systems Approach (MOSA) to Acquisition, Version 2.0 September 2004)	IP	F	U
2.1.4 A parts standardization program has been implemented. Standard parts and equipment are those currently in the DoD inventory or produced in accordance with nationally recognized industry, international, federal, or military specifications and standards (ref 10 U.S.C. Section 2451, DoD 5000.02).	IP	F	U
2.1.5 Interoperability between other DoD/ allied systems has been considered.	IP	F	U
2.1.6 Predicted failure rates have been verified and used to estimate annual operating costs.	I	IP	U
2.1.7 For applicable programs, the process for establishing and managing critical items/critical safety items list has been developed and follows the process delineated in the appropriate Component instructions (ref. DoD 4140.1-R, PL 108-136 Sect 802).	IP	F	U
2.1.8 For applicable programs, provisions for identifying Critical Safety Items (CSI), Critical Application Items (CAIs), and non-critical items have been identified (ref DoDI 5000.02).	F	F	F
2.1.9 For applicable programs, CSIs, CAIs, and non-critical items are incorporated in the Contract Statement of Work and program office tasking (ref DoD4140.1-R).	F	F	F
2.1.10 For applicable programs, a preliminary list of CSIs, CAIs, and non-critical items has been reconciled with latest Logistics Management Information (LMI) data and submitted.	I	F	U
2.1.11 For applicable programs, the CSI/CAI list and associated technical and management information has been approved by appropriate Government technical authorities and the final list has been submitted to the appropriate logistics databases.	I	F	U
2.1.12 Reliability verification testing has been planned or conducted for Commercial-Off-the-Shelf (COTS) components to ensure they meet or exceed overall system reliability requirements.	I	F	U
2.2 Testability and Diagnostics			
2.2.1 Preliminary Built-In-Test (BIT) and testability analysis is completed by PDR (ref. CJCSI 3170.01 series).	F		
2.2.2 Detailed BIT and testability analysis is completed by CDR, and BIT effectiveness is validated with tests.		F	

2.0 Design Interface	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
2.2.3 The BIT and testability concept is defined with the operation concept and the maintenance concept for all levels of maintenance.	IP	F	U
2.2.4 Design analyses (e.g., fault tree, Failure Modes, Effects and Criticality analysis (FMECA)) have been used to determine test point requirements and fault ambiguity group sizes.	IP	F	U
2.2.5 The level of repair and testability analysis is completed for each configuration item for each maintenance level to identify the optimum mix of BIT, semi-automatic test equipment, calibration standards, Maintenance Assist Modules (MAMs), special purpose test equipment and general purpose test equipment.	I	IP	F
2.3 Reliability, Availability, Maintainability and Supportability (RAMS)			
2.3.1 Logistics elements are traceable to the following factors of the DRMP (DoD 4245.7-M, DoD Guide for achieving RAM, dtd Aug 05, DoD RAM-C Manual, dtd 1 June 2009): • Environmental profiles include the systems production, operation, and support environments with their associated timelines. The operating and non-operating requirements may include temperature, vibration, electromagnetic interference, electrostatic discharge, humidity, altitude, salt spray, fog, nuclear, chemical and biological, sand/dust, foreign object damage, production contaminants, etc. • Functional profiles are prepared and detailed to the subsystem, assembly, and part levels as the system design progresses. They describe the system functional requirements and their associated mission and life cycle timelines. • Logistics-use profiles and associated timelines are prepared and updated over the life cycle based on the system detail design and maintenance plan.	F	F	F
2.3.2 Metrics for System Sustainment (Availability KPP (A_o and A_m), Reliability KSA R_m, and Ownership Cost KSA) objectives have been defined. Additional sustainment metrics, such as mean down time, customer wait time, and footprint reduction as appropriate have been assessed and defined (ref DoDI 5000.02, CJCSI 3170.01 series, USD(AT&L) Memo, "Life Cycle Sustainment Outcome Metrics, dtd 10 Mar 07, USD(AT&L) Memo, "Implementing a Life Cycle Management (LCM) Framework, dtd Jul 2008).	F	U	U
2.3.3 RAM requirements are applied to all systems, including those that rely on or are developed with COTS/Non-Developmental Items (NDIs) (ref DoDI 5000.02; DAG Chapters 4.4, 5.2 and 5.4.1 and the DOD RAM-C Manual should be consulted for additional information on RAM).	IP	F	U
2.3.4 RAM measures (e.g., A_o, Mean Time Between Failure (MTBF), Mean Time To Repair (MTTR) and Mean Logistics Delay Time (MLDT), Fault Detection, Fault Isolation, and False Alarm) are defined in quantifiable and measurable terms (ref. CJCSI 3170.01).	F	U	U
2.3.5 RAM performance capability parameters are defined consistent with the Initial Capabilities Document (ICD)/CDD/CPD and flowed down to the Test and Evaluation Management Plan (TEMP), other programmatic documents, and RFP/contract as appropriate (ref DoDI 5000.02 / CJCSM 3170.01 series).	F	F	F
2.3.6 A process has been implemented to assess achieved RAM performance by collection and analysis of user data for factory and fielded units.	I	IP	F
2.3.7 Predictions, analyses, and tests are conducted to verify if RAM requirements and KPPs will be met (ref DoDI 5000.02).	IP	F	U

2.0 Design Interface	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
2.3.8 Reliability growth program or other analyses/data indicate that system and subsystem reliability is appropriate to meet the stated requirement. A reliability growth plan has been implemented as appropriate.	F	U	U
2.3.9 An approved readiness model (e.g., TIGER and Availability Centered Inventory Models) is used to assess the effects of various levels of redundancies, spares, downtimes, and maintenance concepts on operational availability.	I	F	U
2.3.10 Reliability maturation tests (Accelerated Life or Reliability Development tests) are used to mature equipment reliability (ref DoD 4245.7-M).	I	F	U
2.3.11 Contracts include the requirement for supplier to implement RAM programs and provide updated analyses towards the achievement of those requirements (ref. GEIA-STD-0009 should be used as a reference for RAM contracting practices).	I	F	U
2.3.12 Contingencies for system selection or RAM/supportability design changes are considered when preliminary RAM thresholds are deemed unachievable.	I	I	F

3.0 Sustaining Engineering	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
3.1 Analysis			
3.1.1 Reliability growth data and curves show that reliability is improving.	I	U	U
3.1.2 Information from Product Quality Deficiency Reports (PQDRs) is tracked for trends and product improvement.		I	U
3.1.3 A corrosion prevention control plan has been developed in accordance with DoDI 5000.67 (required for all ACAT I programs and included in the AS) which identifies corrosion prevention, monitoring, maintenance during operation, and long term storage. The corrosion control process has been incorporated into maintenance planning (ref DoDI 5000.02, DoDI 5000.67, DoD Corrosion Prevention Plan, dtd 2008).	F	U	U

4.0 Supply Support	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
4.1 Supply Chain Management			
4.1.1 Sparing analyses and levels: • are based on the use of an accepted DoD- or Component-approved Readiness Based Sparing (RBS) methodology. • Demand-based approved models are used when data is inadequate or the RBS approach is not cost effective. • Repair parts reduction initiatives have been considered.	I	F	U
4.1.2 In instances where the provider is responsible for turnaround times and fill-rate metrics, but the Component will own materiel at the consumer level, RBS is used to determine the consumer level based on the operational scenario of the platform. Definition of success is determined by meeting contracted supply chain management metrics.	I	IP	F
4.1.3 Support strategies have been considered that are consistent with the end-to-end materiel flow process, from factory to the ultimate customer, including "last mile." It also identifies turnaround times for spares, replacement parts, refurbished and reworked items, fleet and field returns, etc. (DoD4140-1-R, DoD 5000 series)	IP	F	U
4.1.4 Based on process capabilities, processes have been mapped, capabilities determined, and process improvement initiatives identified.	IP	F	U
4.1.5 End-to-end Logistics Chain Sustainment solutions have the flexibility to meet the full spectrum of contingencies with no loss of operational capability or tempo.	IP	F	U
4.1.6 Enterprise integration enables a single view of the Supply Chain of both Organic and commercial provider asset inventories and asset tracking.	IP	F	U
4.1.7 The inventory of spares to be procured is determined and spares records are maintained.		IP	F
4.1.8 Allowances are determined.		F	U
4.1.9 Provisions for surge requirements are identified and reflected in the contract as applicable.	IP	F	U
4. 1.10 Provisioning conferences are conducted, as necessary, to determine if the contractor's provisioning preparation, documentation, and facilities are adequate.	IP	F	U
4. 1.11 Provisioning screening has been conducted to: • Prevent duplicate entries in the DoD supply data system • Obtain most cost-effective support, including consideration of using existing supply items	IP	F	U
4. 1.12 Item management codes are assigned, including Source, Maintainability, and Recoverability (SMR) codes and those for Hazardous Materials (HAZMAT).	IP	F	U
4. 1.13 Provisioning data reports have been generated. For example: • Recommended repair parts list provided for pre-operational repair parts and training equipment	IP	F	U

4.0 Supply Support	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
• Provisioning Parts List (PPL) identifying the system components that will require National Stock Numbers (NSNs) and determining the range and depth of support items for an initial period of service. (i.e., spares in support of the test program) **(See Support Equipment (SE) for associated provisioning requirements.)**			
4. 1.14 The supply support provider has the capability to accept demand requisitions and provide status reports by electronic data interchange.		IP	F
4.2 Interim Support			
4.2.1 An interim support plan is in place that details the interim support requirements that the provider will be required to execute.	IP	F	U
4.2.2 The interim support item list identifies support requirements for a transitional operating period.	IP	F	U
4.2.3 Planning for contractor teams that are supporting fielded units is in place if Government support will not be available.		IP	F
4.3 Automated Identification Technology (AIT)			
4.3.1 Radio Frequency Identification (RFID) planning and strategy have been developed/updated consistent with DoD and the respective Components' policy and guidance (ref. USD(AT&L) Memo, Subj: RFID Policy of 30 Jul 04).	I	IP	F
4.3.2 RFID DFARS clauses 252.211-7006 RFID, added to all solicitations and contracts as appropriate.	I	F	U
4.3.3 Item Unique Identification (IUID) DFARS Clause 252.211-7003 Item Identification and Valuation and DFARS added to all solicitations and contracts as appropriate.	IP	F	U
4.3.4 IUID plan and strategy have been developed/updated consistent with DoD policy and guidance including: • DoDI 8320.04 - IUID Standards for Tangible Personal Property, Jun 16, 2008 • DoDD 8320.03 Unique Identification (UID) Standards for a Net-Centric Department of Defense Mar 23, 2007(for AISs)	IP	F	U
4.3.5 Program Unique IUID, Serialized Item Management (SIM), and RFID requirements are adequately addressed in the appropriate program supportability plans.	IP	F	U
4.3.6 RFID and IUID Implementation and Compliance Metrics have been identified.	IP	F	U
4.3.7 RFID and IUID Implementation and Compliance Metrics are tracked.	I	IP	F

5.0 Maintenance Planning and Management	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
5.1 Maintenance Concept, Design & Analysis			
5.1.1 Accessibility, Human Factors Engineering (HFE), diagnostics, repair and sparing concepts for all maintenance levels are established (ref. DoDD 4151.18, MIL-HBK-470A).	F	U	U
5.1.2 Requirements for manpower factors that impact system design utilization rates (e.g., maintenance ratios) are identified.	F	U	U
5.1.3 Maintenance task times, maintenance skill levels and number of maintenance and support provider personnel required have been derived from but not limited to the following (see above references): • Reliability (e.g., Mean MTBF) • Maintainability (e.g., MTTR, and maintenance task analyses) • Availability (e.g., task-time limits) • Reliability and maintainability tests and demonstrations • Performance monitoring/fault detection/fault isolation and diagnostics • Fault Tree Analysis • Tasks and Function Analysis • Top Down Requirements Analysis • Identify PMCS requirement/goals	IP	F	U
5.1.4 Life-cycle supportability design, installation, maintenance, S&TE, calibration, and operating constraints (including safety and health compliance requirements) and guidelines are identified.	IP	F	U
5.1.5 Maintenance planning and analyses consistent with statutory and regulatory requirements (Title 10 USC 2464 (CORE), Title 10 USC 2460 (Definition of Depot Maintenance), 2466 (50/50 limit on contracted maintenance), and 2474 (encouraging public/private partnerships)): • Core Logistics Analysis, (CLA). References are: Title 10 USC Code 2464/2466; DOD 5000.02, Mandatory Procedures for Major Defense Acquisition Programs (MDAPS) and Major Automated Information System (MAIS) for Acquisition Programs • Depot Source of Repair (DSOR)/Source of Repair Analysis (SORA) Joint Depot Maintenance (JDM) Regulation DOD Directive 4151.18, Maintenance of Military Material, DOD 5000.02, Mandatory Procedures for Major Defense Acquisition Programs (MDAPS) and Major Automated Information System (MAIS) for Acquisition Programs	F	U	U
5.1.6 Economic and non-economic Level of Repair Analysis (LORA) is planned to help identify the least-cost feasible repair level or discard alternative.	IP	F	U
5.2 Maintenance Planning and Plan			
5.2.1 Condition Based Maintenance (CBM) strategy or (CBM+) strategy is used to determine maintenance decisions to reduce scheduled maintenance and manpower requirements, while reducing operation and sustainment costs and ensuring the appropriate maintenance is performed.	IP	F	U
5.2.2 Defines specific criteria for repair and maintenance for all applicable maintenance levels in terms of time, accuracy, repair levels, built-in-test, testability, reliability, maintainability, nuclear hardening, support equipment requirements (including automatic	IP	F	U

5.0 Maintenance Planning and Management	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
test equipment), manpower skills, knowledge, and abilities and facility requirements for peacetime and wartime environments.			
5.2.3 Defines the maintenance approach including level of repair and includes the results of the analysis to determine logical maintenance task intervals, grouping, and packaging.	IP	F	U
5.2.4 Defines the actions and support necessary to ensure that the system attains the specified A_o that is optimized considering Reliability Centered Maintenance (RCM), CBM, and time-based maintenance.	IP	F	U
5.2.5 System anomalies and intermittent failures are analyzed for possible changes to the BIT design, thresholds/tolerances, and/or filtering.	IP	F	U
5.2.6 States specific maintenance tasks, including battlefield damage repair procedures, to be performed on the materiel system.	IP	F	U
5.2.7 Identifies hosting and requirements (e.g., interfaces) for the maintenance data reporting system if it will be used/deployed on a platform (e.g., ship, air vehicle, ground vehicle etc.).	I	IP	F
5.2.8 Maintenance planning documentation identifies: • Tools and test equipment by task function and maintenance level • Category codes (e.g., SMR codes, etc.) • Manufacturer's part numbers, cage codes, nomenclatures, descriptions, estimated prices, and recommended S&TE quantities, including logistics (e.g., technical data, spares, test equipment) for S&TE	I	IP	F
5.2.9 RCM methods conducted in accordance with MIL-P-24534A and FMECA are used to determine the evidence to select the appropriate type of maintenance (e.g., inspect/repair as necessary, disposal, or overhaul).	IP	F	U

