

INDEPENDENT LOGISTICS ASSESSMENT HANDBOOK



*Department of the Navy
Guide for Conducting
Independent
Logistics Assessments*

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Foreword

Department of Defense (DoD) policy requires the program manager to ensure that system performance, affordability, cost and schedule are continuously assessed and used as key factors in making program tradeoffs and decisions. It is incumbent upon the Milestone Decision Authority (MDA) to validate that systems will meet established performance requirements as well as total ownership cost targets at major program reviews and milestone decision points.

Periodic assessment of a program's planning and implementation of integrated product support, and the ability of the logistics program to meet established performance requirements, provides this validation. Results of these assessments provide a primary input to the milestone and other decision reviews, to include the corresponding gate reviews. Reviews conducted with the user after the Full Rate Production or Full Deployment Decision throughout sustainment provide leadership with a means to compare actual versus expected performance.

Department of Navy (DON) directives (SECNAVINST 5000.2 (Series) and 4105.1 (Series)) provide policy requiring Independent Logistics Assessments (ILAs). This handbook was developed to assist the program manager and MDA in meeting these requirements. It provides a uniform and systematic approach for program offices to prepare for ILAs. It also outlines specific evaluation criteria for use by assessment teams and provides program managers with a framework and roadmap for structuring and executing successful logistics support programs throughout a system's life cycle. The Weapon System Acquisition Reform Act of 2009 and subsequent release of the DoD Product Support Management Guidebook, Logistics Assessment Guidebook, the DoD requirement for a logistics assessment process, as well as recent revisions to the DoD 5000.02 and SECNAVINST 5000.2 resulted in the need to update this handbook. A lean event was conducted with senior program product support managers from the DON Systems Commands and Program Executive Offices to capture best practices from a program perspective. This revision reflects DoD and DON policy changes, results of the lean event, and best practices and lessons learned to the ILA process and evaluation criteria.

Use of this handbook as a guide to conduct ILAs on all DON Acquisition Category programs will help ensure supportable, sustainable, and cost effective systems are acquired and fielded with the required support systems fully in place for the user to effectively conduct their mission. Assessments after fielding will further provide for potential supportability improvements that increase readiness at reduced costs.



Assistant Secretary of the Navy
(Research, Development & Acquisition)

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Introduction

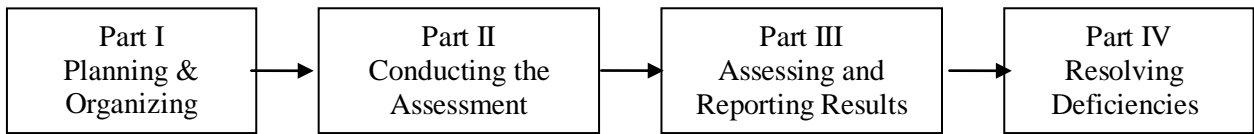
This handbook was developed and coordinated through the Department of Navy (DON) Independent Logistics Assessment (ILA) Steering Group, which includes representatives from the Deputy Assistant Secretary of The Navy (Expeditionary and Logistics Management) (DASN(ELM)), Deputy Chief of Naval Operations (DCNO) for Fleet Readiness and Logistics, Assistant Deputy Commandant for Installations and Logistics, Hardware Systems Commands (SYSCOM), and the Naval Supply Systems Command. The DON ILA Steering Group is responsible for the content and management of this handbook. Users of the handbook are invited to send suggested improvements to the handbook and/or the ILA process (including changes, updates, additions and deletions) to their respective ILA Steering Group representative for future consideration.

This handbook provides detailed guidance to facilitate a comprehensive evaluation of the adequacy of a program's Integrated Product Support (IPS) planning, management, control, execution and resources. The handbook also provides assessment criteria to be used for ILAs conducted after the Full Rate Production (FRP) decision/Full Deployment Decision (FDD) and throughout sustainment. The methods and checklists in this handbook were designed to implement the requirements of SECNAVINST 5000.2 and SECNAVINST 4105.1, emphasizing the user as the ultimate customer of the acquisition process.

SECNAVINST 5000.2E states that support planning shall show a balance between program resources and schedule so that systems are acquired, designed, and introduced efficiently to meet Capabilities Development Document (CDD) and Capability Production Document (CPD) and Acquisition Program Baseline (APB) performance design criteria thresholds. The Program Manager (PM), as the life-cycle manager, designated under the tenets of Total Life-Cycle Systems Management (TLCSM), shall document the product support strategy in the Life Cycle Sustainment Plan (LCSP).

Per SECNAVINST 4105.1, individual Program Executive Office (PEOs) and SYSCOM Commanders are responsible for ensuring that an ILA is accomplished on all Acquisition Category (ACAT) programs prior to Milestones B, C and the FRP decision/FDD. They should also ensure a review of the status of IPS elements occur after FRP/FDD and periodically thereafter throughout sustainment. The PEO or SYSCOM Commander (or designated representative) shall certify the status of the Integrated Product Support (IPS) program prior to the milestone decision and base the certification on the results of the ILA as documented in a formal, written report. Results of these assessments are the primary input into the related gate decision meetings as defined in SECNAVINST 5000.2E for those programs subject to the two pass/six gate review process. For ILAs conducted after the FRP decision/FDD and the respective sustainment gates, the PEO or SYSCOM Commander certifies the ILA report as delineated in SECNAVINST 4105.1 and further defined in the SYSCOM's or PEO's process.

While the assessment process is designed to provide input to the Milestone Decision Authority (MDA), the ultimate result of this process is to continuously improve supportability and reduce the operations and support cost of equipment and weapons systems delivered to the user. Because of this, the timeframe between assessments shall not exceed five years. If the timeframe between milestones or the FRP/FDD decision exceeds five years, an ILA shall be conducted prior to the five-year mark and coincide with major systems engineering reviews such as the Critical Design Review (CDR) or Production Readiness Review (PRR). This is especially true for ship programs where the period between Milestones B and C may exceed ten years. For MAIS business systems, the cognizant PEO or SYSCOM will define triggers in their implementing instructions for conducting ILAs after the FDD ILA.



This handbook is divided into four parts to coincide with the four process steps identified above. The ILA will be conducted per the above process and use an independent team of subject matter experts. Each part provides detailed guidance to the program team, the ILA team leader and ILA team members on completing that portion of the ILA process, as well as respective responsibilities to assist participants in completing ILA functions. Part II of the handbook provides a baseline matrix of assessment criteria for use as a tailorable guide in performing assessments. The subject matter experts must not solely rely on the Part II Criteria, but consider related issues/questions using their own judgment and expertise. All assessors should examine program requirements, the contract/Request for Proposal (RFP) (including Contract Data Requirements Lists, Statement of Objectives, Statement of Work (SOW) etc.,) and the sufficiency of funding and scheduling for their respective IPS element(s). The ILA team should identify all areas of IPS risk and recommend corrective actions. The ILA team will develop a summary assessment of the current IPS risk(s) and recommend to the PEO or SYSCOM Commander whether the program's IPS is sufficient to proceed, and if so under what conditions or circumstances.

The changes to this handbook primarily focus on the inclusion of any new or modified requirements delineated in Department of Defense (DoD) Instruction (DoDI) 5000.02, dated 8 December 2008, and the changes in the SECNAVINST 5000.2E, dated 1 September 2011. Revisions to both of these instructions impact supportability directly. Additionally, assessment criteria, as identified in the DoD Logistics Assessment Process Guidebook, as well as input and lessons learned from the efforts of assessment teams, were incorporated into this change to make the evaluation criteria more comprehensive. However, the overall process, which was the focus of the previous revision, did not change.

Relationship of ILAs to Other Assessments

As stated in the SECNAVINST 4105.1 and this document, ILAs are scheduled prior to Milestones B, C and the FRP decision/FDD in a time frame that allows the report to be disseminated to the stakeholders and decision makers prior to any milestone decision meetings. There are also several other assessments and reviews between milestones, such as the Systems Engineering Technical Reviews (SETR), that feed into the milestone and gate decisions. These assessments and reviews should be considered when scheduling the ILA, since information from the different assessments can complement each other. For example, the Preliminary Design Review (PDR), when scheduled prior to Milestone B, can provide useful information from the contractor's IPS planning to the ILA team. This is also true for the Milestone C ILA which may occur during the same time frame as the PRR. While these SETRs assess the contractor's planning and ILAs assess the program office's planning, the teams should share information since data available to one team may not be readily available to the other. Additionally, the information from the ILAs should be used as the primary input to the corresponding gate review. The Milestone B ILA would typically correspond to gate four (Systems Design Specification), while the Milestone C and FRP/FD decision ILA would normally support gates five (RFP) and six (Capability Production Document) respectively. Therefore, the ILA should be completed before its respective gate review to avoid additional assessments or reviews, if possible.