6.0 Packaging, Handling, Storage, and Transportation (PHS&T)			
ASSESSMENT CRITERIA	B	C	FRP
6.1 General Requirements			
6.1.1 Packaging, storage, handling, and transportation profiles of the configuration items over the system life cycle from acceptance through disposal have been derived from the DRMP.	I	IP	F
6.1.2 PHS&T requirements such as weight and dimension data are adequately specified in the required provisioning technical data.	I	F	U
6.1.3 DoD's computerized Container Design Retrieval System database has been searched to preclude the design of new specialized containers when a suitable one exists in the system.	I	IP	F
6.1.4 If a new specialized reusable container is needed, requirements have been coordinated with the cognizant field activity.		IP	F
6.1.5 A PHS&T Plan has been developed that identifies the program strategy for safely packaging, handling, storing, and transporting the system as well as any special requirements and interfaces with agencies or DoD components responsible for transporting the system.	IP	F	U
6.2 Packaging			
6.2.1 MIL-STD-2073 is used as necessary for: • Items that cannot be protected and preserved in a cost-effective manner using commercial packaging • Items delivered during wartime for deployment with operational units • Items requiring reusable containers • Items intended for delivery-at-sea • An item where the Government has determined military packaging is the optimal solution • Items intended for/or may be in long-term storage	I	IP	F
6.2.2 Department of Agriculture requirements for packaging intended for international use have been meet as required, i.e., Wood Packaging Material (WPM).	I	IP	F
6.2.3 MIL-STD-129 marking requirements for all unit, intermediate, and shipping containers have been met.	I	IP	F
6.2.4 PHS&T requirements for associated hazardous materials and wastes have been identified.	I	IP	F
6.2.5 Corrosion prevention safeguards are in place to ensure effects of corrosion are minimized during storage and transportation afloat and ashore.	I	IP	F
6.3 Handling			
6.3.1 Requirements for materiel handling devices for loading and unloading have been defined.	IP	F	U
6.3.2 Materiel handling devices for loading and unloading have been certified.	I	IP	F

6.0 Packaging, Handling, Storage, and Transportation (PHS&T)			
ASSESSMENT CRITERIA	B	C	FRP
6.3.3 For systems going onboard ships/submarines, packaging is designed to be compatible with shipboard handling equipment.	I	IP	F
6.4 Storage			
6.4.1 Storage monitoring requirements are incorporated into technical publications.	I	IP	F
6.4.2 Long-term storage requirements for systems, such as ground and air vehicles, have been identified to ensure lubrication, batteries, seals, etc. will not degrade. Accessibility for maintenance during long-term storage has been considered.	I	IP	F
6.4.3 Items requiring special storage requirements (e.g., freezers for storage of composites, HAZMAT, etc.) and/or shelf life requirements have been identified and documented in the appropriate program supportability documentation.	I	IP	F
6.5 Transportability/Transportation			
6.5.1 Transportability issues are addressed, including: • Modes of transportation • Oversized/overweight items • Items requiring special transportation modes • Items that are classified • Special transportation environments/anticipated conditions requirements (e.g. sea states, tunnel limitations for rail, desired sorties for complete systems, etc.)	IP	F	U
6.5.2 Anti-tamper requirements (and security processes while in storage and transit) have been identified for both hardware and software and factored into the maintenance planning for deployed systems.	IP	F	U
6.5.3 Rail, air, and ship certifications have been obtained or are scheduled and coordinated with the appropriate platform manager or agency. This includes tie down patterns, rail impact tests, load modeling or load demonstration, and interfaces between the system being transported and the transporting platform.	IP	F	U
6.5.4 Time delivery requirements for all shipments of spares have been identified.	I	I	F
6.5.5 Transportation requirements with Federal and State agencies have been identified (such as height, weight, etc.) and any necessary waivers obtained for highway or rail transport.	IP	F	U
6.5.6. Transportation processes, hardware, and procedures for disabled systems (e.g., aircraft, ground systems) have been developed and tests have been scheduled or conducted.	I	IP	F
6.6 Testing			
6.6.1 Design validation testing has been conducted on special packaging identified in MIL-PRF-49506 and Appendix F, MIL-STD-2073-1.	I	IP	F
6.6.2 Ammunition tests have been conducted to ensure compatibility with host platform/facility requirements.	I	IP	F
6.6.3 HAZMAT packages have been tested per the applicable requirements for performance packaging contained in the International Air Transport Association	I	IP	F

6.0 Packaging, Handling, Storage, and Transportation (PHS&T)			
ASSESSMENT CRITERIA	B	C	FRP
Dangerous Goods Regulations or the International Maritime Dangerous Goods Code and with the Code of Federal Regulation, Titles 29, 40, and 49.			

7.0 Technical Data	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
7.1 Technical Data Management Strategy			
7.1.1 A BCA has been conducted to assess the cost and merit for purchasing Technical Data.	IP	F	U
7.1.2 A technical data management strategy has been developed that: • Is documented in the LCSP and AS • Supports re-competition for production, sustainment, or upgrade • Addresses the merits of including priced contract options for future delivery of technical data and intellectual property rights and addresses restricted use and data release • DAG Chapters 2.3.14, 4.2.3.1.7.4, 5.1.6, and 11.12 should be consulted for additional information and best practices relating to this IPS element (ref DoDI 5000.02, USD(AT&L) Memo, Data Management and Technical Data Rights, dtd 19 Jul 07)	F	U	U
7.1.3 Technical data (as defined in the program DMS) has been ordered using contract statements of work, Contract Data Requirement Lists (CDRL), Data Item Descriptions (DID), and appropriate contract clauses. Government data rights have been agreed to and documented in the contracts.		F	U
7.1.4 Authoritative Data Sources (ADS) and the associated change authority have been identified, described, and designated by the appropriate Components U.S. Military Services and Components, as the authorized data production source to create, manage, use, distribute, and archive publish complete and accurate data for use by the end users.	IP	F	U
7.2 Integrated Digital Environment			
7.2.1 If applicable, all network compatibility issues are addressed, and mitigation steps identified.	IP	F	U
7.2.2 A logistics data enterprise architecture has been generated which identifies electronic data repositories, information exchange requirements, and usage.	I	IP	F
7.3 Product/Technical Data Package and Publication			
7.3.1 A product/technical data management plan that includes change control processes and in-process review/validation/verification schedules as appropriate, has been developed (ref DoD 5010.12-M , dtd May 93).	I	F	U

7.0 Technical Data	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
7.3.2 Computer Aided Design, modeling, and engineering product source data is acquired in an acceptable digital format such as XML per the respective Components' policy and managed according to the Integrated Digital Data Environment (IDDE).	IP	F	U
7.3.3 The product/technical data package is administered under a formal Configuration Management process and is consistent with the requirements contained in the CMP, the maintenance plan, calibration support plan, and the Information Support Plan (ISP) and provides a sufficient level of detail for re-procurement, upgrade, maintenance, and repair of hardware. The product/technical data package normally includes (ref MIL-STD-31000): • Specifications, technical manuals, publications, engineering drawings/product data models, calibration procedures, and special instructions such as for unique manufacturing and test processes • Interchangeability, form, fit, and function information • Environment, Safety, and Occupational Health (ESOH) constraints or requirements • Preservation and packaging requirements • Test requirements data and quality provisions • Preventative maintenance system/maintenance requirements card, and • Environmental stress screening requirements	I	F	U
7.3.4 The product/technical data package elements have been specified in the contractual package in accordance with requirements of MIL-STD-31000, as appropriate.	F	F	F
7.3.5 The contract identifies and requires delivery of the technical data requirements and associated products as identified by the analysis, as appropriate.		F	F
7.3.6 Changes have been made that were identified during the PCA.			F
7.4 Technical Publications			
7.4.1 The contents of the product/technical manuals have been validated/verified, considering the following: • Phased development schedule is in parallel with the system development • Contents are validated on production configured systems or equipment by the user • COTS manuals have been evaluated using MIL-PRF-32216 • Established a quality assurance plan to ensure the TM/TDP have been validated and verified. • Established a quality assurance plan to ensure the TM/TDP have been validated and verified.	I	IP	F
7.4.2 Verification and validation of Software applications and other tools used to create, manage, update, present, and view technical manuals has been completed.	I	IP	F
7.4.3 A process for distribution of Technical Manuals has been established.	I	IP	F
7.4.4 Approved technical manuals will be available to support the end item and peculiar SE and in the quantities required.	I	IP	F
7.4.5 An approved Calibration Requirements List is available to support the end item and all peculiar installed instrumentation.	I	F	U

8.0 Support Equipment	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
8.1 General Requirements			
8.1.1 The environmental and physical constraints, such as size, weight, power, temperatures, and interfaces have been factored into support equipment designs (ref DoD 5000 series, MIL-HDBK 2097A).	F	U	U
8.1.2 Analyses to identify the optimum mix of automatic and manual fault detection and isolation equipment at each applicable maintenance level has been conducted (ref DoD 5000 series).	IP	F	U
8.1.3 The decision between common support equipment and peculiar support equipment (new development) has been considered in an effort to minimize SE footprint.	IP	F	U
8.1.4 Overall support strategy for SE has been defined, and includes identification of the following: • Support equipment requirement documents • Supply support • Interim spares • Manpower • Training • Technical data • Maintenance levels and maintenance task requirements • Computer resources support • Calibration • Facility requirements • Support equipment for SE	IP	F	U
8.1.5 Required technical documentation to support the support equipment is identified and includes: • Procedures to perform the required tests and diagnostics • Test measurement and diagnostic equipment, calibration requirements, procedures, and associated technical parameters • All product/technical data required to support and operate required SE throughout the life cycle of that product • Test fixtures and/or interfaces to connect the system to the test equipment	IP	IP	F
8.1.6 Requirements for the testing of support equipment have been identified.	F	U	U
8.1.7 Availability of calibration standards and procedures, support equipment, Test Program Sets (TPS), and tools at required maintenance sites and training schools have been verified, including types and quantity of support equipment for each location.	IP	F	U
8.1.8 Support equipment has been identified in the appropriate allowance lists.		I	F
8.1.9 A plan has been developed for certifying support equipment for use on host platforms or fielding sites, as appropriate.		F	
8.1.10 Support equipment has been certified for platform use. An installation change document has been developed for any changes to the system configuration resulting from support equipment requirements.		IP	F
8.1.11 For Major Defense Acquisition Programs (MDAP), a plan for preservation and storage of unique tooling has been provided as an annex to the LCSP. It includes:	IP	F	U

8.0 Support Equipment	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
• Identification of any contract clauses, facilities, and funding required for the preservation and storage of such tooling and shall describe how unique tooling retention will continue to be reviewed during the life of the program • Unique tooling designated for preservation and storage will be serially managed and meets the requirements of IUID per DoDI 8320.04, (ref USD(AT&L) memo dtd 3 Aug 09, Preservation and Storage of Tooling for MDAP) and MIL-STD-130.			

9.0 Training and Training Support			
ASSESSMENT CRITERIA	B	C	FRP
9.1 Training Analysis and Planning			
9.1.1 A Training Planning Process Methodology and Front End Analysis is conducted.	IP	F	U
9.1.2 The Training Plan is approved.	IP	F	U
9.1.3 Resource requirements are specified for training equipment, services, calibration standards, test equipment, materiel, facilities, and personnel. Training facilities, trainers, and units dedicated for training can handle throughput for both personnel and hardware to include consideration of footprint, maintenance environmental constraints, etc. Requirements to bring training onboard a host platform, including local-area-network-based computer training, has been coordinated.	IP	F	F
9.1.4 The Course Curriculum and Instruction is developed and provided in accordance with Training Systems Plan and SOW/CDRLs. Ensure a Ready For Training (RFT) date is established and met. Ensure the Course Curriculum and Instruction is delivered as required to achieve: • Terminal training objectives • Initial training • Formal schools, OJT, and follow-on training • Computer-based training, ADL, JPA, either standalone or embedded training • Individual and team training • Instructor training (train the trainer) • Trial teach/pilot course/RFT • Information assurance compliance	I	IP	F
9.1.5 Terminal and enabling learning objectives are derived through appropriate learning analysis and formatted per service training development guidance.	IP	F	U
9.1.6 Operator, maintainer, and calibration training, along with job performance aids, are included in the appropriate manuals or embedded in the Interactive Electronic Training Manual (IETM), where applicable.	I	IP	F
9.1.7 Initial production equipment and technical manuals for the new system's delivery and installation schedule must be planned so the system is supportable by the first operational unit.	I	IP	F
9.2 Training Materials			
9.2.1 Technical publications are developed prior to the development of training materials.	I	IP	F
9.2.2 Instructor guides, course curriculum, other training aids, SE and student guides are planned or developed for classroom training.	I	IP	F
9.2.3 Training courses are developed and training is conducted on the fielded configuration(s). This includes pre-faulted modules or software to simulate faults for diagnostics training.		IP	F
9.2.4 Contractor/government test and evaluation activities are used to validate and verify training requirements, systems, and materials.		IP	F

9.0 Training and Training Support			
ASSESSMENT CRITERIA	B	C	FRP
9.2.5 Initial user maintainer training for Operational Evaluation and Component introduction is in place.		F	U
9.3 Training Product and Support			
9.3.1 Training devices and simulators to support operator, maintainer, or calibration training are identified if needed.	IP	F	U
9.3.2 A military characteristics document or Training System Functional Description is prepared for each training device, defining its basic physical and functional requirements.		IP	F
9.3.3 Logistics support (spares, SE, etc.) for the training schools is planned.	IP	F	U
9.3.4 If applicable, Inter-service training agreements have been established or updated.	IP	F	U
9.3.5 If applicable, requirements for training system integration into live, virtual, and constructive training environments have been planned for or met.	IP	F	U

10.0 Manpower and Personnel			
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
10.1 Human Systems Integration (HSI)			
10.1.1 HSI analysis has been performed addressing operator, maintainer and support personnel (ref MIL-HDBK-46855A): • Accessibility • Visibility • Human factors/ergonomics • Testability • Complexity • Standardization and interchangeability • Use of mock-ups, modeling, and simulation • Operational experience • Workspace Environment(e.g., heating, cooling, ventilation, illumination, noise, vibration) • Design for effective handling and carrying • Controls and displays • User computer interface • Environmental, Safety, and Occupational Health (ESOH) • Usability • Habitability • Personnel survivability • Workload	IP	F	U
10.1.2 Broad cognitive, physical, and sensory requirements for the operators, maintainers, and support personnel that contribute/constrain to total system performance have been analyzed.	IP	F	U
10.1.3 An HSI plan has been developed, executed, and maintained, and has been coordinated with subsystem HSI plans and the overall SEP.	IP	F	U
10.2 Manpower and Personnel			
10.2.1 A Manpower Estimate (ME) for the operation and maintenance of the program has been developed for all programs (Manpower Estimate Report for ACAT I programs) (ref DoDI 5000.02).	F	U	U
10.2.2 Manpower and personnel requirements have been identified for both organic and contractor support including: • Knowledge, skills, and abilities • Maintenance, calibration, operator, and support provider labor hours by rate or skill area/level by year • Number of personnel by rate, maintenance level, and year • Operator, maintainer, and support provider organizational-level assignments defined, Peacetime and Wartime	IP	F	U
10.2.3 Maintenance and calibration task times, maintenance and calibration skill levels, and number of maintenance and support provider personnel required have been derived from task and "workload" analyses.	IP	F	U
10.2.4 Requirements for both organic and contractor manpower requirements are validated under representative operating conditions.		I	F