ILAs will continue to be conducted periodically to assess the product support health of systems that are post Initial Operational Capability (IOC). These ILAs will be conducted on a periodic basis, and should be scheduled to coincide with other sustainment related reviews, as appropriate. The default periodicity for conducting Post-FRP/FDD ILAs is two years following the FRP/FDD decision and every five years thereafter; recognizing that there are conditions that may trigger an ILA earlier (as identified in Part II). For MAIS business systems, periodicity of ILAs after the FDD ILA will be as defined in each SYSCOM's or PEO's implementing instructions.

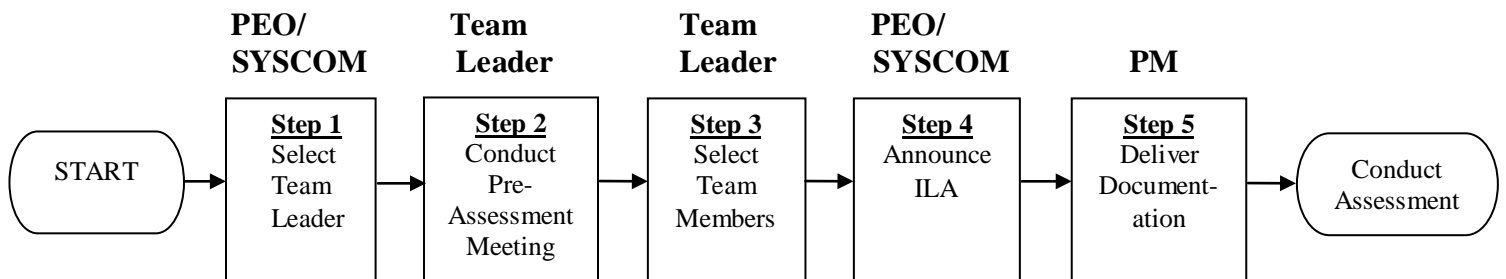
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PART I - Planning and Organizing

Objective

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

1.1 Process



1.2 Process Description

Step 1 - Select Team Leader

The PEO, SYSCOM Commander or designee is responsible for assigning a qualified team leader and providing resources to establish an assessment team. The team leader is selected based on the requirements of SECNAVINST 4105.1 which are identified below in Table 1: ILA Team Qualifications.

Step 2 - Conduct Pre-Assessment Meeting

The team leader conducts a pre-assessment meeting with the program manager, Product Support Manager (PSM), or designee addressing the following:

- Confirm the responsibilities of the program office, team leader, and team members
- Confirm the purpose, scope, and timing of the review
- Discuss specific review procedures
- Discuss tailoring of criteria. For example, in the acquisitions for Military Sealift Command operated and life cycle managed ships, the program office uses various Military Sealift Command policies and procedures in generating the acquisition and support requirements that the ships will be built to rendering some criteria as Not Applicable
- Coordinate the availability and location of IPS and program documentation to include use of an Integrated Digital Environment/Share Site
- A tailored listing of IPS and program documentation prepared prior to the assessment for distribution to team members based on Part II and Appendix A
- Identify ILA team funding requirements
- Clarify specific logistics assessment schedule of events/agenda
- Identify the location of all assessment activities
- Identify program office personnel to respond to ILA team member questions
- Identify security requirements and arrangements, as well as access to classified material
- Discuss the conduct of the assessment, including development of an overall 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 an IPS certification letter (certification letter stating the IPS program to be fully, conditionally, or not certified)
- Rationale for not reviewing a specific ILA element

Step 3 - Select Team Members

The team leader is responsible for selecting team members. The team leader and team member qualifications are identified in Table 1 below:

Table 1: ILA Team Qualifications

Qualification	Team Leader (Government Employee) ¹	Team Member ²
Independence:	Must be independent of the program. Not active nor has been recently active in the management, design, test, production or logistics planning of the program, whether from the program office, supporting field activity, or a member of a contractor activity.	Must be independent of the program. Not active nor has been recently active in the management, design, test, production or logistics planning of the program, whether from the program office, supporting field activity, or a member of a contractor activity.
Experience:	Participation in at least one ILA as a team member.	Must have experience in the functional area being assessed.
Education:	Defense Acquisition Workforce Improvement Act Level III	Defense Acquisition Workforce Improvement Act Level II or equivalent certification

¹For ACAT I and II program assessments, it is recommended that ILA team leaders have professional experience as a program logistician.

² When the operation/maintenance of the system is being reviewed, the Fleet/Force representatives should be invited to participate in the ILA. Additionally, an invitation should be made to Commander, Operational Test and Evaluation Force (OPTEVFOR) as well as the, Marine Corps Operational Test & Evaluation Activity (MCOTEA) for participation in the ILA. The Fleet, OPTEVFOR, and the MCOTEA representatives do not need to meet education and experience requirements as stated above. Coordination with the Fleet should be through Commander, U.S. Fleet Forces Command (CFFC N412). The Marine Corps Forces (MARFORs) and the Deputy Commandant, Combat Development and Integration (DC, CD&I), represents the user and Deputy Commandant (Installation and Logistics (DC, (I&L)) represents sustainment and policy adherence and facilities. All team members should be aware of applicable policy directives.

Step 4 - Announce ILA

Official correspondence such as e-mail announcing the ILA should be sent by the PM or other representative of the PEO or SYSCOM Commander stating the dates of the ILA, the scope of the ILA, identification of team members, documentation request list, meeting site, schedule, agenda, security and Point of Contact (POC) information. This correspondence should be distributed to the participants and stakeholders at least four weeks prior to the start of the ILA.

- For Navy programs, stakeholders are DASN(ELM), the respective Product DASN (PDASN), Chief of Naval Operations (N1, N4, N41, N45, N9,N09), Commander, Navy Installations Command (CNIC), Naval Supply Systems Command (NAVSUP N3/4), Naval Safety Center (NAVSAFCECEN), Fleet Forces Command (FFC (N412)), Navy Education and Training Command (NETC-N53), and Naval Facilities Engineering Command (NAVFAC).
- For Marine Corps programs, stakeholders are DASN(ELM), the respective PDASN, Headquarters Marine Corps (Installations and Logistics (HQMC(I&L)) (TLCM), DC(CD&I) Capabilities Development Directorate, Marine Corps Systems Command (MARCORSYSCOM), Marine Corps Logistics Command (MARCORLOGCOM), and Training and Education Command (TECOM).
- For Joint programs, in addition to the Navy and/or Marine Corps stakeholders, other services should be afforded the opportunity to participate in the ILA and be provided courtesy copies of ILA report(s) to their PEO and/or Acquisition Executive.

Step 5 - Deliver Documentation

The program office shall provide requested documentation to the ILA 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 A](#)) outlines typical documentation requirements that should be tailored for each ILA during the pre-ILA meeting to reflect program specifics and the upcoming milestone. 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 information (e.g., Government, contractor) to the program office to verify if there are sensitive/proprietary data issues and ensure non-disclosure agreements are completed as required. Support contractor personnel should not be disqualified from participating as ILA team members if the proper disclosures are followed and they are not from a competing/interested source.