10.0 Manpower and Personnel			
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
10.2.5 Changes (increases and/or decreases) in manpower and personnel requirements have been identified for any transition period between systems.	IP	F	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
11.1 Facility Requirements			
11.1.1 The types of facilities/infrastructure (Research, Development, Test, and Evaluation (RDT&E), operations, calibration, maintenance, and training) required to support and sustain the new or modified system have been identified, such as: • Berthing space for ships (including utilities, dredging, special deck structural requirements for crane loads, and fendering systems) • Parking aprons and hangar space for aircraft • Maintenance/Hi-bays for ground vehicle systems • Support facilities, supply warehouses, transit sheds, maintenance facilities, calibration laboratories, dry-dock capability, training facilities, and ordnance handling and storage (for both classrooms and trainers for operational training and maintenance training, including required product/technical data to ensure efficient/effective support of facilities) • Land use requirements have been identified (as early as possible). If there is a land use requirement, it will most likely be the "long pole" in the facilities planning process. Some issues that pertain to both land use and Basic Facility Requirements are: noise, such as the Air Installation Compatible Use Zones (ACUIZ); ordnance, such as Explosive System Quantity-Distance (ESQD), leasing agreements; etc. • Facilities to support RDT&E and in-service engineering requirements (e.g., prototypes, mock-ups, etc.) • Transient support requirements when the system requires some level of support for continental U.S. and outside continental U.S. activities that are not regular homeports/support sites • Maneuver and live fire facilities requirements	IP	F	U
11.1.2 The facilities/infrastructure support requirements are documented in the Program's Facilities Requirements Document and Platform Basic Facilities Requirements (BFR) or equivalent documentation and coordinated with base or installation planners.	F	U	U
11.1.3 The facilities/infrastructure support requirements are documented in the Facilities Requirements Plan or equivalent documentation.	IP	F	U
11.1.4 BFRs have been developed per the appropriate documents (e.g., MIL-HDBKs) using the system's logistics support requirements.	IP	F	U
11.1.5 All host tenant agreements are in place.	IP	IP	F
11.1.6 A site activation plan has been developed.	IP	F	U
11.2 Evaluation of Existing Facilities/Capabilities			
11.2.1 All necessary changes to facility or platform spaces have been made to accommodate the installation and/or storage of hosted systems, SE, and related supplies.	IP	IP	F
11.2.2 System support and BFRs are provided to the activities/regions expected to support operations, maintenance, calibration, training, and other logistical support related to the system. Assessor Note: This is effective when done on a periodic (e.g., annual) basis as the system is being designed and constructed so that the receiving support activities may factor support requirements into their facility planning efforts at the earliest possible time.	IP	F	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FRP**
One mechanism for accomplishing this is a facilities planning/criteria letter issued by the program manager.			
11.2.3 Site surveys are scheduled and criteria developed. Surveys have been coordinated through appropriate user Introduction Team or appropriate user representative.	IP	F	U
11.2.4 Site surveys have been conducted. The results have been documented in a Site Evaluation Report which will be used to inform a Site Activation Plan and other appropriate facility project documentation (e.g. DD1391 for Military Construction (MILCON) project).	IP	IP	F
Assessor Note: If repair/support facilities cannot be completed in time to meet mission requirements and satisfy the basic facilities requirements, a designated source of repair/support or work-around has been identified and received User concurrence.			
11.3 New Construction			
11.3.1 The program has assessed (e.g., site surveys and trade studies) all means of satisfying a facility requirement prior to selecting the use of MILCON.	IP	F	U
11.3.2 Estimates of facility requirement and associated costs have been refined and a detailed project documentation with cost estimates has been developed. The appropriate resource sponsor has been briefed and aware of costs and schedule associated with the needed MILCON projects(s).	IP	F	U
11.3.3 Basing, home porting, beddown planning, etc. decisions with appropriate environmental documentation have been completed and a Basing Letter and/or Record of Decision (ROD) have been signed. This permits the coordination of projects with the respective Regions and ensures successful promulgation through Force Management Budget, Office of the Secretary of Defense (OSD), and congressional authorization.	IP	F	U
11.3.4 Project (MILCON) documentation has been submitted for funding in the appropriate FY.	IP	F	U
11.3.5 Environmental documentation for projects per National Environmental Policy Act (NEPA)/Executive Order (EO) 12114 is either complete or scheduled for completion to support the timelines for new construction or modification of existing facilities.	IP	F	U
11.3.6 Equipment (e.g., simulators, Air Traffic Control, Magnetic Silencing equipment, etc.) has been identified and budgeted in the appropriate fiscal year. Its procurement is on track to support project completion schedules.	IP	F	U
11.3.7 Construction of MILCON projects have been initiated and are on track to support introduction of the new or modified system to the User.	IP	F	U
11.3.8 Where applicable, interim facility support (e.g., "work-around") has been identified to meet requirements earlier than can be met by the completion of new facility projects.	IP	F	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
11.4 Integration (Ship/Air/Ground Systems/Space & Command, Control, Communications, Computer, and Intelligence (C4I))			
11.4.1 An integration Integrated Process Team (IPT) has been formed between the host platform, weapon system/Space, and C4I program manager/integration facility etc. to ensure all supportability planning is conducted upfront. The IPT has been formally chartered.	F		
11.4.2 For Ships, a Ship System Design Specification has been developed that addresses integration of all embarked systems and subsystems (including aviation) that ensures performance and support requirements will be met.	F	U	U
11.4.3 Facility and/or shipboard storage requirements (e.g., workspaces, storage, spaces storage for ordnance, etc.) have been identified and spaces allocated (see also criteria in PHS&T).	F		
11.4.4 A site survey has been conducted for receiving the system. Access to allocated spaces has been modeled and/or verified to ensure height, length, turning radius, SE, etc. for movement of the weapon system, spares, etc. can be met to ensure proper access to allocated spaces.	IP	F	
11.4.5 Flight surface (e.g., runway/deck) certifications have been obtained or are in the process of being obtained with no pending issues.	IP	F	
11.4.6 Power, water, chillers, overhead cranes, high pressure service air, etc. requirements have been coordinated with the host platform to ensure maintenance actions can be conducted as planned.	IP	F	
11.4.7 The program has identified the requirements, bandwidth, and interfaces with the host platform's local area network.	IP	F	
11.4.8 Proper amount of bandwidth is available to support communications and required data flow between the user and host platform, and host platform and base or shore activity.	IP	F	
11.4.9 Systems Integration facilities can handle work throughput (e.g., integration of electronic warfare systems and communication gear, etc. on ground vehicles).	IP	F	

12.0 Computer Resources	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
12.1 Computer Resources			
12.1.1 A computer and software security plan, including safety, has been developed. Program is following DoD Information Assurance and Certification and Accreditation Process and developed a System Security Authorization Agreement. Systems comply with DoD Public Key Infrastructure Policy.	IP	F	U
12.1.2 A Program Protection Plan has been developed in accordance with DoD Instruction 5200.39, "Critical Program Information (CPI) Protection within the Department of Defense," which includes Anti-Tamper requirements. Assessor Note: The Anti-Tamper Plan is an Annex to the Program Protection Plan (ref DoDI5000.02).	F	U	
12.1.3 Software functional requirements and associated interfaces have been defined.	IP	F	U
12.1.4 Gap analysis has been performed on candidate commercial-off-the-shelf (COTS) software to identify functionality shortfalls, as applicable.	IP	F	U
12.1.5 Requirements for system firmware and software documentation have been identified and integrated into the overall system test program.	IP	F	U
12.1.6 Software testing requirements have been identified and integrated into the overall system test program.	IP	F	U
12.1.7 Measures of effectiveness have been established for software.	IP	F	U
12.1.8 A software development plan has been developed and reflects program milestones.	IP	F	U
12.1.9 Software maturity has been measured.	IP	F	U
12.1.10 Software data rights have been addressed in the Engineering and Manufacturing Development RFP and contract. Required software data rights have been obtained.	F	U	U
12.1.11 CBM+ software is developed for the operating and maintenance system for diagnostics and prognostics, as applicable.	I	F	U
12.1.12 Software routines for planned maintenance procedures are addressed in Planned Maintenance System (PMS) planning.	I	F	U
12.1.13 The Software Support Activity (SSA) has been designated or established for all software support (budget, personnel, tools, facilities, hardware, documentation, and support and test equipment).	I	IP	F
12.1.14 The software documentation support matches the software in use.	IP	F	U
12.1.15 Software support is described in the LCSP and implementing documentation.	IP	F	U
12.1.16 A process has been defined to manage (create/discard/track/close) software trouble reports that will be levied against the software product.	I	F	U
12.1.17 A mechanism for getting prime contractor (and subcontractor) support specific to support software/equipment, if needed, at the SSA's (e.g., resident expert help).	I	IP	F

12.0 Computer Resources	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
12.1.18 A process has been established for distributing corrections and revisions of the software to the users.	F	U	U
12.1.19 There is adequate reserve capacity (Central Processing Unit, memory, disk space, bus capacity, etc) for the life of the system to accommodate changes, expansion, and growth of the software. The hardware is easily upgraded without impacting the software.	I	F	U
12.1.20 There are plans for processor upgrades such that technology refresh can be accomplished with minimal software modifications.	F	U	U
12.1.21 HSI considerations have been incorporated into the software development, integration, and test phases. This includes graphical user interface, usability testing, control and display layout, human error/reliability analysis, and on-line user guides and documentation.	I	F	U
12.1.22 Software integrator and development contractors for software systems have well-documented, standardized software processes as well as continuous software process improvement practices, equivalent to that articulated by Capability Maturity Model Integration capability level 3.	F	U	U
12.1.23 A process to proactively project vendor discontinuance of software support, software revisions, upgrades, etc. has been developed and documented to ensure both program software and software support tools can be sustained and software refresh can adequately be planned.	F	U	U
12.1.24 Software support planning requirements/data (e.g. these guidebook criteria) are presented in the ISP.	F	U	U

Automated Information System (AIS) Specific Criteria Addendum to 12.0 Computer Resources and Software Support	Milestones		
ASSESSMENT CRITERIA	B	C	FDD
12.2 General			
12.2.1 A Governance Board for the system to control business processes has been established.	F	F	F
12.2.2 A proactive process is in place for support of software to include system and third party software to effectively: 1) forecast software sustainment issues and identify time periods for software availability and support; 2) capture the cost trade-off criteria for full or partial software updates; 3) identify upgrade schedules to reduce transition costs associated with updates; 4) identify accurate budget estimates, and 5) provide a process that can be used to help manage and optimize the efficiency and effectiveness of software tech refreshment.	F	F	F
12.2.3 A Fit/Gap analysis has been conducted to determine if there are any functional requirements gaps not covered by COTS software and require custom code to be developed.	I	F	U

Automated Information System (AIS) Specific Criteria Addendum to 12.0 Computer Resources and Software Support	Milestones		
ASSESSMENT CRITERIA	**B**	**C**	**FDD**
12.3 Data Migration			
12.3.1 A data migration plan has been developed for transfer of data from legacy systems.	I	F	U
12.3.2 Data Conversion Agreements have been signed.	I	F	U
12.3.3 Interfaces for migration of data between systems have been defined.	I	F	U
12.3.4 Data Interface Agreements (DIAs) have been signed.	I	F	U
12.3.5 Middleware requirements have been defined.	F	U	
12.3.6 Middleware has been developed. Reports, Interfaces, Conversions, and Enhancements (RICE) objects have been defined.		F	
12.3.7 A methodology and process for data cleansing, data translation mapping, data validation, and resources has been documented in a data migration plan.	I	F	U
12.3.8 Data and Resources MOAs between the gaining system activity and the transferring system activity are approved, and the actions required by each activity.	I	F	U
12.3.9 MOAs between the program office and commands where the system will be deployed to have been approved.	I	F	U
12.3.10 Mock loads with actual data have been conducted with no outstanding issues prior to cut-over.		F	
12.4 System Reliability			
12.4.1 System Architecture has been defined to include redundancy, modularity and impact on Availability due to server failure.	I	F	U
12.4.2 Requirements for a Disaster Recovery/Secondary Site have been developed. DR reliability is factored into overall system reliability.	I	F	U
12.4.3 Agreements are in place for the command/activity hosting the disaster recovery center.	I	F	U
12.4.4 Requirements for the help desk have been defined and factored into the reliability of the system.	I	F	U
12.4.5 Trouble calls/tickets to the help desk are processed through a FRACAS system as an input to the reliability program.	I	F	F
12.4.6 The procedures for the help desk have been established.	I	F	F
12.4.7 The help desk staffing and KSAs of personnel is adequate to support functions required by the help desk.	I	F	F

Product Support Budgeting and Funding	Milestones		
ASSESSMENT CRITERIA	B	C	FRP
1.0 Cost Estimating			
1.1 A Program Life Cycle Cost Estimate (PLCCE) has been developed for the program (all ACATS) (ref DoDI 5000.02).	F	U	U
1.2 A Cost Analysis Requirements Document (CARD) has been developed by the program office for ACAT I programs and those ACAT II programs if an Independent Cost Estimate (ICE) is required (ref DoDI 5000.02).	F	U	U
1.3 An ICE is completed for ACAT I programs conducted by the Cost Analysis Improvement Group (CAIG) or the Component cost analysis activity (as appropriate). An ICE or Independent Cost Assessment (depending on Milestone Decision Authority (MDA) option) is developed/conducted for ACAT II programs. The CARD is used as source data for the ICE (ref DoDI 5000.02).	F	U	U
1.4 A component cost analysis has been conducted by the Component Cost Analysis Agency (ACAT IA) (ref DoDI 5000.02).	F	U	U
1.5 Logistics funding requirements are developed using accepted cost estimating methodologies appropriate to the program phase (ref DoDI 5000.02).	F	U	U
1.6 Program has conducted "Should Cost/Will Cost" analysis in accordance with USD AT&L memo dtd November 3, 2010.	F	U	U
2.0 Funding			
2.1 Logistics funding requirements have been established and documented and: • Supports the budgetary requirements of the LCSP and requirements documentation and is appropriately phased • Includes rationale to support the documented funding amounts • Identifies the correct appropriations for each logistics requirement for each fiscal year. These are properly phased in advance of requirements to account for procurement lead time, especially for spares and materiel. • Funding shortfalls and impacts are identified, prioritized, fully documented, and addressed to the program manager and resource sponsor • The documented numbers/dollars are traceable to appropriate budget exhibits	F	U	U
2.2 Life cycle cost estimates, including cost-reduction efforts, have been developed and validated optimizing TOC.	F	U	U
2.3 Funding requirements identified in the replaced system sustainment plan are identified and funded, as appropriate.	F	U	U
2.4 End of life and disposal requirements are planned and funded, as appropriate.	F	U	U

Environmental, Safety, and Occupational Health			
ASSESSMENT CRITERIA	B	C	FRP
1.0 Environment			
1.1 A Program Environmental, Safety, and Health Evaluation (PESHE) has been developed that describes as a minimum: • The strategy for integrating ESOH considerations into the systems engineering process using the methodologies in the Standard Proactive for System Safety, MIL-STD-822D • Identification of responsibilities for implementing the ESOH strategy • An approach to identify, and then eliminate or reduce ESOH hazards • Strategies for managing/mitigating ESOH risk/hazards where they cannot be avoided • Identification and status of ESOH risks including approval by proper authority for residual ESOH risks (based on DoD policy and MIL-STD-882D). • The method for tracking progress • A schedule for completing NEPA/EO 12114 documentation including the approval authority of the documents as detailed in DoD and Components policy. • The Engineering and Logistics efforts being implemented to identify HAZMAT, wastes, and pollutants (discharges/emissions/noise) associated with the system and plans for their minimization and/or safe disposal (Assessor Note: This should consider components with HAZMAT, such as hull structures painted with coatings containing heavy metals and manufactured items which are not hazardous during use, may require special handling disposal due to components containing HAZMAT (e.g., lead-containing microelectronics).	F	U	U
1.2 Environmental considerations (i.e., existing or lack of NEPA/EO 12114 coverage) that directly affect testing have been addressed in the TEMP as limitations or conditions of the testing.	F	U	U
1.3 Documents from the NEPA/EO 12114 Compliance Schedule are maintained by the Program Office and include one of the following: • Categorical Exclusion (CATEX) • Finding of No Significant Impact (FONSI) based upon an environmental assessment • ROD based upon an environmental impact statement	F	U	U
1.4 All known ESOH risks have been accepted by the appropriate approval authority prior to release of the system to the user, and the residual ESOH hazard risk has been communicated to the user. The user representative has provided formal concurrence prior to all serious and high-risk acceptance decisions.	IP	IP	F
1.5 Significant program events that could trigger NEPA/EP 12114 are included in the NEPA/EO 12114 Compliance Schedule. Significant program events include, as appropriate: • Conducting test and evaluation of the system and/or subsystem • Contracting for production • Planning basing, training, and home porting locations • Planning new or major upgrades to facilities or supporting infrastructure to support the system • Demilitarization/disposal of the system	F	U	U
1.6 The program has a plan for end of life cycle demilitarization and disposal, including munitions disposition (ref DoD 5000 series).	I	F	U