1.3 Process Deliverables

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

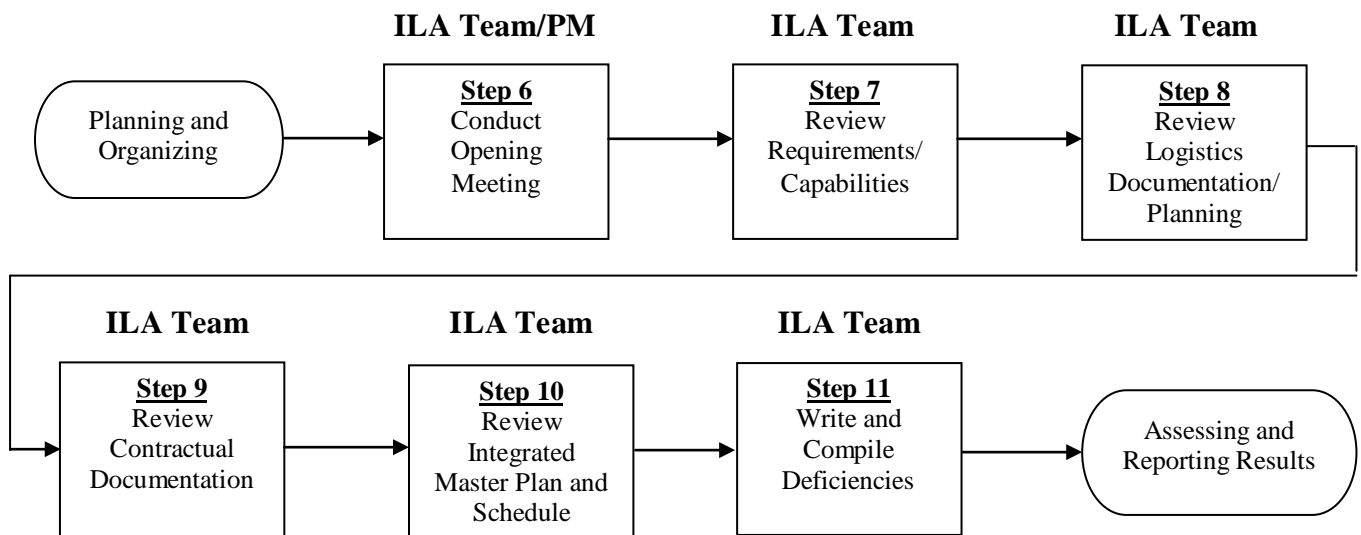
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PART II - Conducting the Assessment

Objective

Part II identifies the basic methodology for conducting a successful ILA and provides standard assessment criteria for use. These criteria are neither platform nor system specific; rather, they are critical evaluation factors, which should be tailored/augmented to the specific program being assessed. Individual ILA team members will conduct their assessments using the criteria contained in paragraph 2.4 and any other SYSCOM or PEO specific criteria, as assigned by the ILA team leader.

2.1 Process



2.2 Process Description

Step 6 - Conduct Opening Meeting

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

Program presentation. The purpose of the program presentation, normally presented by the program manager, deputy program manager or designee, is to impart a basic understanding of the acquisition program. It should address:

- General description of the system, to include physical as well as functional
- Scope of the ILA (a clear description of the scope of the program being assessed, including hardware/software elements)
- System interfaces
- 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
- 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, Performance Based Agreements (PBAs), or Operational Level Agreements (OLAs) /Service Level Agreements (SLAs) as appropriate
- Identification of any Memorandum of Agreement/Understanding (MOA/MOU), Expectation Management Agreements, etc. with participating or supporting organizations
- Information Technology Infrastructure Library (ITIL) framework for Information Technology (IT) programs

Logistics presentation. The logistics presentation, normally presented by the program's PSM or logistics lead, addresses each of the areas of supportability that will be reviewed by the ILA 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 program Business Case Analyses (BCA)
- Support agreement strategy and status (e.g. extent of Performance Based Logistics (PBL) life cycle support (industry/organic)
- Top-level schedules and milestones for each IPS element
- 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 to ensure logistics supportability products and infrastructure can be developed
- Product support arrangements
- Any other special interest items

ILA Team presentation. The purpose of this presentation, presented by the ILA team leader, is to provide information to the ILA team members and program personnel on the conduct of the review. This presentation should address the following:

- A review of the responsibilities of the team leader and team members
- Specific logistics assessment schedule of events/agenda
- Instructions on documenting deficiencies and desired format (ref Appendix D)
- Guidance on determining the timeframe in which recommended actions need to be completed
- Post-review follow-up and certification procedures

Step 7 - Review Requirements/Capabilities

User needs and capabilities form the basis for the support system performance requirements. ILA team members must familiarize themselves with not only the requirements but also the established metrics for measuring attainment of these user needs. Team members must

understand and focus on user requirements when assessing the program using the individual “Assessment Criteria.”

Review the basic program requirements, including: Performance Agreements, Key Performance Parameters (KPPs) Key Systems Attributes (KSAs), and other critical system parameters in the Initial Capabilities Document (ICD), CDD and CPD, depending on the program phase, and the Acquisition Plan (AP) or Acquisition Strategy (AS). The absence of an approved ICD, CDD or CPD will not be the sole basis for assigning a logistics certification rating of Red, Yellow, or Green during the ILA process. These program documents are tracked by the PM and their supporting PEO or SYSCOM as a program progresses through the DoD acquisition process.

Step 8 - Review Logistics Documentation/Planning

Review the AS, LCSP, Product Support Management Plan, Reliability Program Plan and associated Fielding Plan to ensure the basic requirements have been translated into logistics requirements. The LCSP should also provide a mapping to the primary support product/technical documentation, logistics schedules, and be supported by the logistics budget.

Determine if the performance agreements, specified supportability KPPs and critical system parameters in the ICD/CDD/CPD can be met from a supportability standpoint. Depending on 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 information documents, RAM/Built-In-Test (BIT) requirements in the contract/SOW, RAM analyses and test results, and in Chief of Naval Operations (CNO) sponsored tests, etc. If the RAM KPPs and critical system parameters of the ICD/CDD/CPD are not met, then the IPS areas 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 suspect 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. Appendix B contains a cross reference of typical reliability measures and their relationship to IPS elements and should be used as a guide to determine if there is any impact to a particular Assessment Criteria.

Review the primary and supporting documentation for each IPS element (e.g., computer resources) to ensure logistics requirements are further detailed and required analyses have been performed. This should include a review of the Logistics Requirements and Funding Summary (LRFS) and associated funding documents to ensure funding requirements for each IPS element are appropriately identified, funding is available, and shortfalls identified. Ensure each IPS element is funded and funding correlates to the appropriate tasking year per the IPS IMS.

ILA Criteria Requiring Review. The following IPS elements require review during an ILA regardless of the support strategy. In addition, Product Support Budgeting and Funding, and Environment, Safety and Occupational Health (ESOH) should be assessed as separate elements.

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 Management
8. Support and Test Equipment
9. Training and Training Support
10. Manpower and Personnel

11. Facilities and Infrastructure
12. Computer Resources and Software Support
13. Product Support Budgeting and Funding
14. Environment, Safety and Occupational Health

Step 9 - Review Contractual Documentation

Review the contract/tasking to ensure appropriate requirements have been identified.

The solicitation package or contract should be assessed for adequacy of supportability requirements. The review should include an assessment of the adequacy of:

1. IPS and related RAM requirements
2. Required IPS and related RAM analyses and the use of their results to impact design
3. Compliance with critical completion and delivery dates

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

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

Step 10 - Review Integrated Master Plan (IMP) and Schedule

Review ILA Element Assessment Criteria against the IMP and master program schedule. Review reasonableness of the tasks and likelihood of completion of each IPS task within the allocated schedule.

A program's overall schedule reflected in the IMS can range from being an imposed schedule to one that has some flexibility. The logistics support tasks for each IPS factor 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 integrated master program schedule 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 Plans of Actions and Milestones (POA&M) for each IPS element for focused IPS management planning/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 LCSP must be reviewed in context of the overall program schedule and the design/development milestones. However, logistics schedules that are allocated from programmatic top-down requirements 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 to ensure realism. Otherwise, logistics efforts typically become focused on documenting the design when they should be focused on influencing the design.

The detailed logistics support tasks developed and integrated into the overall program integrated master schedule must be realistically achievable and consider the sequence of all dependent and interconnected tasks to minimize program risks. All tasks feeding into achieving IPS milestones and assessments should meet at those milestone/assessment nodes. The critical paths should be reviewed to identify any logistics tasks, and used to identify the actual start/end dates to review progress of each task against its schedule, including the timeliness of the logistics tasks. Schedules, for example, should reflect tasks such as BIT/testability design; maintainability analyses/verifications; Failure Modes, Effects and Criticality Analysis (FMECA); special test

equipment identification, and development of the embedded and on-board training capabilities. These tasks should be reviewed to ensure that they are completed by the critical design review, thus allowing adequate time to develop and prove/validate the Interactive Electronic Technical Manual (IETM)/support documentation before completion of tasks associated with the development, coordination and approval of the school-house training curriculum. Optimistic, success-oriented schedules that do not reflect realistic conditions will mask program cost growth and schedule delays.