Environmental, Safety, and Occupational Health			
ASSESSMENT CRITERIA	B	C	FRP
1.7 For munitions developments, identify INSENSITIVE Munitions compliance level and plan.	I	F	U
2.0 Safety and Occupational Health			
2.1 Noise sources are identified and evaluated during the system's design and control measures are implemented to minimize personal exposure.	F	U	U
2.2 Personnel protective equipment is specified in maintenance instructions and training manuals for relevant operations, and specified products are compliant with all Federal and consensus American National Standards Institute (ANSI) standards.	I	IP	F
2.3 A system safety program to include interaction with systems engineering has been established per MIL-STD 882D and Component requirements.	F	U	U
2.4 System safety design requirements are specified and legacy systems/subsystems/components have been analyzed and incorporated into the design requirements as appropriate.	IP	IP	IP
2.5 A closed-loop hazard tracking system is implemented. Hazard analysis is performed during the design process to identify and categorize hazards, including HAZMAT and associated processes. Corrective action is taken to eliminate or control the hazards, or to reduce the hazard to an acceptable level.	IP	IP	IP
2.6 Weapon System Explosive Safety Review Board approval is scheduled or obtained as appropriate.	IP	F	U
2.7 All systems containing energetic materials comply with insensitive munitions criteria.	IP	F	U
2.8 The ESOH risk-management strategy has been incorporated into the SEP (ref USD Memo dtd 23 Sept 04, Defense Acquisition Safety System).	F	U	U
3.0 Hazardous Material Management			
3.1 HAZMAT prohibited (or limited/requiring waiver for use) in the weapon system design due to operation, maintenance, and disposal costs associated with the use of such materials have been identified and communicated via contracts to include sub-contractors.	F	F	F
3.2 HAZMAT and associated processes whose use cannot be avoided have been documented in supportability planning documents (e.g., Logistics Support Analysis Database) and communicated to the user and support installations for inclusion in their authorized use lists. This includes an inventory of materials incorporated into the weapon system (to include COTS/NDI) during production, materials required for maintenance, and hazardous wastes generated from maintenance processes.	IP	F	F
3.3 There is a plan for tracking, storing, handling and disposing of HAZMAT and hazardous waste consistent with HAZMAT Control and Management requirements.	IP	F	U
3.4 HAZMAT findings and determinations are incorporated into the training program for all system-related personnel as applicable.	IP	F	U
3.5 The program has a plan to recycle or dispose of system replaceable and disposable components such as metals, plastics, electronic components, oils, coolants, and refrigerants during system life and end of service life.	F	U	U

1.0 Product Support Management
ASSESSMENT CRITERIA
1.1 Supportability management processes are mature. These are identified in the Life Cycle Sustainment Plan (LCSP)[1]. [1] (After Full Rate Production (FRP), the LCSP is not a part of the acquisition Strategy (AS) and is managed as a standalone plan, required to be briefed at gate reviews (refs DoDI 5000.02 para 8.a; DAG Ch. 5).
1.2. The program office billets are filled with sufficient personnel who have the required experience and training.
1.3 Logistics risks and mitigations are tracked and reported in the risk management process. (refs DODI 5000.02 par 4.d.)
1.4 Deficiencies identified by the user (e.g., Failure Reports, deficiency reports, technical publication deficiency reports, help desk tickets, etc.) are processed within the stated time frame and to the metrics identified in program documentation.
1.5 MOAs or other formal agreements are in place between the program office, gaining command or platform, participating acquisition resource manager, user, (e.g., those identified in the SEP), field activities, software support activities, etc. that defines supportability requirements, administrative and personnel resources, funding, physical resources, etc. The work is being executed as tasked. Examples are MOAs to a field activity to provide support, DoD activity to host a backup disaster recovery site, etc. (ref DODI 5000.02 Encl 7, para 3.b).
1.6 All Operational Test findings of deficiency are resolved or are in the process of being mitigated.
1.7 Ensure program milestones and initial program baseline deliveries in support of Final Operational Capability (FOC), and ensure product improvement solutions are tracking against the Integrated Master Schedule (IMS).
1.8 The program office is staffed for all core and sub-product functions. These positions are fully funded, either with mission funding or by Working Capital funds.
1.9 Sustainment metrics are defined and are measureable. Metrics: • Are linked to system KPPs/KSAs and other supportability performance indicators • Are used to substantiate in-service issues and budget priorities • Address system reliability and incentivize use of common DoD components • Motivate desired long term behavior • Are understood and accepted by all stakeholders • Are assessable and verifiable (ref FAR 37.6)
1.10 The process to collect product support performance metrics is in place and metrics are reported, collected, tracked, and assessed to measure PSI and provider performance. Trends are monitored and fed back for appropriate corrective actions.
1.11 Corrective actions are taken to correct performance that is not meeting required metrics.
1.12 Exit criteria have been established in the performance-based agreements to ensure the orderly and efficient transfer of performance responsibility back to the Government upon completion or termination of the product support contracts. The PBL agreement contains provisions for the acquisition, transfer, or use of necessary

1.0 Product Support Management
ASSESSMENT CRITERIA
technical data, support tooling, support and test equipment, calibration requirements, and training required to reconstitute or re-compete the support workload.
1.13 The respective contractual packages for support tasking reflect IPS element efforts to be completed and delivered.
1.14 Contracts include metrics for tracking and assessing contract performance (ref FAR 37.6).
1.15 The contractual package clearly identifies the functions, responsibilities, and authorities of Field Component Representatives, if used. The contract is adequately funded.
1.16 The LCSP or similar user logistics document has been reviewed and coordinated with the user.
1.2 Configuration Management (CM)
1.2.1 A process for configuration identification, control, status accounting, Configuration Control Board processes and membership (to include logistics participation), deviations, engineering changes, and verification/audit functions is established for hardware, software, and product/technical data, and is being executed per the approved Government and contractor CMP (ref DoDI 5000.2, MIL-DBK-61A; IEEE 12207 for SW).
1.2.2 All nomenclature has been established where appropriate.
1.2.3 The Configuration Status Accounting (CSA) information is maintained in a CM database that may include such information as the as-designed, as-built, as-delivered, or as-modified configuration of the product, as well as information regarding any replaceable components within the product and the associated product/technical data (see refs above).
1.2.4 An effective process is in place for processing Engineering Change Proposals (ECPs), deviations, etc. ECPs, deviations, etc. are tracked and managed per the program's configuration management plan and process.
1.2.5 The status of proposed engineering changes from initiation to final approval and contractual implementation has been recorded and reported in the CSA records/data base (see refs above).

2.0 Design Interface
ASSESSMENT CRITERIA

2.1 General
2.1.1 Failure rates have been verified and used to update spares requirements and annual operating costs.
2.1.2 For applicable programs, provisions for identifying CSI, CAI, and non-critical items have been identified (ref DoDI 5000.02).
2.1.3 The list of CSIs, CAIs and associated technical and management information has been approved by appropriate Government technical authorities and the final list has been submitted to the appropriate logistics databases.
2.1.4 Built-In-Test (BIT) metrics are collected to validate BIT effectiveness and performance against requirements.
2.1.5 BIT and diagnostics are meeting performance requirements (e.g., false alarm rates, percent fault isolation, etc.).
2.2 Reliability, Availability & Maintainability (RAM)
2.2.1 RAM measures (e.g., A_o, A_m, MTBF, MTTR and MLDT, Fault Detection, Fault Isolation, and False Alarm) are defined in quantifiable terms and are being measured.
2.2.2 RAM parameters defined in the requirement documents (e.g., MTBF, MTTR, and BIT effectiveness) are achieved.
2.2.3 Required programs are reporting RAM into the appropriate RAM data bases and as required by ODASD(MR) reporting into the Defense Acquisition Management Information Retrieval system (DAMIRS).
2.2.4 Field data is collected from systems in production and fielded units to verify if RAM requirements and KPPs are being met.
2.2.5 Reliability growth program indicates that system and subsystem reliability is appropriate to meet the stated requirement. A reliability growth plan has been implemented as appropriate.
2.2.6 The Life Cycle Sustainment KPPs (A_o, A_m, Reliability KSA R_m and Ownership Cost KSA) objectives are being tracked and achieved as defined. (ref DoDI 5000; CJCSM 3170.01 series; DOD JCIDS Manual dtd February 2009; DOD RAM-C Cost Rationale Report Manual dtd 1 Jun 09).
2.2.7 A process has been implemented to assess achieved RAM performance by collection and analysis of user data, for factory and fleet.
2.2.8 A process is in place or included in the failure reporting system for the reporting of Re Test-OK (RTOK). This is documented in a formal process and requirements are imposed on the commercial or organic activity.

3.0 Sustaining Engineering
ASSESSMENT CRITERIA

3.1 Analysis
3.1.1 Reliability Growth data and curves show that reliability is improving.
3.1.2 Reliability verification testing has been planned/conducted for all components as applicable, including COTS components, to ensure they meet or exceed overall system reliability requirements.
3.1.3 Information from Product Quality Deficiency Reports (PQDRs) is tracked for trends and product improvement.
3.1.4 The corrosion prevention control program is effective in preventing corrosion or minimizing its effects on availability. Maintenance actions during operation and long-term storage to correct issues from corrosion are declining (ref DoDI 5000.02, DoDI 5000.67, OSD Corrosion Prevention Plan, dtd 2008).
3.1.5 Support posture is still valid to meet mission requirements as currently defined in CONOPS/Mission Profiles/DRM.
3.2 Diminishing Manufacturing Sources and Material Shortages (DMSMS)
3.2.1 The DMSMS program is being executed per the formal DMSMS program and management plan that has been established and documented consistent with DoD and each Component's policy and guidance (ref DoD 4140.1-R, DoD Supply Chain Materiel Management Regulation of 23 May 03).
3.2.2 Updates to the BOM are regularly updated and loaded into a DMSMS forecasting/management tool and/or service, and the program is receiving forecasts on a scheduled basis. All identified DMSMS risks (e.g., end of life issues) have been mitigated, or the solution and funding to mitigate the risk has been identified.
3.2.3 The program has defined DMSMS metrics and tracks DMSMS cases, trends, and associated solutions and costs, and has established a plan to report these findings IAW each Component's policy and guidance.
3.2.4 There are no unresolved DMSMS cases or unresolved end-of-life issues. Any issues that are identified have solutions that will not include redesign.
3.3 Failure Reporting, Analysis and Corrective Action System (FRACAS)
3.3.1 Failures are analyzed and trended via FRACAS for IPS element visibility. BIT indications and false alarms are analyzed and included in the FRACAS process. (ref DOD Guide for Achieving RAM, dtd Aug 2005; USD(AT&L) policy memo dtd 24 Jun 08/DOD RAM-C Manual).
3.3.2 A FRACAS review is performed on production and deployed units.
3.3.3 Safety/mishap reports associated with material and design deficiencies are linked with or provide input into the FRACAS.

4.0 Supply Support
ASSESSMENT CRITERIA

4.1 Supply Chain Management

4.1.1 Sparing analyses and levels are being continuously conducted based on consumption levels and failure data. On-Board Repair Parts reduction initiatives are continuously being assessed.

4.1.2 Level one Joint Supply Chain Architecture (JSCA) metrics (Perfect Order Fulfillment (POF), Customer Wait Time (CWT), and Total Supply Chain Management Cost (TSCMC)) and management processes are being used for tracking and assessing end-to-end supply chain performance.

4.1.3 Supply chain metrics below JSCA level one are being used to identify and prioritize opportunities for improvement (e.g., turnaround times, repair times, delivery times, etc.).

4.1.4 Operation and support-cost estimates are compared with TOC standards defined in the sustainment KPP/KSA.

4.1.5 End-to-end logistics chain sustainment solutions have the flexibility to meet the full spectrum of contingencies, to include surge capacity, with no loss of operational capability or tempo.

4.1.6 Support strategies are supporting "last tactical mile (e.g., base, port or stock point to deployed user)" and deployed systems in austere environments.

4.1.7 A supply chain management process has been established to address and eliminate the introduction of counterfeit components into the weapon system during repair.

4.1.8 Enterprise integration enables a single view of the supply chain of both organic and commercial provider asset inventories and asset tracking (i.e., Total Asset Visibility).

4.1.9 The inventory of spares and critical spares is procured and spares records are maintained.

4.1.10 Allowances are determined.

4.1.11 Provisions for surge requirements are identified and planned for.

4.1.12 Item management codes are assigned, including SMR codes for HAZMAT.

4.1.13 Provisioning data reports have been generated and are updated based on usage/failure data. Examples include:

- Recommended repair parts list provided for pre-operational repair parts and training equipment
- Provisioning parts list determining the range and quantity of support items for an initial period

4.1.14 The supply support provider has the capability to accept demand requisitions and provide status reports by electronic data interchange.

4.1.15 Transition planning to Materiel Support Date (MSD) is conducted to ensure attainment of full operational support beyond the interim support period for all applicable logistics factors.

4.1.16 Interim supply support requirements are in place and effective.

4.1.17 Contractor teams supporting fielded units are providing the requisite level of support and expertise when Government support will not be available.

4.1.18 RFID planning and strategy have been developed and updated consistent with DoD policy and guidance, including USD (AT&L) Memo, Subj: RFID Policy of 30 Jul 04.

4.0 Supply Support
ASSESSMENT CRITERIA
4.1.19 RFID DFARS clauses 252.211-7006 RFID, added to all solicitations and contracts as appropriate.
4.1.20 IUID DFARS Clause 252.211-7003 / 252.211-7007. Item Identification and Valuation and DFARS added to all solicitations and contracts as appropriate.
4.1.21 IUID Program plan and strategy have been developed and updated consistent with DoD and each Component's policy and guidance, including: • DoDI 8320.04 - IUID Standards for Tangible Personal Property Jun 16, 2008 • DoDD 8320.03 IUID Standards for a Net-Centric Department of Defense Mar 23, 2007(for AISs)
4.1.22 Program Unique IUID, SIM, and RFID requirements are adequately addressed in the appropriate program supportability plans.
4.1.23 RFID and IUID Implementation and Compliance Metrics have been identified and are tracked.

5.0 Maintenance Planning and Management
ASSESSMENT CRITERIA
5.1 Maintenance task times (e.g., MTTR) metrics are met for all maintenance and repair actions.
5.2 Maintenance skill levels and number of maintenance and support provider personnel do not exceed documented requirements.
5.3 Performance monitoring, fault detection, fault isolation, and diagnostics (e.g., BIT) are performing to specified requirements and optimized to meet maintenance and manning requirements.
5.4 Economic and non-economic Level of Repair Analysis (LORA) is conducted as part of the decision process to determine what items are repairable or should be discarded.
5.5 Metrics are collected on maintenance programs (e.g., Condition Based Maintenance (CBM) program / RCM) to determine where adjustments can be made to reduce scheduled maintenance and manpower requirements, while reducing operation and support costs and ensuring the appropriate maintenance is performed.
5.6 Specific criteria for repair and maintenance for all applicable maintenance levels in terms of time, accuracy, repair levels, built-in-test, testability, reliability, maintainability, nuclear hardening, SE requirements (including automatic test equipment), manpower skills, knowledge and abilities, and facility requirements for peacetime and wartime environments are defined and are being met.
5.7 Maintenance and repair manuals state specific maintenance tasks, including battlefield damage repair procedures, to be performed on the materiel system.
5.8 Maintenance manuals and Interactive Electronic Technical Manuals (IETM) have been delivered and are in adequate quantities to support maintenance and repair actions. When IETMs are used, they are accessible in the areas where work is being accomplished.
5.9 Hosting requirements (e.g., interfaces) for the maintenance data reporting system are adequate when used/deployed on a platform (e.g., ship, Carrier, etc.).
5.10 Maintenance planning documentation identifies: • Tools and test equipment by task function and maintenance level • Category codes (e.g., Source, Maintenance and Recoverability (SMR) codes, etc.) • Manufacturer's part numbers; nomenclatures; descriptions; estimated prices and recommended S&TE quantities, including S&TE for S&TE
5.11 System anomalies and intermittent failures are analyzed for possible changes to the BIT design, thresholds/tolerances, and/or filtering.
5.12 A corrosion prevention control program is in place and has been incorporated into maintenance planning for all required ACAT I programs and all programs that are susceptible to degradation from corrosion.
5.13 Final preventive maintenance system products have been certified, are resident in the authoritative database, and have been delivered to the users.
5.14. The interim depot is ready to accept workload.
5.15 If a commercial depot is used, the contract has been awarded.
5.16 The depot manager has certified the depot is ready to support the system. If not certified, the certification date and criteria have been identified and that date is valid to support the system.

5.0 Maintenance Planning and Management
ASSESSMENT CRITERIA
5.17 Required organic depot personnel have been trained and all required equipment, tools, etc. are in place to perform depot maintenance.
5.18 The planning efforts have a requirement for depot capability establishment for hardware and software not later than four years after achieving initial operational capability (IOC). Per Title 10 USC, Sec 2464, depot level repairables identified as having a Core capability requirement must establish capability that is Government-owned and Government-operated (including Government personnel and Government-owned and Government-operated equipment and facilities not later than four years after achieving IOC).

5.19 Maintenance planning and analyses consistent with statutory and regulatory requirements have been provided to include:
 	
• Core Logistics Analysis (CLA) – Title 10 USC Code 2464/2466; DOD 5000.2, Mandatory Procedures for Major Defense Acquisition Programs (MDAPS)
• Source of Repair Analysis (SORA)/Depot Source of Repair (DSOR)
  Joint Depot Maintenance (JDM) Regulation
 	
  DOD Directive 4151.18, Maintenance of Military Material
 	
  DOD 5000.2, Mandatory Procedures for Major Defense Acquisition Programs (MDAPS) and Major Automated Information System (MAIS) for Acquisition Programs

6.0 Packaging, Handling, Storage, and Transportation (PHS&T)
ASSESSMENT CRITERIA
6.1 Materiel handling devices for loading, unloading, etc. are in place and certified.
6.2 Storage monitoring equipment is installed as applicable, and requirements are included in technical manuals.
6.3. There are no accessibility issues for maintenance during long-term storage or storage during transport/forward staging (e.g., ground and air vehicles on ships that require running time to ensure that lubrication, batteries, seals, etc. will not degrade).
6.4 Items requiring special storage requirements (e.g., freezers for storage of composites, HAZMAT, etc.) and/or shelf life requirements have been identified in the appropriate manuals/publications.
6.5 There are no transportability issues, such as: • Oversized/overweight items • Items requiring special transportation modes • Items that are classified • Certification (Air, rail, Department of Transportation, etc.) • Necessary waivers have been obtained • Packaging intended for international use
6.6 Anti-tamper requirements (and security processes while in storage and transit) are in place for both hardware and software.
6.7 There are no interface issues between the system being transported and the transporting platform (e.g., height, turning radius, etc.).
6.8 Time delivery requirements for all shipments of spares to the user are being met.
6.9 Transportation processes, hardware, and procedures for disabled systems (e.g., aircraft, ground systems) are in place.
6.10 Systems receiving systems (e.g. aircraft receiving guns) have resourced and provided required supportability products (e.g., storage space, containers).
6.11 PHS&T has been standardized as applicable to minimize new designs and to ensure interoperability between Components and North Atlantic Treaty Organization (NATO) allies.
6.12 PHS&T issues (retrograde packaging, reusable containers, retrograde transportation, shipboard storage, damage in transit, etc.) raised by the User have been addressed by the program.

7.0 Technical Data
ASSESSMENT CRITERIA
7.1 If applicable, all network compatibility issues are addressed and mitigation steps identified.
7.2 Authoritative Data Sources and the associated change authority have been identified. Databases developed or procured with the acquisition of Product/Technical Data have been registered in the Respective Component's Database Management System, if applicable.
7.3 The product/technical data package elements have been specified in the contractual package in accordance with the requirements of MIL-STD-31000, as appropriate.
7.4 A process for distribution of Technical Manuals is in place.
7.5 Approved technical manuals in support of the end item and peculiar SE are available and in the quantities required, and have been registered in the authoritative database.
7.6 An approved the Calibration Requirements List is available to support the end item and all peculiar installed instrumentation.
7.7 Technical Manuals and IETMs include notes, aids, and procedures to minimize environmental risks and personnel exposure during maintenance activities such as warnings, cautions, etc.
7.8 Technical Manuals should be specifically identified and documented in the Disposal Plan. At the end of service life, all Technical Manuals (to include IETMs) should be removed from the national stock and disposed of.
7.8.1 A process is in place to expeditiously handle technical publication deficiency reports submitting post-IOC.

8.0 Support Equipment
ASSESSMENT CRITERIA

8.1 There are no environmental and physical constraint issues (e.g., size, weight, power, temperatures, and interfaces) between the support equipment and hosting platform.

8.2 Types and quantity of support equipment for each location have been identified and available to support test of fielded systems.

8.3 Support for SE is in place, to include:

- Support Equipment Requirement Documents
- Supply Support
- Spares
- Manpower
- Training
- Technical Data
- Maintenance levels and maintenance task requirements
- Computer Resources Support
- Calibration
- Facility Requirements
- Support equipment for SE

8.4 Technical documentation to support the support equipment is accurate and provided in required quantities:

- Procedures to perform the required tests and diagnostics
- Test measurement and diagnostic equipment, calibration requirements, procedures, and associated technical parameters
- All product/technical data required to support and operate required SE throughout the life cycle of that product
- Test fixtures and/or interfaces to connect the system to the test equipment

8.5 Test Program Sets (TPS) and associated documentation have been evaluated and verified.

8.6 Availability of calibration standards and procedures, support equipment, TPSs, and tools at required maintenance sites and training schools have been verified.

8.7 Support equipment are identified in the appropriate allowance/equipage lists as appropriate.

8.8 Support equipment have been certified for use on the host platform or facility, as applicable.

8.9 For MDAPs, a plan for preservation and storage of unique tooling is in place and implemented. It includes:

- Identification of any contract clauses, facilities, and funding required for the preservation and storage of such tooling and shall describe how unique tooling retention will continue to be reviewed during the life of the program
- Unique tooling designated for preservation and storage is serially managed and meets the requirements of IUID per DoDI 8320.04, (ref OSD(AT&L) memo dtd 3 Aug 09, Preservation and Storage of Tooling for MDAP)

9.0 Training and Training Support

ASSESSMENT CRITERIA

9.1 Training is being executed per the training plan.

9.2 Cross training and personnel drills are being conducted.

9.3 Training equipment, services, calibration standards, test equipment, materiel, facilities, and personnel are in place and adequate to support the system. Training facilities and the host platform, trainers, and units dedicated for training are adequate to handle throughput for both personnel and hardware.

9.4 The effectiveness of training, using measures such as MTTR, is measured and corrective action implemented when required.

9.5 Safety procedures, warnings, cautions and advisory labels have been incorporated into training materials and curriculum.

9.6 Instructor guides, course curriculum, and other training aids and SE and student guides are in place for classroom training.

9.7 Training courses are adequate, accurate, and complete, and trained on the fielded configuration(s). This includes pre-faulted modules or software to simulate faults for diagnostics training.

9.8 Training simulators and devices are in place and instructor and support personnel have been trained on their use and maintenance.

9.9 A military characteristics document or Training System Functional Description is prepared for each training device, defining its basic physical and functional requirements.

9.10 Delivered content uses an Information Assurance compliant delivery mechanism, and has been accredited.

9.11 Logistics support (spares, SE, etc.) for the user training schools is in place.

9.12 Training to support Urgent User Operation Need (UUON) /Joint Urgent Operational Need (JUON) deployments are in place and adequate.

9.13 Feedback loops exist that allow operating forces to inform the training command and program manager of training shortfalls or changes needed to resulting from experience(s) obtained in an operating environment.

10.0 Manpower and Personnel
ASSESSMENT CRITERIA
10.1 Actual manpower requirements are in accordance with the ME for operation and maintenance of the program.
10.2 Manpower and personnel requirements are adequate for both organic and contractor support, including: • Knowledge, skills, and abilities • Maintenance, calibration, operator, and support provider labor hours by rate or skill area/level by year • Number of personnel by rate, maintenance level, and year • Operator, maintainer, and support provider organizational level assignments defined • Peacetime and wartime
10. 3 Changes (increases and/or decreases) in manpower and personnel requirements have been identified for any transition period between systems.
10. 4 Manpower and personnel requirements include affected duties beyond operational, maintenance, and support (e.g., watch standing, collateral duties).
10.5 There are no Human System Interface (HSI) issues, such as issues with: • Accessibility • Visibility • Human factors/ergonomics • Testability • Complexity • Standardization and interchangeability • Use of mock-ups, modeling and simulation • Operational experience • Workspace Environment (e.g., heating, cooling, ventilation, illumination, noise, vibration) • Design for effective handling and carrying • Controls and displays • User computer interface • Habitability • Safety and personnel survivability
10.6 An HSI plan has been developed, resourced, executed, and maintained, and has been coordinated with subsystem HSI plans and the overall SEP.

11.0 Facilities and Infrastructure (and Platform Integration)

ASSESSMENT CRITERIA

11.1 Facility Requirements

11.1.1 The types of facilities and infrastructure (RDT&E, operations, calibration, maintenance, and training) required to support and sustain the new or modified system are in place to include, as necessary:

- Berthing space for ships (including utilities, dredging, special deck structural requirements for crane loads, and fendering systems)
- Parking aprons and hangar space for aircraft
- Support facilities, supply warehouses, transit sheds, maintenance facilities, calibration laboratories, dry-dock capability, training facilities (for both classrooms and trainers for operational training and maintenance training, including required product or technical data to ensure efficient and effective support of facilities) and ordnance handling and storage, and associated administrative spaces
- Land use requirements are resolved, such as Noise Air Installations Compatible Use Zones (AICUZ), Ordnance Explosive Safety Quantity Distance (ESQD), leasing agreements, etc.
- Transient support requirements when the system requires some level of support for continental US and outside continental U.S. activities that are not regular homeports/support sites

11.1.2 The facilities and infrastructure support requirements are documented in the program's Facilities Requirements Document or equivalent documentation.

11.1.3 All host-tenant agreements are in place.

11.1.4 All site activation plans have been developed and implemented.

11.1.5 All necessary changes to host platform or facility spaces have been made to accommodate the installation and storage of systems, SE, and related supplies.

11.1.6 System support and BFRs have been provided to the Component's activities/regions expected to support operations, maintenance, calibration, training and other logistical support related to the system.

Assessor Note: This is effective when done on a periodic (e.g., annual) basis as the system is being designed and constructed so that the receiving support activities may factor support requirements into their facility planning efforts at the earliest possible time. One mechanism for accomplishing this is a facilities planning/criteria letter issued by the program manager.

11.1.7 Site Activation Plans and other appropriate facility project documents (e.g., DD1391 for MILCON project) have been completed.

Assessor Note: If repair/support facilities cannot be completed in time to meet mission requirements and satisfy the basic facilities requirements, a designated source of repair/support or work-around has been identified and received User concurrence.

11.1.8 Formal decisions with appropriate environmental documentation have been completed and a Basing Letter and/or Record of Decision (ROD) have been signed. This permits the coordination of projects with the appropriate facility commands and ensures successful promulgation through Force Management Budget, OSD, and congressional authorization.

11.1.9 Project documentation has been submitted for funding in the appropriate FY. For instance, if beneficial occupancy is needed by FY16 (project year is FY14), the project needs to be submitted to the appropriate facility commands by the second quarter of FY11.

11.0 Facilities and Infrastructure (and Platform Integration)
ASSESSMENT CRITERIA
11.1.10 Environmental documentation for projects per NEPA/EO 12114 is either complete or scheduled for completion to support the timelines for new construction or modification of existing facilities.
11.1.11 Construction of MILCON projects have been completed to support the system or are on track to support introduction of the new or modified system to the User.
11.1.12 Where applicable, interim facility support (aka "work around") has been identified to meet requirements earlier than can be met by the completion of new facility projects.
11.2 Integration
11.2.1 Facility or on-board storage requirements (e.g., workspaces, storage, spaces storage for ordnance, etc.) are adequate.
11.2.2 Bandwidth and interfaces with the host platform's local area network are capable of handling required throughput.
11.2.3 Proper amount of bandwidth is available on the host platform to support communications and required data flow between the user and host platform, and host platform and base or shore activity.
11.2.4 Systems Integration facilities can handle work throughput (e.g., integration of electronic warfare systems and communication gear, etc. on air or ground vehicles).

12.0 Computer Resources
ASSESSMENT CRITERIA
12.1 General Requirements
12.1.1 Program is following DoD Information Assurance and Certification and Accreditation Process to include budgeting for annual verification testing of information assurance controls required to support recertification efforts every three years throughout the life of the system) and developed a System Security Authorization Agreement. Systems comply with DOD Public Key Infrastructure Policy.
12.1.2 A Program Protection Plan has been implemented in accordance with DoD Instruction 5200.39, "Critical Program Information (CPI) Protection Within the Department of Defense," which includes Anti-Tamper requirements.   Assessor Note: The Anti-Tamper Plan is an Annex to the Program Protection Plan (ref DoDI5000.02).
12.1.3 The SSA has been designated or established for all software support (budget, personnel, applications, data, documentation, tools, SE, test equipment, hardware, network interconnectivity, and facilities).
12.1.4 The software documentation support matches the software in use.
12.1.5 Software support is described in the LCSP and implementing documentation.
12.1.6 A process has been defined to manage (create, discard, track, and close) software trouble reports that will be levied against the software product.
12.1.7 A mechanism for getting prime contractor (and subcontractor) support specific to support software and equipment, if needed, at the SSA's (e.g., resident expert help).
12.1.8 A process is in place for distributing corrections and revisions of the software and firmware to the users.
12.1.9 There is adequate reserve capacity (central processing unit, memory, disk space, bus capacity, etc.) for the life of the system to accommodate changes, expansion, and growth of the software. The hardware can be easily upgraded without impacting the software.
12.1.10 There are plans for processor upgrades so that tech refresh be accomplished with minimal software modifications.
12.1.11 A process to proactively project vendor discontinuance of software support, software revisions, upgrades, etc. has been developed and documented to ensure both program software and software support tools can be sustained and software refresh can adequately be planned.