Step 11 - Write and Compile Deficiencies

ILA team members will conduct their review using the assessment criteria contained in [paragraph 2.6](#) of this handbook as assigned by the ILA team leader. Team members will annotate the IPS elements being evaluated with any discrepancies, the impact if not corrected, the recommended action(s), and whether the program representative concurs or does not concur.¹ Each team member should coordinate with their Program Office counterpart(s) upon formulation of initial observances/deficiencies to ensure the facts are understood. A summary report of the results of each element assessed, including all deficiencies, will be submitted to the ILA team leader. As part of their responsibilities, the team leader must review all issues or discrepancies turned in by the team members for accuracy and ensure the proposed rating given by the team member is commensurate with the rating criteria in this guide. The team leader may change a rating and/or modify the content of an issue if the facts are not correct and the rating is not in accordance with this handbook or the SECNAVINST 4105.1. Only after the team leader has vetted the issues with the Program Office Logistics Lead should they be formalized. [Appendix C](#) provides required ILA Certification and Rating Criteria. [Appendix D](#) provides ILA Report Content. Report format should be in accordance with local PEO or SYSCOM instruction or as directed by the team leader if none is prescribed.

2.3 Process Deliverables

- Deficiencies and recommendations

2.4 Acquisition Phase Assessment Criteria

The assessment criteria contained in the tables of paragraph 2.6 should be used as a guide to assess the planning and status of the IPS program for the system under review, regardless of the support strategy (e.g., PBL, traditional support). These criteria are derived from both policy and best practices, which have been proven to produce optimal supportability. They are not platform specific. Platform or SYSCOM unique requirements should be used to supplement or tailor these criteria per SECNAVINST 4105.1. Additionally, varying program requirements and acquisition strategies may require further tailoring of the criteria, as they may not always fit all program unique requirements. Tables E2T-1 through E2T-2 in SECNAVINST 5000.2E, identify statutory, regulatory, and contract information requirements. These tables identify the IPS related documents and the applicable presentation media (some documents must be prepared to specified formats and contents) required at each milestone. The ILA team should assess all required program IPS documentation as part of the ILA.

¹ Periodic progress briefs are to be conducted during the ILA at a time agreed upon by the ILA 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 ILA Team Leader will:

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

2.5 Post-FRP/FDD ILAs

2.5.1 Introduction

The following paragraphs address the process specific to Post-FRP/FDD ILAs. The ILA processes are similar between the acquisition and Post-FRP/FDD ILAs, therefore only the process changes between the two phases will be restated.

During the Production and Deployment, and the Operations and Sustainment phases, ILAs are conducted to assess the performance effectiveness, affordability, and customer satisfaction of product support execution after and periodically over the life of the program as defined under paragraph 2.5.2, Timing. Post-FRP/FDD ILAs will address each IPS element as applicable, including in-service metrics established in the program's requirements documents. These reviews will verify the adequacy of logistics execution, identify any deficient areas, and provide resolution plans coordinated with the end user, and provide the major input to Post-IOC sustainment reporting. Post-FRP/FDD ILAs assist the program manager in successful implementation of total life cycle management of the product support strategy and may be part of a program's Post-Implementation Review (PIR) process.

2.5.2 Timing

ILAs will continue to be conducted after FRP/FDD, with the first ILA occurring two years after the FRP decision/FDD. These will be conducted on a periodic basis. The default periodicity for conducting Post-FRP/FDD ILAs is every five years; however, the following conditions may trigger an ILA earlier. These triggers include:

- Operational Availability (A_o) or Materiel Availability (A_m) drops by 10% or more for 12 consecutive months.
- Ownership cost KSA is > 10 % from stated requirements for 12 consecutive months.
- For Automated Information business systems, periodicity is established by triggers identified by the PEO or SYSCOM.

If either of these triggers occurs, the PEO, program manager or the program sponsor will initiate an ILA.

2.5.3 Process

Criteria for Post-FRP/FDD ILAs are contained in paragraph 2.6. At a minimum, these ILAs will include (as applicable):

- Validation that actual supportability performance is meeting all supportability-related KPP and KSA performance parameter threshold values, as specified in the CPD and/or Warfighter "User" Performance-Based Agreement if applicable
- Assessment of program and any independent source sustainment and product support cost estimates, against current budget and funding, and using also actual costs reported in those same cost estimate categories
- 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 support product improvements based on updated support analysis (operator and maintainer have been provided with final product support item)
- Confirmation of satisfactory configuration control

- Assessment of obsolescence and diminishing manufacturing sources and material shortages
- Product Support Integrator (PSI) or Product Support Provider (PSP) performance meet or exceed cost and performance baselines established by the PBL BCA
- Assessment of training effectiveness
- Assessment of customer satisfaction
- Product improvements incorporated
- Assessment of Configuration Status Accounting (including sponsor owned material, government owned material and plant property)
- Assessment of the weapon system supply chain

Post-FRP/FDD assessments follow essentially the same process as previously described in this guide. However, there are some differences, identified below:

Step 2: For Post-FRP/FDD assessments, request a tailored listing of assessment criteria based on Appendix A, Tables A-1 through A-3, as applicable.

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

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

Step 12: Draft Report: Rating Criteria for Post-FRP/FDD ILAs differ than the acquisition phase ILAs.

Step 14: Issue the Final Report: Distribution of report may be different for Post-FRP/FDD ILAs and is defined by Navy or Marine Corps as appropriate.

Step 15: Issue Product Support Certification: Certification authority is the SYSCOM Commander or PEO as defined in implementing SYSCOM or PEO processes.

2.5.4 Rating and Certification

Post-FRP/FDD ILAs will require a certification as identified in SECNAVINST 4105.1. The overall program and each of the IPS elements will receive a rating based on the criteria in Appendix C, [Part II](#).

2.6 Assessment Criteria

As stated in the preceding paragraphs, the criteria in the following tables are used to holistically assess the supportability of a program, not just the functions that fall under the purview of the logistics manager. Many disciplines and organizations impact the ability of the PSM or logistics manager to execute a successful supportability program (e.g., with conflicting requirements, lack of funding, inadequate design, etc.). These factors need to be considered as part of the assessment, and negative impacts documented (for tailoring see paragraph 2.4).

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

- I (Initiated) – The strategy and approach have been defined and documented in program plans to include the IMS, and funding is identified in the LRFS. The activity/product is included in contractual documentation (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/product are updated as required by statute, regulation, or to reflect new data as the product/process matures
- Some criteria have different milestone data in the milestone column that are specific to ships/submarine programs. Where those differ, the row directly under the criteria will state “For Ships/Submarines” with the corresponding milestone data provided in the milestone column

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, not a hard requirement.

1.0 Product Support Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
1.1 Management Planning				
1.1.1 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 LCSP and implementing program IPS documents, and are derived from statutory, regulatory, SYSCOM, and other requirements documents (system specification, etc.) (ref. DoDI 5000.02, SNI5000.2, CJCSM 3170.01 series, etc.).	F	U	U	U
1.1.2 Program requirement 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 2.2.1). Sustainment KPP/KSAs are defined consistently across documents (Joint Capabilities Integration and Development System (JCIDS), AS/LCSP, RFP, System Specification) (ref. DoDI 5000.02/SNI 5000.2, CJCSM 3170.01 series, POPS/Gate criteria).	F	U	U	
1.1.3 Performance threshold values are on target for IOC, or have been met. If not, a plan is in place to ensure they are met (ref. DoDI 5000.02/SNI 5000.2, CJCSM 3170.01 series, POPS/Gate criteria).	IP	F	F	
1.1.4 A risk management program has been established. Logistics support program risks and mitigation plans have been identified, assessed, and are being tracked and mitigated (ref. DoDI 5000.02 /SNI5000.2/Risk Mgmt Guide for DoD Acquisitions, NAVSO P-3686).	F	U	U	U
1.1.5 Deficiencies identified during previous ILAs, assessments, SETRs (e.g., PDR, Critical Design Review (CDR), PRR), Failure Reports, program reviews, or testing that impact IPS planning have been corrected or an acceptable plan is in place to mitigate the deficiency. Technology/Manufacturing Readiness Levels (TRLs/MRLs) reflect maturity that will not impact supportability planning.	F	F	F	U
1.1.6 All Operational Test findings of deficiency are resolved or are in the process of being mitigated.			F	F
1.1.7 A Systems Engineering Plan (SEP) has been developed in accordance with DoDI 5000.02/SNI5000.2E and DoD SEP Preparation Guide. Supportability is included and considered in the engineering process.	F	U	U	
<p>Note: As part of the Systems Engineering (SE) process, System Operational Effectiveness (SOE) analyses are performed, linking the overall operational effectiveness requirement with the system and product support performance. SOE analyses are conducted as a part of the life cycle systems engineering process to identify supportability requirements for the system, including those related to sustainment of fielded systems, and to continuously assess system performance (ref. DOD Guide, Designing and Assessing Supportability into DoD Weapon Systems, dated 24 Oct 03; Defense Acquisition Guidebook (DAG)).</p>				

1.0 Product Support Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
1.1.8 MOAs/MOUs 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 Ships Program Directives (SPD), MOAs to a field activity to provide support, DoD activity to host a backup disaster recovery site, Software Support Activity (SSA), etc.	I	IP	F	U
1.1.9 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, SNI 5000.02 (encls. 3 and 7), OPNAVINST 3960.16A for Automated Test Equipment).	IP	F	U	
1.1.10 If a warranty is used: <ul style="list-style-type: none"> • A cost-benefit analysis is conducted to determine the appropriate spares/warranty strategy. • Appropriate Supply Instruction annotating warranty start/stop date by serial number has been published. • 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, DFARS 246.7, DoD Warranty Guide, dtd Sept 2009)	I	IP	F	
1.1.11 Fielding plans have been developed, including incorporation of the first install(s) at the schoolhouse(s).	IP	F	U	
1.1.12 Fielding authorizations have been obtained, including required IPS certifications and approvals (e.g., Navy Modernization Program, IOC Systems Review, etc.).		IP	F	
1.1.13 Interim support planning for all final IPS is in place, including exit criteria for attainment of Navy Support Date or rationale for any lifetime interim support strategy.	I	IP	F	
1.1.14 Transition plans identify requirements for transitioning support of a system from an interim support provider to the gaining activity.		I	IP	F
1.1.15 The program office is staffed for all core and sub-product functions, to include a PSM as required. These positions are fully funded, either with mission funding or by Working Capital Funds.	F	F	F	F
1.2 Performance Based Life Cycle Support (PBL)				
1.2.1 PBL strategies have been considered for all support areas (including Tech Assist, Support and Test Equipment (S&TE), calibration requirements, training, etc.) which motivate/incentivize performance, are metrics-based, and consider legacy systems (ref. ASN(RD&A) PBL/BCA policy/guide, DoDI 5000.02/SNI5000.2, PSM Guidebook and DOD Product Support BCA Guidebook, both dtd 2011).	I	IP	F	U
1.2.2 PBL BCAs are conducted per DoD Product Support BCA Guidebook	I	F	U	

1.0 Product Support Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
dtd April 2011. At a minimum, the BCA shall: <ul style="list-style-type: none"> • Establish scope, baseline, alternatives and assumptions • Statement of Objective and Benefit/Non-Financial Assessment • Identify and complete cost estimates • Conduct Risk Assessments • Contain a clear conclusion and recommendation 				
1.2.3 System level performance metrics have been established for the PBA between the user and the program manager, and directly support KPPs. Metrics are in synchronization with the scope of support provider's responsibility.	I	F	U	U
1.2.4 A methodology has been established to collect IPS performance metrics. These metrics are defined and are measureable and repeatable. Metrics: <ul style="list-style-type: none"> • Are linked to system KPPs • 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 by system stakeholders (ref. FAR 37.6)	I	IP	F	U
1.2.5 IPS performance metrics are collected and assessed.	I	IP	F	U
1.2.6 A range of performance based options from single Product Support Integrator (PSI) to Performance Based Life Cycle Support (PBLCS) opportunities with major sub-system and component Original Equipment Manufacturers (OEMs) has been evaluated, as described in DON PBL Guidance Document of 27 Jan 03.		IP	F	U
1.2.7 Work agreement/Contract SOW includes required metrics, which will be tailored to the unique circumstances of the PBL arrangements, for evaluating required performance results in support of CDD/CPD and PBA performance parameters. Metrics support overall DoD PBLCS measures (Operational availability (A _o), Materiel Reliability (R _M), Logistics Footprint, Cost Per Unit Usage, Logistics Response Time, etc.). Sufficient cost data shall be included to validate PBL BCAs with actual costs during in-service reviews.		IP	F	U
1.2.8 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 tooling, support and test equipment, calibration requirements and training required to reconstitute or recomplete the support workload.		I	F	U
1.2.9 A support performance data collection system is planned/in place and	I	IP	F	U

1.0 Product Support Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
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.				
1.3 Schedule				
1.3.1 A program IMP or Work Breakdown Structure (WBS), as provided in the contract, has been developed which includes logistics support criteria or accomplishments to meet program milestones as specified within program requirements documentation (ICD/CDD/CPD, etc.)	U	U	U	
1.3.2 A program IMS has been developed that: 1) is reflective of the program IMP or WBS; 2) contains detail on IPS support activities for both government and contractor, to include precursor and predecessor relationships; 3) is detailed for the program life cycle phase being assessed, and 4) reflects tasks identified in the LCSP (Assessor Note: this is not a contractor delivery/activity schedule).	U	U	U	U
1.4 Contractual Package				
1.4.1 The respective contractual package reflects the IPS efforts to be completed and delivered by the contractor as identified in program and IPS planning documentation. Note: When reviewing the contract package, ensure any IPS tasks or requirements identified as options have been exercised.	F	F	F	U
1.4.2 Specifications for supportability and the current contract include verification criteria which can be met (to include test, demonstration, analyses, and verification).	F	U	U	
1.4.3 Supportability requirements are flowed down to the appropriate specifications.	IP	F	F	
1.4.4 Contracts include metrics for tracking and assessing contract performance.	F	U	U	U
1.4.5 The contractual package clearly identifies the functions, responsibilities, and authorities of field service representatives, if used. The contract is adequately funded.				U
1.5 Configuration Management (CM)				
1.5.1 Requirements for the configuration identification, control, status accounting, configuration baseline, Configuration Control Board processes and membership (to include logistics participation), deviations, engineering changes and verification/audit functions are established for hardware, software and product/technical data and reflected in an approved Configuration Management Plan (CMP). The DAG chapters 4.2.3.1.6 and 5.1.7 should be consulted for additional information and best practices related to CM (ref. DoDD 5000.01, DoDI 5000.02/SNI 5000.02, MIL-HDBK-61A, EIA-649, IEEE 12207 for SW).	F	U	U	U

1.0 Product Support Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
<p>1.5.2 Appropriate configuration audits have been conducted. * Functional Configuration Audit (FCA) conducted before Operational Test Readiness Review (OTRR) and prior to Milestone C, typically coinciding with System Verification Review (SVR) and PRR. Physical Configuration Audit (PCA) conducted prior to FRP/FDD.</p>	I	*	*	
<p>1.5.3 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 Preliminary Design Review, Initial Product Baseline at CDR and finalized at PCA (ref. DoDI 5000.02, see above references).</p>	IP	*	*	
<p>1.5.4 All Configuration Items (CIs) have been identified (see above references).</p>	IP	F	U	
<p>1.5.5 The status of configuration change activity and approvals, and the version descriptions for software 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 (see above references).</p>	I	IP	F	U
<p>1.5.6 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 (see above references).</p>	IP	F	U	U
<p>1.5.7 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 above references).</p>			U	U
<p>1.5.8 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.</p>	IP	F	U	U

2.0 Design Interface	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
2.1 Parts and Materials Selection				
2.1.1 Design guidelines for the contractor are provided which 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, SNI 5000.2, par 2.5.4.6.2).	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 Proposed failure rates have been verified and used to estimate annual operating costs.	I	IP	U	U
2.1.4 For applicable programs, the process for establishing and managing critical items/critical safety items list has been developed and follows the process delineated in SNI 4140.2 (ref. DoD 4140.1-R, PL 108-136 Sect 802).	IP	F	U	
2.1.5 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/SNI5000.2).	F	F	F	U
2.1.6 For applicable programs, CSIs, CAIs, and non-critical items are incorporated in the Contract SOW and Program Office tasking (ref. DoD 4140.1-R, SNI 5000. 2/ SNI 4140.2).	F	F	F	
2.1.7 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	
2.1.8 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	U
2.2 Testability and Diagnostics				
2.2.1 Preliminary Built-In-Test (BIT)/testability analysis is completed by PDR (ref. CJCSI 3170.01C/.01F, SNI 5000. 2, ASN(RD&A) BIT Guide, TB#ABM 1001-01, EIA-649).	F			
2.2.2 Detailed BIT/testability analysis is completed by CDR, and BIT effectiveness is validated with tests (see above references).		F		
2.2.3 The testability/BIT concept is defined with the operation concept and the maintenance concept for all levels of maintenance (see above references).	I	IP	F	
2.2.4 Design analyses (e.g., fault tree, FMECA) have been used to determine test point requirements and fault ambiguity group sizes (see above references).	IP	F	U	