Automated Information System (AIS) Specific Criteria Addendum to 12.0 Computer Resources and Software Support
ASSESSMENT CRITERIA
12.2 General Requirements
12.2.1 A proactive process is in place for de-support of software to include system and third party software to effectively:

Automated Information System (AIS) Specific Criteria
Addendum to 12.0 Computer Resources and Software Support

ASSESSMENT CRITERIA
1) forecast software sustainment issues and identify time periods for software availability and support; 2) capture the cost trade-off criteria for full or partial software updates; 3) identify upgrade schedules to reduce transition costs associated with updates; 4) identify accurate budget estimates; and 5) provide a process that can be used to help manage and optimize the efficiency and effectiveness of software tech refreshment.
12.3 Data Migration
12.3.1 All data migration issues have been resolved.
12.3.2 Data Conversion has been completed per Data Conversion Agreements.
12.3.3 Data cleansing, data translation mapping, data validation and resources is completed.
12.3.4 Data and Resources MOAs between the gaining system activity and the transferring system activity are approved and detail the actions required by each activity.
12.3.5 MOAs between the program office and commands where the system is deployed are current.
12.4 System Reliability
12.4.1 The system is meeting its RAM measures and KPPs.
12.4.2 The Disaster Recovery/Secondary Site is fully operational. Disaster recovery reliability is factored into overall system reliability.
12.4.3 Agreements are current for the command/activity hosting the disaster recovery center.
12.4.4 Help desk response metrics are tracked and are meeting the metrics defined in the support agreement and requirements documents. Help desk metrics are factored into the reliability of the system.
12.4.5 Trouble calls/tickets to the help desk are processed through a FRACAS system as an input to the reliability program.
12.4.6 The help desk/procedures for the help desk are adequate for recomplete with another provider.
12.4.7 Help desk staffing and KSAs of personnel is adequate to support functions required by the help desk.

Product Support Budgeting and Funding
ASSESSMENT CRITERIA
1 The program budget is funded to the requirements identified in the ownership cost estimates.
2 Total Ownership Cost (TOC) analysis is being performed, including fielding and Operational and Support costs to date.
3 Post-IOC cost estimates and the projection of the TOC objective versus Service Cost Position (SCP) baseline are substantiated by assessed fielded systems performance-, operations-, and sustainment-related expenditure to date.
4 The logistics requirements funding documentation is maintained up to date and identifies all appropriations: • It supports LCSP budgetary requirements; other documentation and is appropriately phased. • Rationales to support funding amounts in the logistics funding requirements documentation are documented. • The correct appropriations (including Operations and Maintenance Funding) are identified for each logistics requirement for each fiscal year. These are properly phased in advance of requirements to account for procurement lead time, especially for spares and materiel). • Funding shortfalls and impacts are identified, prioritized, fully documented, and addressed to the program manager and resource sponsor. • Logistics requirements funding numbers/dollars are traceable to appropriate budget exhibits.
5 Life cycle cost estimates, including cost-reduction efforts, have been developed and validated optimizing TOCs.
6 Life cycle cost drivers such as reliability and maintainability are tracked and corrective measures funded, as appropriate.
7 Funding requirements identified in the replaced system sustainment plan are identified and funded, as appropriate.
8 End of life phase out and disposal requirements are planned and funded as, appropriate.

Environmental, Safety, and Occupational Health (ESOH)
ASSESSMENT CRITERIA
1 A process is in place to manage ESOH risks/hazards as identified in PESHE.
2 The user representative has provided formal concurrence prior to all serious and high-risk acceptance decisions.
3 The program has a plan for end of life cycle demilitarization and disposal, including munitions disposition (reference DoD 5000 series).
4 Noise sources are identified and evaluated during system's design and control measures implemented to minimize personal exposure.
5 Personnel protective equipment is in place as specified in maintenance instructions and training manuals for relevant operations. Specified products are compliant with all Federal and consensus American National Standards Institute (ANSI) standards.
6 A system safety program to include interaction with systems engineering has been established per MIL-STD 882D.
7 A closed-loop hazard tracking system is implemented.
8 Weapon System Explosive Safety Review Board approval is scheduled or obtained for upgrades/changes.
9 All systems containing energetic materials comply with insensitive munitions criteria.
10 HAZMAT and associated processes whose use cannot be avoided have been documented in IPS element planning documents (e.g., Logistics Support Analysis Database) and communicated to the user and support installations for inclusion in their authorized use lists. This includes an inventory of materials incorporated into the weapon system (to include COTS and Non Developmental Items (NDI) during production, materials required for maintenance, and hazardous wastes generated from maintenance processes).
11 There is a plan for tracking, storing, handling, and disposing of HAZMAT and hazardous waste consistent with each Component's requirements.
12 HAZMAT findings and determinations are incorporated into the training program for all system-related personnel as applicable.
13 The user installation has the capability in place to recycle or dispose of system replaceable and disposable components such as metals, plastics, electronic components, oils, coolants, and refrigerants.

APPENDIX B :
DOCUMENTATION REQUEST LIST

Objective

The objective of this Appendix is to provide a baseline documentation request list as described in Part II of this guidebook.

B.1.   Process

DoD 5000.02, Enclosure 4, identifies the Statutory and Regulatory documents and information required for programs at each milestone. Not all are specific to program support; however, many contain program supportability information or impact program support and therefore should be reviewed. Components may have additional documentation required to provide further amplifying information to the top level requirements identified in DoD 5000.02, enclosure (4).

The Documentation Request List provided below should be used as a baseline for establishing the documentation request. It should be tailored to match the program and phase, as the scope and depth of logistics support information in these documents can vary significantly from program to program and by acquisition phase. The letters in the milestone column are provided as a guide to understand the maturity of each document by milestone, and are defined below. Program logistics documents may have been developed by a program not only to meet statutory or regulatory requirements, but also for program management discretionary purposes. Information content, not quantity or format of the documents, is critical for a successful Logistics Assessment (LA). The program office provides the applicable information to the LA team prior to the assessment. The Component's LA guides should supplement this list with their specific requirements:

D = Draft/In process

F = Final

U = Update as required/necessary

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	**C**	**FRP**
Acquisition Plan (AP) Defines the specific actions planned by the program manager to execute the contracting approach established in the AS and to guide contractual implementation.	FAR 7.104 and 7.105, DFARS 207.1	F	F	F
Acquisition Program Baseline (APB) Documents the agreement among resource and functional sponsors, Program Managers (PMs) and the Milestone Decision Authority (MDA) on how the program is to be executed. The baseline contains only those program cost, schedule, and performance parameters (both objectives and thresholds) that, if thresholds are not met, will require the MDA to	10 USC 2435, DoD 5000.02	F	F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP
reevaluate the program and consider alternative program concepts or design approaches.				
Acquisition Strategy (AS) Describes the business and technical management approach to achieve program objectives within the resource constraints imposed. It provides the framework for planning, directing, contracting for, and managing the program. It provides the basis for formulating functional plans and strategies (e.g., acquisition plan, Test and Evaluation Master Plan, and the Systems Engineering Management Plan).	DoD 5000.02	F	U	U
Analysis of Alternatives (AoA) Provides an analysis to aid decision makers by identifying risks, uncertainty, and the relative advantages and disadvantages of alternatives being considered to satisfy a mission need. The AoA identifies the sensitivity of each alternative to possible change in key assumptions.	DoD 5000.02	F	F	F
Business Case Analysis (BCA) for Performance Based Decisions and Support Decisions Evaluates alternative solutions for obtaining best value while achieving operational and capabilities requirements balancing cost, schedule, performance, and risk.	DoD 5000.02, PBL Guidance Directives	F	U	U
Configuration Management Plan (CMP) Defines the technical and administrative directions and surveillance actions to identify, manage, and document the functional, allocated, and physical characteristics of a configuration item; to control changes; and record and report change processing and implementation status.	DoDI 5000.02	F	U	U
Contractual Documentation Contains the program contractual requirements. This may include the Request For Proposal (RFP), statement of work/objectives, specification, contract deliverables, performance agreements, and any other related contractual documentation that contains support criteria and requirements.	FAR/DFARS, DoD 5000.02	F	U	U
Cost Analysis Requirements Description (CARD) Describes the complete program and used as the basis for program office and Component cost-analysis	DoDI 5000.02	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP
teams to prepare program life cycle cost estimates. It should be comprehensive enough to facilitate identification of any area or issue that could have a significant effect on life cycle costs and therefore must be addressed in the cost analysis. It also must be flexible enough to accommodate the use of various estimation methodologies.				
Capability Documents (Initial Capability Document (ICD), Capability Development Document (CDD), and Capability Production Document (CPD)) • The ICD Guides the Concept Refinement and Technology Development phases of the acquisition process and supports the Milestone A decision. The ICD includes a description of the operational capability gap, threat, shortcomings of existing systems and (C4I) architectures, capabilities required for the system, program support, force structure, Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities analysis, and schedule/program affordability for the system. Replaces the mission needs statement.	CJCSINST 3170.01, DoD 5000.02	F		
• The CDD includes the operational performance parameters necessary for the acquisition community to design a proposed system and establish a program baseline. The performance attributes stated include KPP, thresholds and objectives to guide the development, and demonstration of the proposed increment. Equivalent to the operational requirements document. The CDD builds on the ICD and is approved prior to milestone B.		F		
• The CPD Narrows the generalized performance and cost parameters from the CDD into more precise performance estimates for the specific production system increment. The CPD is finalized after the design readiness review.			F	U
Corrosion Prevention Control Plan For ACAT I programs only, identifies the strategy and plan for managing and preventing corrosion.	DoDI 5000.02, DoDI 5000.67	F	U	U
Data Management Strategy	DoDI 5000.02, USC Title 10, Sec 2320; OSD	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP
Identifies long-term needs and strategy for management and ownership of Data rights for re-procurement of the system.	Memo, same subj: dtd 19 Jul 2007			
Depot Source of Repair/CORE Analysis/Determination Identifies the Maintenance Requirements to determine if they are a CORE capability (e.g., capability the DoD wants to retain organically).	DoDI 5000.02; USC Title 10, Sec 2464/2466	F	U	U
Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Plan Identifies the program approach to managing DMSMS.	DoDD 4140.1-R Component Directives	F	U	U
Design Reference Mission Profile (DRMP) Provides a time history or profile of events, functions (often referred to as use or operations), and environmental conditions that a system is expected to encounter during its life cycle, from manufacturing to removal from service use.	DoD 4245.7-M Templates Component Directives	F	U	U
Facilities Plan Describes the plan to develop, identify, and implement facility requirements to maintain, operate, and test an item and to train personnel for its use.	Component Directives	F	U	U
Human Systems Integration (HSI) Plan Describes how the system will meet the needs of the human operators, maintainers, and support personnel. This includes Manpower, Personnel, Training and Education (MPT&E), Human Factors Engineering (HFE), personnel survivability, and habitability. Also describes how the program will meet HSI programmatic requirements and standards including analysis to reduce manpower, improve human performance, and minimize personnel risk. HSI is the integrated analysis, design, and assessment over the life cycle of a system and associated support infrastructure in the domains of MPT&E, HFE, personnel survivability, habitability, safety, and occupational health.	DoD 5000.02: Component Directives	F	U	U
Information Support Plan (ISP) Identifies ISP needs, dependencies and interfaces focusing on interoperability, supportability, and sufficiency concerns throughout a program's life cycle. It provides a plan for ACAT programs, including both information technology and national security systems	DoDI 4630.8, DoDD 4630.5, CJCSI 6212.01, DoDI 5000.2	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP
that connect to the communications and information infrastructure.				
Integrated Master/Management Plan Depicts the overall structure of the program and the key processes, activities, and milestones in an event-based plan. It defines the accomplishments and criteria for each event in the plan.	DoD 5000.02, MIL-HDBK-881, IPPD best practice, DAG Component Directives	F	U	U
Item Unique Identification (IUID) Plan Annex to the SEP. Describes the plan for encoding data matrix symbols that are applied to parts using a Direct Part Marking process to facilitate electronic data capture and transmission. Data elements are then used to track parts throughout their life cycle.	DoDI 5000.2; USD (AT&L) Memo 23 Dec 04 Component Directives	F	U	U
Life-Cycle Cost Estimate (LCCE) Provides an estimate of the total cost to the Government of acquisition and ownership of a weapon system over its useful life. It includes the cost of development, acquisition, support and, where applicable, disposal.	DoD 5000.02 Component Directives	F	U	U
Life Cycle Sustainment Plan (LCSP) Part of AS. Describes the overall supportability program and includes all requirements, tasks, schedules, and milestones for each LA element integrated into the overall program milestones during acquisition and sustainment.	DoDI 5000.02	F	U	U
Logistics Funding Requirements Logistics Funding Requirements document identifies the logistics support functions and sub-functions required to establish affordable and effective logistical support. It identifies support resource requirements and the funds available to meet those requirements. The summary displays requirements versus available funding for all Integrated Product Support Elements (IPS elements) and related disciplines, by fiscal year and appropriation, and is traceable to logistic support plan tasks and activities.	Component Directives	F	U	U
Maintenance Concept The concept provides a brief description of the concept for operational maintenance, constraints and plans for support of items under development.	Component Directives	F		