2.0 Design Interface	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
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 (see above references).	I	IP	F	
2.2.6 BIT metrics are collected to validate BIT effectiveness and performance against requirements.			IP	F
2.2.7 BIT and diagnostics are meeting performance requirements (e.g., false alarm rates, percent fault isolation, etc.).			IP	F
2.3 Reliability, Availability, Maintainability, and Cost				
2.3.1 RAM-Cost (RAM-C) Rationale Report has been developed and provides a quantitative basis for reliability requirements and improved cost estimates. The report is attached to the SEP (ref. DoD RAM-C Guide).	F	U		
<p>2.3.2 Logistics elements are traceable to the following factors of the DRMP (ref. SNI 5000. 2, DoD 4245.7-M, DoD Guide for achieving RAM, dtd Aug 05, DoD RAM-C Manual dtd 1 June 2009):</p> <ul style="list-style-type: none"> • 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	
2.3.3 Metrics for Materiel Availability (A_M) (KPP) and R_M (KSA) and Ownership Cost (KSA) 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, SNI 5000.2, DASD(LMR) Memo, "Life Cycle Sustainment Outcome Metrics, dtd 10 May 07, USD(AT&L) Memo, "Implementing a Life Cycle Management Framework, dtd 31 Jul 08, USD(AT&L) Memo, Implementation of Life Cycle Sustainment Outcome Metrics Data Reporting, dtd 11 Dec 08).	F	U	U	
2.3.4 RAM requirements are applied to all systems, to include those that rely on or are developed with COTS/Non Development Items (NDIs) (ref. DoDI 5000.02/SNI 5000.2, ASN(RD&A) RAM Policy memo dtd	IP	F	U	

2.0 Design Interface	Milestones			
	ASSESSMENT CRITERIA	B	C	FRP/ FDD
28 Aug 08. DAG chapters 4.4, 5.2, and 5.4.1 and DoD RAM-C manual should be consulted for additional information on RAM.).				
2.3.5 RAM measures (e.g., A _o , A _M , Mean Time Between Failures (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. SNI5000.2, ASN(RD&A) RAM memo dtd 28 Aug 08, OPNAVINST 3000.12A, CJCSM 3170.01).	F	U	U	U
2.3.6 The Life Cycle Sustainment KPPs (A _o , A _M , Materiel Reliability KSA M _R and Ownership Cost KSA) and other RAM performance objectives (MTTR, BIT, etc.) 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).		IP	F	U
2.3.7 Programs are reporting RAM into the appropriate RAM databases as required such as the Defense Acquisition Management Information Retrieval System (DAMIRS), Material Readiness Database, etc.		F	U	U
2.3.8 Field data is collected from systems in production and fielded units to verify if RAM requirements and KPPs are being met.		IP	F	U
2.3.9 RAM performance capability parameters are defined consistent with the ICD/CDD/CPD and flowed down to the Test and Evaluation Master Plan (TEMP), other programmatic documents and RFP/contract as appropriate (ref. DoDI 5000.02 /SNI5000.2/CJCSM 3170.01 series).	F	F	F	
2.3.10 A process has been implemented to assess achieved Reliability, RAM performance by collection and analysis of user data, for factory and fleet.	I	IP	F	U
2.3.11 A process is in place or included in the failure reporting system for the reporting of Retest OK (RTOK). This is documented in a formal process and requirements are imposed on the commercial or organic activity.			F	U
2.3.12 Predictions, analyses and tests are conducted to verify if RAM requirements and KPPs will be met (ref. DoDI 5000.02/SNI5000.2, ASN(RD&A) RAM memo dtd 28 Aug 08).	IP	F	U	
2.3.13 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.	F	U	U	U
2.3.14 A DON approved readiness model (e.g., TIGER - Availability Centered Inventory Models (ACIM)) is used to assess the effects of various levels of redundancies, spares, downtimes and maintenance concepts on operational availability (ref. OPNAVINST 4442.5).	I	F	U	
2.3.15 Reliability maturation tests (Accelerated Life or Reliability Development tests) are used to mature equipment reliability (ref. DoD 4245.7-M, ASN(RD&A) RAM memo dtd 28 Aug 08).	I	F	U	

2.0 Design Interface	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
2.3.16 Contracts include the requirement for the supplier to implement RAM programs and provide updated analyses towards the achievement of those requirements (ref. GEIA-STD-0009, as a reference for RAM contracting practices, DoD 4245.7-M, ASN(RD&A) RAM memo dtd 28 Aug 08).	I	F	U	
2.3.17 Contingencies for system selection or RAM/supportability design changes are considered when preliminary RAM thresholds are deemed unachievable.	I	IP	F	
2.3.18 Reliability verification testing has been planned/conducted for all components as applicable, to include COTS components, to ensure they meet or exceed overall system reliability requirements.	IP	F	U	U

3.0 Sustaining Engineering	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
3.1 Analysis				
3.1.1 Reliability Growth data and curves show that reliability is improving (ref. MIL-HDBK-189 Reliability Growth Management).	IP	F	U	U
3.1.2 Information from Product Quality Deficiency Reports (PQDRs) is tracked for trends and product improvement (ref. SNI 4855.3/4855.5).				U
3.1.3 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, DoD Corrosion Prevention Plan, dtd 2008).				U
3.1.4 Support posture is still valid to meet mission requirements as currently defined in CONOPS/Mission Profiles/DRMP.				U
3.2 Diminishing Manufacturing Sources and Material Shortages (DMSMS)				
3.2.1 A formal DMSMS program and management plan has been established and documented consistent with DoD and DON policy and guidance (ref. SNI 5000.2, DoD 4140.1-R, "DoD Supply Chain Materiel Management Regulation of 23 May 03," ASN (RD&A) memo of 27 Jan 05, "DMSMS Management Guidance," ASN(RD&A) memo of 12 May 06 "DMSMS Guidance for Developing Contractual Requirements," and "DMSMS Management Plan Guidance," dtd April 05).	F	U	U	U
3.2.2 DMSMS forecasting/management tools and or service providers have been researched and selected, and the Bill Of Material (BOM) has been loaded into the system with regular updates. The program also has a strategy for obtaining: <ul style="list-style-type: none"> • Design disclosed items, including sub-tier hardware indenture levels. • Form fit function/proprietary design items, including sub-tier hardware indenture levels. • BOM, with a defined periodicity and specified level of indenture, to facilitate reviews and upload of current BOMs (see above references). 	IP	F	U	U
3.2.3 If technology refresh is a program strategy for managing DMSMS, the program has received sponsor concurrence/approval (see above references). A formal technology roadmap and approved refresh plan have been developed. A formal Technology Refresh (Roadmap) Plan should be documented.	IP	F	U	
3.2.4 The program has defined DMSMS metrics and tracks DMSMS cases, trends and associated solutions and costs (see above references).	F	U	U	U
3.2.5 DMSMS exit strategy requires the PBL provider to ensure there are no end-of-life issues at completion of period of performance (ASN (RD&A) memo of 27 Jan 05).	I	IP	F	

3.0 Sustaining Engineering	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
3.2.6 Identified DMSMS risks (e.g., end-of-life issues) have been mitigated or the solution and funding to mitigate the risk has been identified. There are no unresolved DMSMS cases or unresolved end of life issues. Any issues that are identified have solutions that will not include redesign.	IP	F	U	U
3.3 Failure Reporting and Corrective Action System (FRACAS)				
3.3.1 FRACAS process, including failure analysis, is established and failures are analyzed and trended for IPS visibility. BIT indications and false alarms are analyzed and included in the FRACAS process (ref. SNI5000.2, ASN(RD&A) RAM policy memo dtd 28 Aug 08, DoD Guide for Achieving RAM, dtd Aug 2005).	I	F	U	U
3.3.2 A FRACAS review is performed on engineering development models, pre-production units, production and deployed units.	IP	IP	IP	U
3.3.3 Safety/mishap reports associated with material and design deficiencies are linked with or provide input into the FRACAS.	IP	IP	IP	U

4.0 Supply Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
4.1 Sparing Analysis				
<p>4.1.1 Sparing analyses and levels:</p> <ul style="list-style-type: none"> • Are based on use of a DON approved Readiness Based Sparing (RBS) methodology (e.g., OPNAVINST 4442.5, models in the Navy RBS Workstation such as Aviation Readiness Requirements Oriented to Weapon Replaceable Assemblies (ARROWS)/Supply Parts Optimizer (SPO), TIGER-ACIM and CARES) when appropriate. • Demand based DON approved models (such as Fleet Logistics Support Improvement Program or Retail Inventory Management for Aviation) are used when data is inadequate or the RBS approach is not cost effective and OPNAV (N412) has approved a waiver. • On-Board Repair Parts (OBRP) reduction initiatives have been considered. 	I	F	U	U
4.1.2 Supply chain metrics tracking and management processes are defined and approved by weapon system stakeholders (ref. DoD4140.1-R, DoD 5000.02, SNI 5000.2).	IP	F		
4.1.3 Supply chain metrics and management processes for tracking and assessing performance (e.g., turnaround times, repair times, delivery times, etc.) are implemented. Operation and support cost estimates are compared with TOC standards defined in the KPP (ref. DoD4140.1-R, DoD 5000.02, SNI 5000.2).			F	U
4.1.4 Definition of success is determined by meeting contracted supply chain management metrics. In instances where the provider is responsible for turnaround times and fill rate metrics, but the DON will own materiel at the consumer level, RBS is used to determine the consumption level based on the operational scenario of the platform.	I	IP	F	
4.2 Supply Chain Management				
4.2.1 Support strategies have been considered that are consistent with the end-to-end materiel flow process, from source to destination, including “last mile.” It also identifies turnaround times for spares, replacement parts, refurbished and reworked items, fleet and field returns, etc. (ref. DoD4140.1-R, DoD 5000.02/SNI 5000.2).	IP	F	U	
4.2.2 The program provides asset visibility and reporting of Government Owned Material (ref. SNI 4440.33, OPNAVINST 4440.26).	I	IP	F	
4.2.3 End-to-end logistics chain sustainment solutions include planning for contingency and surge capacity.	IP	IP	F	U
4.2.4 Support strategies are supporting “last tactical mile” (e.g., base, port or stock point to deployed user) and deployed systems in austere environments.	I	IP	F	U
4.2.5 A supply chain management process has been established to address and eliminate the introduction of counterfeit components into the supply chain and weapon system during repair.	IP	F	U	U

4.0 Supply Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
Note: DOD and DON counterfeit materiel policy is currently in draft. The ILA team should assess the program against DoD and DON policy and guidance when published.				
4.2.6 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).	IP	F	U	U
4.3 Asset Management Planning				
Note: NAVSEA 9090-1500 PAFOS Manual dated Nov 97 provides guidance for NAVSEA programs. Also see NAVICPINST 4441.170B, "COSAL Use and Maintenance Manual.				
4.3.1 The inventory of spares to be procured is determined and spares records are maintained.		IP	F	U
4.3.2 Allowances are determined. For aviation programs, the program has determined how the aviation related spares will be provided, i.e. as part of Aviation Coordinated Allowance List (AVCAL) provisioning and outfitting, Coordinated Shipboard Allowance List (COSAL) provisioning and outfitting processes, or as a Pack-Up Kit (PUK).		IP	F	U
4.3.3 Provisions for surge requirements are identified and reflected in the contract as applicable.	IP	F	U	U
4.3.4 Provisioning conferences are conducted, as necessary, to determine if the contractor's provisioning preparation, documentation and facilities are adequate.	IP	IP	F	
4.3.5 Provisioning data includes legacy part numbers assigned by OEMs.	IP	IP	F	
4.3.6 Provisioning screening has been conducted to: <ul style="list-style-type: none"> • Prevent duplicate entries in the DoD supply data system. • Obtain most cost-effective support, including consideration of using existing supply items. 	IP	IP	F	
4.3.7 Item management codes are assigned, which include Source, Maintenance and Recoverability (SMR) codes and those for Hazardous Materials (HAZMAT).	IP	IP	F	U
4.3.8 Provisioning data reports, such as the following examples have been generated: <ul style="list-style-type: none"> • Recommended repair parts list provided for preoperational repair parts and training equipment. • Provisioning parts list determining the range and quantity of support items for an initial period. (See Support Equipment (SE) for associated provisioning requirements)	IP	IP	F	U
4.3.9 The supply support provider has the capability to accept demand requisitions and provide status reports by electronic data interchange.			F	U
4.4 Interim Support				
4.4.1 The interim support item list identifies support requirements for a transitional operating period (ref. NAVSUPINST 4420.36 Program Support Data For Interim, Initial And Follow-On Secondary Item Reqt Aug 98, NAVSUPINST 4400.93A Interim Supply Support).	IP	F	U	

4.0 Supply Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
4.4.2 Transition planning to Material Support Date (MSD) for the Navy is conducted to ensure attainment of full operational support beyond the interim support period for all applicable logistics factors (see above references).		IP	IP	U
4.4.3 Interim supply support requirements are in place and effective.	I	IP	F	U
4.4.4 If Government support will not be available, planning for contractor teams supporting fielded units is in place (see above references).		IP	F	U
4.5 Automatic Identification Technology (AIT)				
4.5.1 Radio Frequency Identification (RFID) planning and strategy have been developed/updated consistent with DoD and DON policy and guidance including: <ul style="list-style-type: none"> • USD(AT&L) Memo, Subj: RFID Policy of 30 Jul 04 • N413T/5U899623 Memo, Subj: Navy RFID Implementation Plan Update of 8 Dec 05 • MCO 4000.51B, Subj: Automatic Identification Technology, dated 26 Aug 07 	I	IP	F	U
4.5.1(a) For ships/submarines.	I	F		U
4.5.2 RFID Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.211-7006 has been added to all solicitations and contracts as appropriate.	I	F	U	U
4.5.3 Item Unique Identification (IUID) DFARS Clause 252.211-7003 Item Identification and Valuation and DFARS added to all solicitations and contracts as appropriate to verify that the contract contains the two lists required by the DFARS clauses: (a) the list of PM-designated, controlled, and serially managed items under \$5,000, and (b) embedded items.	IP	F	U	U
4.5.4 IUID DFARS Clause 252.211-7007, Reporting of Government-Furnished Equipment in the DoD IUID Registry, has been added to all solicitations and contracts as appropriate.	IP	F	U	U
4.5.5 IUID Program plan and strategy have been developed/updated consistent with DoD and DON policy and guidance including: <ul style="list-style-type: none"> • DoDI 8320.04 - Item Unique Identification (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) • DUSD AT&L Memorandum - Policy for UID of Tangible Personal Property Legacy Items in Inventory and Operational Use, Including Government Furnished Property of 23 Dec 2004 • DUSD AT&L Memorandum - Item Unique Identification (IUID) of Tangible Personal Property - Policy Refinement for Secondary Items in Use or in Inventory of 30 Dec 2010 • SNI 4440.34: - Implementation of Item Unique Identification (IUID) within the Department of the Navy of 22 Dec 2009 	IP	F	U	U

4.0 Supply Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
4.5.6 Program IUID, Serialized Item Management (SIM), and RFID requirements are adequately addressed in the appropriate program supportability plans (ref. SNI 4440.34) (ref. DoDI 4151.19 Serialized Item Management (SIM) for Materiel Maintenance of 26 Dec 2006)	IP	F	U	U
4.5.7 RFID and IUID Implementation and Compliance Metrics have been identified (ref. SNI 4440.34).	F	U	U	U
4.5.8 RFID and IUID Implementation and Compliance Metrics are being tracked (ref. SNI 4440.34).	I	IP	F	U