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	**C**	**FRP**
Maintenance Plan Provides a description of the concept for operational maintenance, constraints, and plans for support of items under development. Information in the plan is based on different supportability analyses, the Level of Repair Analyses (LORA), maintenance analyses, etc.	Component Directives, Acquisition Knowledge Sharing System (AKSS)		F	F
Manpower Estimate (ME)) The ME provides the official statement of manpower requirements and risk assessment for achieving and supporting those requirements.	DoD 5000.02 DAG Component Directives	F	U	U
Memoranda of Agreement(s) and Field Tasking Agreements Delineates the roles and responsibilities, as well as agreements between the program office and supporting field activities, In-Service Engineering Agents, agreements between the Software Support Activity (SSA), inter-service agreements, etc. Field tasking agreements include funding documents that contain statements of work.	DoDI 4000.19 Component Directives	F	F	F
Operational Test Agency Report of Operational and Test Evaluation Results Provides operational test results from the Components testing agencies.	DoDI 5000.02	D	F	F
Program Environmental, Safety, and Health Evaluation (PESHE) This document is a management tool used to help program managers identify and manage Environmental, Safety and Occupational Health (ESOH) hazards and risks, and determine how best to meet ESOH regulatory requirements and standards. It is a living document that is continually updated and maintained throughout the progression of a program or project, from concept to disposal.	42 USC 4321, DoD 5000.02 Component Directives	F	U	U
Program Protection Plan (Includes the Anti-Tamper plan as an Annex) Prepared for programs with critical program information.	DoDI 5000.02; DoDI 5200.39	F	F	F
Replaced System Sustainment Plan Identifies how the system being replaced will be sustained.	DoD 5000.02	F	F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	**C**	**FRP**
Risk Management Plan/Assessment Describes the approach to identify, assess, mitigate, continuously track, control, and document program risks.	DoD 5000.02 Component Directives	F	U	U
Software Plan Documents the procedures for identifying, organizing, controlling, and tracking the configuration of the software (i.e., selected software work products and their descriptions), systematically controlling changes to the configuration, and maintaining the integrity and traceability of the configuration throughout the software life cycle.	Component Directives, AKSS	F	U	U
Software Support/Sustainment Plan Describes the activities to ensure that implemented and fielded software continues to fully support the operational mission of the software.	Component Directives, DAG	F	U	U
Systems Engineering Plan (SEP) Describes the comprehensive, iterative technical management process that includes translating operational requirements into configured systems, integrating the technical inputs of the entire design team, managing interfaces, characterizing and managing technical risks, transitioning technology from the technology base into program specific efforts, and verifying that designs meet operational needs. It addresses life cycle activities using a concurrent approach to product and process development as well as sustainment.	DoDI 5000.02, Component Directives, DAG	F	U	U
Systems Safety Analysis/Plan Provides the plans and analyses to achieve acceptable safety risk through a systematic approach of hazard analysis, risk assessment, and risk management.	Component Directives	F	U	U
Test and Evaluation Master Plan (TEMP) Documents the overall structure and objectives of the test and evaluation program consistent with the ICD/CDD/CPD/acquisition strategy. It identifies the Development Test and Evaluation (DT&E), Operational Test and Evaluation (OT&E), Live Fire Test and Evaluation (LFT&E) activities, and provides the framework to generate detailed T&E plans.	CJCSI DoD 5000.02	F	U	U
Training Analysis	Component Directives	IP	F	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	**C**	**FRP**
Provides a methodology to determine manpower, personnel, training, and education requirements to support the planning and programming process and the Training Systems Plan.				
Training Plan Identifies the resources required to establish and maintain an effective training program throughout the acquisition life cycle. It controls planning for meeting the training requirements and identifies personnel required to install, operate, maintain, or to otherwise use the system.	Component Directives	IP	F	U
Computer Resources Life Cycle Management Plan Describes the development, acquisition, test, and support plans over the life cycle of computer resources integral to or used in direct support of systems. May be a part of the LCSP.	Component Directives AKSS		F	U
Commercial-Off-The Shelf (COTS) Refreshment Plan/Program Part of the DMSMS plan, it defines the plan to avoid obsolescence in the delivered systems. The planning for technology refresh and insertion is a part of the systems engineering process and includes market research over the life of the system to identify potential replacements in anticipation of end-of-life issues.	Component Directives, DAG, AKSS		F	U
Development Test(DT)/Operational Test (OT) Results Provides results from developmental and operational testing on a system.	DoD 5000.02		D	F
Failure Reporting, Analysis and Corrective Action System (FRACAS) A closed-loop system for the identification of hardware/software failures/discrepancies, their analyses to root cause, implementation of corrective actions to prevent recurrence and verification of their effectiveness. Recording of data should be comprehensive to provide an accurate database for analyses.	Component Directives, AKSS	D	F	F
Level Of Repair Analyses (LORA) Provides an analysis to determine whether an item should be repaired or discarded and, if repaired, at what maintenance level. Analyses are performed and trade-off decisions are made based on mission	Component Directives, DAG		F	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP
requirements as well as economic and non-economic considerations.				
Manufacturing Plan Defines and integrates a sequence of activities to establish, implement, and control production resources for efficient transition from development to production and continued manufacturing. The plan addresses all aspects of manufacturing/product engineering, manufacturing methods, production and material control, scheduling and manufacturing cycle times, personnel, tooling, defect prevention, etc.	Component Directives, DAG, DFARS 207.1		F	U
Planned Maintenance System (PMS) Documentation Includes scheduled maintenance instructions provided on maintenance requirements cards and maintenance index pages. May be included in the interactive electronic technical manual.	Component Directives		F	U
Preferred Parts Selection List/Approved Parts List A list of parts or part types that meets the system design requirements over its life cycle and are either recommended or approved for use.	Component Directives, DFARS 207.1		F	U
Quality Assurance Plan Provides the contractors plan and program for assuring the quality of the system.	DoD 5000.02, Component Directives		F	U
Reliability, Availability and Maintainability (RAM) Plans and Reports Provides plans to influence the design, and provides reports from the results of the completed analyses (e.g., Failure Modes, Effects and Criticality Analysis).	DoD 5000.02, Component Directives	F	U	U
Results of Design Analyses Provides analyses as part of the design process to identify, quantify, and qualify product characteristics in terms of attributes, tolerances, and test and inspection requirements necessary to produce a quality product that meets its life cycle and supportability requirements. Examples of analyses include reliability, availability and maintainability predictions, task time analyses, testability analysis, worst-case tolerance analysis, stress analysis, sneak circuit analysis, and FMECA.	Component Directives, DFARS 207.1		F	F
Software Development Plan	Component Directives,	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	**C**	**FRP**
Describes responsibilities, tasks, deliverables, and schedules. The descriptions include how the design, review, and tests will be performed. The plan addresses management and control of the development process, software development practices or standards to be followed, and procedures to be used for tracking and reporting progress.	DAG			
Software Security Plan Addresses various aspects of security such as information assurance, protection of critical program information, and obtaining security certification and accreditation if not included in other documents.	Component Directives		F	U
Supply Support Management Plan Identifies the major supply support events/deliveries/milestones for an acquisition or configuration change with projected and actual delivery dates for each event from budgeting through the material support date.	Component Directives, AKSS		F	U
Supportability Analysis Summaries (Maintenance Planning & Repair Analysis; Support & Test Equipment; Supply Support; MPT&E; Facilities; Packaging, Handling, Storage, and Transportation (PHS&T); and Post-Production Support) Provides information for planning, assessing program status, and decision making by the government relative to the logistics disciplines/elements.	Component Directives, DAG		F	U
System Operating & Maintenance Documents Contains information and instructions for the installation, operation, maintenance, training, and support of a system.	Component Directives		F	U

The following documents apply to systems that are conducting Post-IOC LAs. These are in addition to the documents identified in the list above, however, the list should be tailored for each program by the LA team lead and program office.

System Operational Verification Tests (SOVT) List of deficiencies upon system installation.	Component Directives
Maintenance History, Supportability/Cost Drivers Component failures per installed population.	Component Directives
Diagnostic Help History	Component Directives

Tech Assists per System.	
Configuration Management Information Configuration Control and Change history to include number of Engineering Design Changes, etc.	Component Directives
PBL Performance Information on how the PBL provider is performing against required metrics.	Component Directives
Training Performance Training Effectiveness/Issues.	Component Directives
Depot Performance Component repairs per installed population.	Component Directives
Planned Maintenance System (PMS) Performance User feedback on PMS program.	Component Directives
Product Data Performance User feedback on Technical Data.	Component Directives

APPENDIX C:
RATING AND CERTIFICATION CRITERIA

Objective

The objective of this Appendix is to provide rating and certification criteria for program being assessed. It is broken into two Parts: Part I provides Rating and Certification Criteria for Pre-Initial Operational Capability (IOC) Logistics Assessments (LA); and Part II Provides Rating Criteria for Post-IOC Phase LAs.

Part I: LA Rating Criteria

C.1.   Process
The following provides guidance for rating individual findings and rolling up the overall findings. It includes:

- **Element Rating Criteria (Table C-1)**: Used to rate individual issues and each element.
- **Overall Program Rating and Certification Criteria (Table C-2)**: Used to provide the overall program rating as well as certification for the program. The overall program rating typically would match the program certification, however, these can differ if the Component Certification Authority identifies urgency factors or non-concurs with the recommendations.
- **LA Risk Matrix (Figure C-1)**: Used to graphically represent the program's overall logistics risk in accordance with the overall rating. The matrix provides a presentation media that is used to present other programmatic risks to the DASD-MR such as performance, cost, and schedule risks. This allows Logistics risk to be presented at the same level during reviews for the Milestone Decision Authority (MDA). The LA Consequence Decision Table (figure C-1a) and Likelihood Decision Table (figure C-1b) are used together to provide an overall rollup of findings onto the risk cube.

Table C-1: Element Rating Criteria

Grade	Cost	Schedule	Performance
Minor (Green)	Minor or no impact to supportability	Minor or no impact to supportability	Minor or no impact to supportability
Moderate (Yellow/Amber)	Some supportability impact; re-allocatable within program Funding is not available when needed; moderate impact to supportability	Some impact to logistics tasks; internally adjustable with no milestone changes Delays in logistics tasks impacting ability to meet milestones, but workarounds exist such that impact is minimal	Some impact to readiness, but can be remedied by program Logistics requirements will not be met within budget or schedule, but can be if resources will be applied
Major (Red)	Funding is not available when needed; significant impact to supportability	Delays in logistics tasks with significant milestone impact	Significant degradation below MOS thresholds

	Supportability cannot be achieved within the current funding profile	Delays in logistics tasks with major impact to the ability to meet milestones or establish support capability	Logistics performance requirements cannot be met

Table C-2: Overall Program Assessment and Certification Criteria

| OVERALL PROGRAM ASSESSMENT AND CERTIFICATION CRITERIA		
NOT CERTIFIED (Red)	**CONDITIONALLY CERTIFIED (Yellow)**	**CERTIFIED (Green)**
A program is not certified when there are major product support planning and implementation issues or actions outstanding that have substantial impact on the program's ability to meet sustainment performance requirements within cost and schedule. Further, there are no plans or work arounds in place that will correct the deficiency. The program should not proceed to a milestone decision until detailed action plans are developed and in place which meet minimum acceptable sustainment performance requirements with acceptable impacts to cost and schedule. Once these plans are in place and properly resourced to the satisfaction of the LA Team Lead, PEO sustainment manager, or next echelon of sustainment competency, the program is considered to be conditionally certified.	A program is conditionally certified when product support planning and implementation issues of moderate risk have detailed action plans established and in place. However, the resolution of the deficiency will not occur prior to the milestone decision and requires continued monitoring. Once the action is completed, there is no expected degradation to sustainment performance requirements and minimal impact to cost and schedule. Once identified actions are resolved as verified by the LA team lead, PEO sustainment manager, or next echelon of sustainment competency, the program is considered certified.	A program is considered certified when there are no (or only minor) product support planning and implementation issues. Each issue has an approved mitigation plan in place to eliminate the deficiency prior to the milestone decision. There is no impact on the program's ability to meet sustainment performance requirements within cost and schedule.
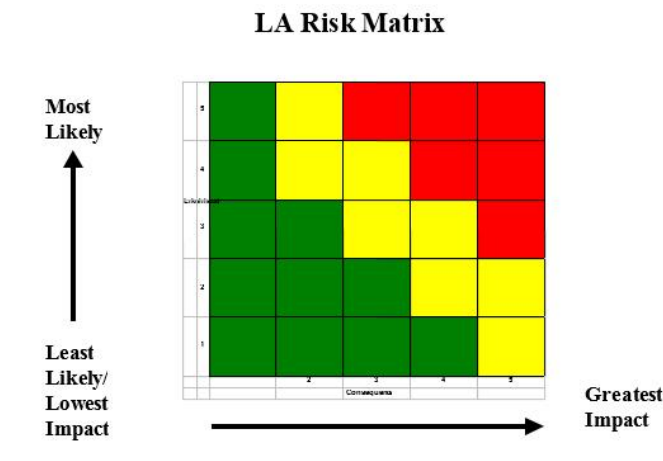
LA Risk Matrix

Figure C-1: Risk Matrix

Consequence: Impact on Program if Consequence Occurs

Level	Cost	Schedule	Performance
1	Minor or no impact to supportability	Minor or no impact to supportability	Minor or no impact to supportability
2	Some supportability impact; re-allocatable within program	Some impact to logistics tasks; internally adjustable with no milestone changes	Some impact to readiness, but can be remedied by program
3	Funding is not available when needed; moderate impact to supportability	Delays in logistics tasks impacting ability to meet milestones, but workarounds exist such that impact is minimal	Logistics requirements will not be met within budget or schedule, but can be if resources will be applied
4	Funding is not available when needed; significant impact to supportability	Delays in logistics tasks with significant milestone impact	Significant degradation below MOS thresholds
5	Supportability cannot be achieved within current funding profile or not identified	Delays in logistics tasks with major impact to the ability to meet milestones or establish support capability	Logistics performance requirements cannot be met

Figure C-1a: LA Consequence Decision Table

Likelihood: Probability that a Given Consequence Will Occur

Level	Likelihood
1	Not Likely
2	Low Likelihood
3	Likely
4	Highly Likely
5	Near Certainty

Figure C-1b: LA Likelihood Decision Table

Part II: Post-IOC Phase Rating Information

C.2.   Process

The following provides rating criteria for a Post-IOC LA in each individual IPS element, as well as the overall program rating. Each IPS element should be rated in accordance with Table C-3 below, and the same table should also be used to provide an overall program rating.

Table C-3: IPS element Rating and Overall Program Rating Criteria

Grade	
Minor (Green)	• All Supportability Products have been (or are scheduled to be) delivered to the user in accordance with the requirements and program schedule. • Supportability KPPs, KSAs, and other measures of effectiveness are being achieved per the system requirements. • The program is meeting operational cost goals from a supportability perspective per cost estimates.
Moderate (Yellow/Amber)	• Not all Supportability Products have been (or will be) delivered to the user in accordance with the requirements and program schedule. Impact to support is not significant and workarounds are established with little or no impact to support and performance. • All Supportability Products have been delivered to the requirements but the requirement is inadequate, either because the requirement was misstated or the mission profile/threat has changed. • Supportability KPPs, KSAs, and other measures of effectiveness have not been achieved but corrective actions are funded/in process and trending toward achieving required thresholds in the near term. Overall system performance and supportability has not been degraded or is slightly degraded. • The program is exceeding operational cost goals from a supportability perspective per cost estimates, but cost reduction improvements are in place and costs are trending downward in the near term.
Major (Red)	• Not all Supportability Products have been (or will be) delivered to the user in accordance with the requirements and program schedule. Impact to support is significant and performance and supportability KPPs/KSAs are being impacted. • Supportability KPPs, KSAs, and other measures of effectiveness are not being achieved and there is no current plan, process, or funding in place to correct the deficiency. Overall system performance and supportability has been degraded . • All Supportability Products have been delivered to the requirements but the requirement is inadequate , either because the requirement was misstated or the mission profile/threat has changed. • The program is exceeding operational cost goals from a supportability perspective per cost estimates. Additional funding is required to support the system, and cost reduction efforts will be significant.

APPENDIX D:
GLOSSARY OF TERMS

Automatic Identification Technology (AIT): AIT is the broad term given to a host of technologies that are used to help machines identify objects. Auto identification is often coupled with automatic data capture to identify items, capture information about them, and input that data into a computer without having employees type it in. The aim of most AIT and systems is to increase efficiency, reduce data entry errors, and free up staff to perform more value-added functions, such as providing customer service. There is a host of technologies that fall under the AIT umbrella. These include bar codes, smart cards, voice recognition, some biometric technologies (retinal scans, for instance), Optical Character Recognition, RFID, and UID.

Acquisition Knowledge Sharing System (AKSS): Serves as the central point of access for all AT&L resources and information, and to communicate acquisition reform. As the primary reference tool for the Defense AT&L workforce, it provides a means to link together information and reference assets from various disciplines into an integrated but decentralized information source.

Authoritative Data Source: Data products including databases have been identified, described and designated by the appropriate Component Functional Data Managers, U.S. Military Services, and Components as the authorized producer of data for a given requirement.

Built-In-Test (BIT): Provides "Built-in" monitoring, fault detection, and isolation capabilities as integral feature of the system design. It can be supplemented with imbedded expert system technology that incorporates diagnostic logic/strategies into the prime system.

Business Case Analyses (BCA): The evaluation of alternative solutions for obtaining best value while achieving operational requirements balancing cost, schedule, performance, and risk.

Capability Development Document (CDD): A document that provides the operational performance attributes, including KPPs, necessary for the acquisition community to design a proposed system and establish a program baseline, normally using an evolutionary acquisition strategy. The CDD outlines an affordable increment of militarily useful, logistically supportable, and technically mature capability that can be effectively developed, produced or acquired, deployed, and sustained. The CDD supports the Milestone B acquisition decision.

Capability Production Document (CPD): A document that addresses the information necessary to support production, testing, and deployment of a specific affordable and supportable increment of an acquisition program. The refinement of performance attributes and KPPs is the most significant difference between the CDD and CPD. The CPD must be validated and approved before the Milestone C decision review.

Condition Based Maintenance (CBM): A form of maintenance based on real-time assessment of the system's condition, obtained from embedded sensors and/or external tests and measurements, to forecast incipient failures for corrective actions.

Condition Based Maintenance Plus (CBM+): CBM+ expands on the CBM concept by encompassing other technologies, processes, and procedures such as information system technologies that enable improved maintenance and logistics practices.

Configuration Item (CI): Any hardware, software, or combination of both that satisfies an end-use function and is designated for separate configuration management. These may be functional, allocated, or product configurations.

Contractor Logistics Support (CLS): CLS is the performance of maintenance and/or materiel management functions for a system by a commercial activity. CLS is a product support strategy that can be selected for implementing PBL.

Defense Acquisition Management Information Retrieval (DAMIR): DAMIR is a DOD program that provides enterprise visibility to Acquisition program information. DAMIR identifies various data sources that the Acquisition community uses to manage Major Defense Acquisition Programs (MDAP) and Major Automated Information Systems (MAIS) programs and provides a unified web-based interface through which to present that information. DAMIR enables the OSD, Military Components, Congress, and other participating communities to access information relevant to their missions regardless of the agency or where the data resides.

Deficiency: Deficiencies are situations (planning, execution, funding, etc.) that constitute a risk of a program not being fully supportable and sustainable. More than one criterion may be grouped to a deficiency.

Design Reference Mission Profile (DRMP): The DRMP provides the mission profile to which the system is designed. It includes the environmental profile, functional profiles, and logistics use profiles.

Diminishing Manufacturing Sources and Material Shortages (DMSMS): The loss or impending loss of the last known manufacturer or supplier of raw material, production parts, or repair parts.

Full Operational Capability (FOC): In general, attained when all units and/or organizations in the force structure scheduled to receive a system that is fully mission capable 1) have received it and 2) have the ability to employ and maintain it. The specifics for any particular system FOC are defined in that system's CDD and CPD.

Full Rate Production (FRP): Contracting for economic production quantities following stabilization of the system design and validation of the production process. This effort delivers the fully funded quantity of systems and supporting materiel and services for the program or increment to the users. During this effort, units shall attain IOC.

Functional Configuration Audit (FCA): The formal examination of functional characteristics of a configuration item, or system to verify that the item has achieved the requirements specified in its functional and/or allocated configuration documentation.

Gap Analysis: Assessment of the difference between a systems design, test, production and logistics mission requirements, and available COTS/NDI equipment capabilities.

Human Systems Integration: HSI integrates HFE; MP&TE; health hazards; safety factors; medical factors; personnel (or human) survivability factors; and habitability considerations into the system acquisition process.

Information Exchange Requirements (IER): The requirement for information to be passed between and among forces, organizations, or administrative structures concerning ongoing activities. IER requirements identify who exchanges what information with whom, as well as why the information is necessary and how that information will be used.

Information Interoperability: The exchange and use of information in any form, electronically, that enables effective operations for both war fighting and combat support areas both within the external activities, and synchronizes both materiel and non-materiel aspects. Information interoperability enables systems, units or forces to provide services to, and accept services from, other systems, units, or forces, and to use the exchanged services to operate effectively together.

Initial Capabilities Document (ICD): Documents the need for a materiel approach to a specific capability gap derived from an initial analysis of materiel approaches executed by the operational user and, as required, an independent analysis of materiel alternatives. It defines the capability gap in terms of the functional area, the relevant range of military operations, desired effects, and time. The ICD supports the Milestone A acquisition decision, and subsequent Technology Development phase activities.

Initial Operational Capability (IOC): In general, attained when some units and/or organizations in the force structure scheduled to receive a system that is partially mission capable 1) have received it and 2) have the ability to employ and maintain it. The specifics for any particular system IOC are defined in that system's CDD and CPD.

Interactive Electronic Technical Manual (IETM): A computer-based collection of information needed for the operation, diagnosis, and maintenance of a system. It is optically arranged and formatted for interactive presentation to the end user on an electronic display system. Unlike other optical systems that display a page of text from a single document, IETMs present interrelated information from multiple sources tailored to user queries.

Item Unique Identification (IUID): Unique Identifier. The Unique Identifier is a number that uniquely identifies tangible items. It provides asset accountability within the DOD Supply Chain. Items must include a Unique Identifier under the CLIN/SLIN if they meet the DFARS 252.211.7003 requirements. The Unique Identifier is constructed by combining specific data elements structured according to the DoD's UID Program Office business rules.

Key Performance Parameters (KPP): Those attributes of a system that are considered critical or essential to the development of an effective military capability. KPPs must be measurable and testable to enable feedback from test and evaluation efforts to the requirements process. KPPs are validated by the Joint Requirements Oversight Council (JROC) for JROC Interest documents, by the Joint Capabilities Board for JCB Interest documents, and by the DOD component for Joint Integration, Joint Information, or

Independent documents. Capability development and capability production document KPPs are included verbatim in the acquisition program baseline.

Key System Attribute (KSA): An attribute or characteristic considered crucial to achieving a balanced solution/approach to a system, but not critical enough to be designated a KPP. KSAs provide decision makers with an additional level of capability performance characteristics below the KPP level and require a sponsor 4-star, Defense agency commander, or Principal Staff Assistant to change.

Milestone B (MS B): The point at which a recommendation is made and approval sought regarding starting or continuing an acquisition program, i.e., proceeding to the next phase. MS B approval allows entry into the System Development and Demonstration (SDD) phase. SDD has two major efforts: System Integration and System Demonstration. The entrance point is MS B, which is also the initiation of an acquisition program.

Milestone C (MS C): The point at which a recommendation is made and approval sought regarding continuing an acquisition program, i.e., proceeding to the next phase. MS C approval allows entry into the Production and Deployment phase. MS C authorizes entry into Low Rate Initial Production (LRIP) (for MDAP and major systems), into production or procurement (for non-major systems that do not require LRIP), or into limited deployment in support of operational testing for Major Automated Information System programs or software-intensive systems with no production components.

Operation and Sustainment (O&S) Costs: Costs that are required to operate the system and to sustain or maintain it in a ready and operational state.

Performance Based Logistics (PBL): PBL life cycle support is an agreement, usually long-term, in which the provider (organic, commercial, and/or public/private partnership) is incentivized and empowered to meet overarching customer-oriented performance requirements (reliability, availability, etc.) in order to improve product support effectiveness while reducing TOC. PBL is usually documented in a contractual arrangement (commercial, organic, or a combination of both) where the provider is held to customer-oriented performance requirements, such as reliability improvement, availability improvement, and reduced delivery times with the end goal of improving logistics support to the warfighter.

Physical Configuration Audit (PCA): The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish or verify the configuration item's product baseline. PCAs are conducted to verify that the as-built configuration item matches the design requirements of the conditionally approved engineering drawings, software design documents, and product specifications.

Product Data: All data created as a consequence of defining (requirements), designing, testing, producing, packaging, storing, distributing, operating, maintaining, modifying, and disposing of a product.

Product/Technical Data Package: A technical description of an item adequate for supporting an acquisition strategy, production, engineering, and logistics support. The description defines the required design configuration and procedures to ensure adequacy of item performance. It consists of all applicable technical data such as drawings, specifications, standards, manuals, performance

requirements, quality assurance provisions, packaging details, etc. Documentation of computer programs and related software are technical data, while computer programs and related software are not.

Recommendation: Suggested action(s) based on experience of assessors that would enhance or improve supportability and/or sustainability of a program.

Reliability Centered Maintenance (RCM): A disciplined logic or methodology used to identify preventive and corrective maintenance tasks to realize the inherent reliability of equipment at a minimum expenditure of resources. Preventative maintenance requirements are developed to increase system availability/reliability by identifying and correcting failures or potential failures before the system is degraded. The preventative maintenance may be based on time, materiel condition, failure rates, or any combination thereof.

Radio Frequency Identification (RFID): RFID is a generic term for technologies that use radio waves to automatically identify people or objects. There are several methods of identification, but the most common is to store a serial number that identifies a person or object, and perhaps other information, on a microchip that is attached to an antenna (the chip and the antenna together are called an RFID transponder or an RFID tag). The antenna enables the chip to transmit the identification information to a reader. The reader converts the radio waves reflected back from the RFID tag into digital information that can then be passed on to computers that can make use of it.

Total Ownership Cost (TOC): Includes all costs associated with the research, development, procurement, operation, logistics support, and disposal of an individual weapon system, including the total supporting infrastructure that plans, manages, and executes that weapon system program over its full life.

Item Unique Identification (IUID): DoD business transformation program for accountability and valuation of personal property, real property, and personnel including the tools and infrastructure for managing historical data, status of personnel and equipment, and inter-organizational relationship. UID is a system of distinguishing one object from another, allowing DoD to track identical items individually throughout their lifecycles.

Technical Data: Recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information. Source: DFARS 252.227-7013.

APPENDIX E:
GLOSSARY OF ACRONYMS

A

ACAT	Acquisition Category
AIS	Automated Information System
AICUZ	Air Installations Compatible Use Zones
AIT	Automatic Identification Technology
AKSS	Acquisition Knowledge Sharing System
ALSP	Acquisition Logistics Support Plan
A_m	Materiel Availability
A_o	Operational Availability
AoA	Analysis of Alternatives
AP	Acquisition Plan
APB	Acquisition Program Baseline
AS	Acquisition Strategy

B

BCA	Business Case Analyses
BFR	Basic Facilities Requirements
BIT	Built-In-Test
BOM	Bill of Material

C

CAE	Component Acquisition Executive
CAI	Critical Application Item
CAIG	Cost Analysis Improvement Group
CARD	Cost Analysis Requirements Document
CATEX	Categorical Exclusion
CBM	Condition Based Maintenance
CBM+	Condition Based Maintenance Plus

CCB   Configuration Control Board

CDD   Capability Development Document

CDR   Critical Design Review

CI   Configuration Item

CLS   Contractor Logistics Support

CM   Configuration Management

CMP   Configuration Management Plan

CONOPS   Concept of Operations

COTS   Commercial-Off-The Shelf

CPD   Capability Production Document

CPI   Critical Program Information

CSA   Configuration Status Accounting

CSI   Critical Safety Item

CWT   Customer Wait Time Total

C4I   Command, Control, Communications, Computer and Intelligence

D

DAWIA Defense Acquisition Workforce Improvement Act

DAG   Defense Acquisition Guidebook

DAPS   Defense Acquisition Program Support

DFARS Defense Federal Acquisition Regulation Supplement

DIA   Data Interface Agreement

DMSMS   Diminishing Manufacturing Sources and Material Shortages

DoD   Department of Defense

DRMP   Design Reference Mission Profile

DT   Development Test

DASD(MR)   Deputy Assistant Secretary of Defense (Materiel Readiness)

E

ECP   Engineering Change Proposal

ESOH   Environmental, Safety, and Occupational Health

ESQD   Explosive Safety Quantity Distance

EO   Executive Order

F

FCA   Functional Configuration Audit

FMECA Failure Mode, Effects, and Criticality Analysis

FOC   Full Operational Capability

FONSI Finding of No Significant Impact

FRACAS Failure Reporting, Analysis, and Corrective Action System

FRP   Full Rate Production

H

HAZMAT Hazardous Material

HFE   Human Factors Engineering

HSI   Human Systems Integration

I

ICD   Initial Capabilities Document

ICE   Independent Cost Estimate

IDDE   Integrated Digital Data Environment

IETM   Interactive Electronic Technical Manual

IMP   Integrated Master Plan

IMS   Integrated Master Schedule

IOC   Initial Operational Capability

IPS   Integrated Product Support

IPT   Integrated Process Team

ISP   Information Support Plan

IUID   Item Unique Identification

J

JCIDS   Joint Capabilities Integration and Development System
JSCA   Joint Supply Chain Architecture
JUON   Joint Urgent Operational Need

K

KPP   Key Performance Parameters

KSA   Key Systems Attribute

L

LA   Logistics Assessment

LCSP   Life Cycle Sustainment Plan

LCCE   Life Cycle Cost Estimate

LCM   Life Cycle Management

LMI   Logistics Management Information

LORA   Level of Repair Analysis

LRIP   Low Rate Initial Production

M

MAM   Maintenance Assist Module

MAIS   Major Automated Information System

MDA   Milestone Decision Authority

MDAP   Major Defense Acquisition Programs

ME   Manpower Estimate

MILCON   Military Construction

MLDT   Mean Logistics Delay Time

MOA   Memorandum of Agreement

MPT&E Manpower, Personnel, Training and Education

MS   Milestone

MS B   Milestone B

MS C   Milestone C

MSD   Materiel Support Date

MTBF   Mean Time Between Failure

MTTR   Mean Time To Repair

N

NATO   North Atlantic Treaty Organization

NDI   Non-Developmental Item

NEPA   National Environmental Policy Act

O

OEM   Original Equipment Manufacturer

OSD   Office of the Secretary of Defense

OT   Operational Test

OTRR   Operational Test Readiness Review

P

PBA   Performance Based Agreement

PBLCS Performance Based Logistics

PCA   Physical Configuration Audit

PDR   Preliminary Design Review

PEO   Program Executive Officer

PESHE Program Environmental Safety and Health Evaluation

PHS&T Packaging, Handling, Storage, and Transportation

PM   Program Manager

PMS   Planned Maintenance System

POA&M   Plans of Actions and Milestones

POC   Point of Contact

POF   Perfect Order Fulfillment

PRR   Production Readiness Review

PSI   Product Support Integrator

PSM   Product Support Manager

PSP   Product Support Provider

R

RAM   Reliability, Availability, Maintainability

RAM-C Reliability, Availability, Maintainability, and Cost rationale

RAMS   Reliability, Availability, Maintainability (Supportability)

RBS   Readiness Based Sparing

RCM   Reliability Centered Maintenance

RDT&E   Research, Development, Test and Evaluation

RFID   Radio Frequency Identification
RFP   Request for Proposal

RICE   Reports, Interfaces, Conversions, and Enhancements

R_m Materiel Reliability

ROD   Record Of Decision

RTOK   Retest-OK

S

SAE   Service Acquisition executive

SCP   Service Cost Position

SDD   System Development and Demonstration

SE   Support Equipment

SEP   Systems Engineering Plan

SETR   Systems Engineering Technical Review

SFR   System Functional Review

SIM   Serialized Item Management

SMR   Source, Maintenance, and Recoverability

SME   Subject Matter Expert

SOVT   System Operational Verification Tests

SOW   Statement of Work

SSA	Software Support Activity
SSS	System/Subsystem Specification
S&TE	Support and Test Equipment
SVR	System Verification Review
SYSCOM	Systems Command

T

TEMP	Test and Evaluation Master Plan
TPS	Test Program Sets
TOC	Total Ownership Cost
TRPPM	Training Planning Process Methodology
TSCMC	Total Supply Chain Management Cost
TSP	Training System Plan

U

UID	Unique Identification
UII	Unique Item Identification
UUON	Urgent User Operation Need

W

WSAR-PSA	Weapon System Acquisition Reform – Product Support Assessment