5.0 Maintenance Planning and Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
5.1 Maintenance Concept, Design & Analysis				
5.1.1 Accessibility, human factors engineering, diagnostics, repair and sparing concepts for all maintenance levels are established (ref. DoDI 5000.02, SNI 5000.2, DoDD 4151.18, OPNAVINST 4790.4, OPNAVINST 4700.7, MIL-HDBK-470).	F	U	U	
5.1.2 Requirements for manpower factors that impact system design utilization rates (e.g., maintenance ratios) are identified (see above references).	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: <ul style="list-style-type: none"> • Reliability (e.g., MTBF) • Maintainability (e.g., MTTR, and maintenance task analyses) • Availability (e.g., task-time limits) • Reliability and maintainability tests • Performance monitoring/fault detection/fault isolation and diagnostics • Tasks and Function Analysis • Top Down Requirements Analysis Ref : DoDI 5000.02, SNI 5000.2, DoDD 4151.18, OPNAVINST 4790.4E, OPNAVINST 4700.7L, MIL-HDBK-470A, MIL-PRf-49506	IP	F	U	U
5.1.4 Life-cycle supportability design, installation, maintenance, S&TE, calibration, and operating constraints and guidelines are identified. (ref. DoDI 5000.02, SNI 5000.2, DoDD 4151.18, OPNAVINST 4790.4E, OPNAVINST 4700.7L, MIL-HDBK-470A, MIL-PRF-49506).	IP	F	U	
5.1.5 Maintenance planning and analyses consistent with statutory and regulatory requirements (ref. Title 10 USC 2464 (CORE) & OPNAVINST 4790.14A (Joint Depot Maintenance Program)/MCO P4790.10B): <ul style="list-style-type: none"> • Core Logistics Analysis • Source of Repair Analyses/Depot Source of Repair (CORE Logistics Analysis/Source of Repair Analysis documented in LCSP and summarized in the AS) (ref. DoDI 5000.02, SNI 5000.2, OPNAVINST 4790.14A)	F	U	U	U
5.1.6 Economic and non-economic Level of Repair Analysis (LORA) is planned to establish the least cost feasible repair level or discard alternative (ref. OPNAVINST 4790.13A, MIL-PRF-49506, DAG 4.3.3.3.4, NAVSEA LORA Procedures Manual, Dec. 1990).	F	U	U	U
5.2 Maintenance Planning and Plan				
5.2.1 Condition Based Maintenance (CBM+) strategy is used to determine maintenance decisions to reduce scheduled maintenance and manpower requirements, while reducing operation and support costs and	IP	F	U	U

5.0 Maintenance Planning and Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
ensuring the appropriate maintenance is performed (see above references & OPNAVINST 4790.16A/Form 4790/114, OPNAVINST 4790.2J (Air) and 4790.4E (Sea) Series), DODI 4151.22 (CBM+), DODM 4151.22-M (Reliability Centered Maintenance (RCM) Handbook).				
5.2.2 Defines specific criteria for repair and maintenance for all applicable maintenance levels in terms of time, accuracy, repair levels, BIT, testability, reliability, maintainability, nuclear hardening, support equipment requirements (including automatic test equipment), manpower skills, knowledge and abilities and facility requirements for peacetime and wartime environments (see above references).	IP	F	U	U
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 (see above references).	IP	F	U	
5.2.4 Defines the actions and support necessary to ensure that the system attains the specified A ₀ that is optimized considering RCM, CBM, time-based maintenance (see above references).	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 (see above references).	IP	F	U	U
5.2.6 States specific maintenance tasks, including battlefield damage repair procedures, to be performed on the materiel system (see above references).	IP	F	U	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, Carrier, etc.) (see above references).	F	U	U	U
5.2.8 Maintenance planning documentation identifies: <ul style="list-style-type: none"> • Tools and test equipment by task function and maintenance level • Category codes (e.g., SMR codes, etc.) (ref. OPNAVINST 4410.2A/MCO 4400.120A) • Manufacturer's part numbers, nomenclatures, descriptions, estimated prices and recommended S&TE quantities, including S&TE for S&TE 	I	IP	F	U
5.2.9 RCM analysis conducted in accordance with MIL-STD-3034 and FMECA are used to determine the appropriate type of maintenance (e.g., inspect/repair as necessary, disposal or overhaul) (DODM 4151.22-M (RCM Handbook and above references).	IP	F	U	
5.2.10 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, OSD Corrosion Prevention Plan).	F	U	U	U
5.2.11 Final preventive maintenance system products have been certified,		IP	F	U

5.0 Maintenance Planning and Management	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
are resident in the authoritative database, and have been delivered to the users.				
5.2.12 The interim depot is ready to accept workload.		F	U	U
5.2.13 If a commercial depot is used, the contract is awarded.		F	U	U
5.2.14 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 it has been verified that the date is valid to support the system.			F	U
5.2.15 Required organic depot personnel have been trained and all required equipment, tools, etc. are in place to perform depot maintenance.				F
5.2.16 The planning efforts have a requirement for depot capability establishment at IOC plus four years. Per 10 USC 2464, depot level repair processes identified as CORE must have a core 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).				F
5.2.17 Maintenance skill levels and number of maintenance and support provider personnel do not exceed documented requirements.			F	U
5.2.18 Performance monitoring, fault detection, fault isolation, and diagnostics (e.g., BIT) are performing to specified requirements and is optimized to meet maintenance requirements.			F	U
5.2.19 Maintenance manuals and IETMs 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.			F	U

6.0 Packaging, Handling, Storage and Transportation (PHS&T)				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
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 for 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 suitable one exists in the system.	I	IP	F	
6.1.3(a) For ships/submarines	I	F	U	
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 PHS&T planning documentation 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	
6.1.5(a) For ships/submarines, PHS&T requirements to be levied on Participating Acquisition Resource Managers (PARMs) are defined.	IP	F	U	
6.1.6 PHS&T has been standardized as applicable to minimize new designs and to ensure interoperability between Services and North Atlantic Treaty Organization (NATO) allies.	I	IP	F	U
6.2 Packaging				
6.2.1 MIL-STD-2073-1 is specified for items: <ul style="list-style-type: none"> • That cannot be protected and preserved in a cost-effective manner using standard practices for commercial packaging • Items delivered during wartime for deployment with or sustainment to operational units • Items that are depot level repairable • Items requiring reusable containers • Items intended for delivery-at-sea • Security Assistance/Foreign Military Sales/Grant Aid (unless otherwise directed by the destination country) 	I	IP	F	U
6.2.2 Department of Agriculture requirements for packaging intended for international use have been met as required.	I	IP	F	
6.2.3 Marking requirements for all unit intermediate and shipping containers have been met (ref. MIL-STD-129).	I	IP	F	
6.2.4 PHS&T requirements for hazardous materials and associated wastes have been identified.	I	IP	F	

6.0 Packaging, Handling, Storage and Transportation (PHS&T)				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
6.2.5 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.		IP	F	U
6.3 Handling				
6.3.1 Requirements for Material Handling Devices for loading, unloading to include CONREP, VERTREP, etc. have been defined.	IP	F	U	
6.3.2 Material Handling Devices for loading, unloading to include CONREP, VERTREP, etc. have been certified.	I	IP	F	U
6.3.3 For systems going onboard ships/submarines, packaging is designed to be compatible with shipboard handling equipment.	I	IP	F	
6.3.4 For ships/submarines: For systems that will go onboard new ships/submarine construction, systems have been provided to the host platform for the host's Milestone C to ensure supportability (e.g. storage space).	F	U	U	
6.3.5 Systems receiving systems (e.g. aircraft receiving guns) have resourced and provided required supportability products (for example, storage space, containers).				U
6.4 Storage				
6.4.1 Storage monitoring equipment is installed, as applicable, and requirements are included in technical manuals.	I	IP	F	U
6.4.1(a) For ships/submarines	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	U
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 IPS documentation.	I	IP	F	U
6.4.3(a) For ships/submarines	IP	F		
6.5 Transportability/Transportation				
6.5.1 Transportability issues are addressed, to include: <ul style="list-style-type: none"> • Oversized/overweight items • Items requiring special transportation modes • Items that are classified • Certification (air, rail, Department of Transportation, etc.) • Necessary waivers have been obtained • Items intended for international shipment 	IP	F	U	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

6.0 Packaging, Handling, Storage and Transportation (PHS&T)					
ASSESSMENT CRITERIA		B	C	FRP/FDD	Post-FRP/FDD
6.5.3 Rail, air and ship certifications have been obtained or are scheduled/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 to the Navy/USMC have been identified.		I	I	F	U
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 scheduled/conducted.		I	IP	F	U
6.5.7 There are no interface issues between the system being transported and the transporting platform (e.g., height, turning radius, etc.).			IP	F	U
6.6 Testing					
6.6.1 Design validation testing has been conducted on special packaging (ref. MIL-STD-31000, MIL-PRF-49506, GEIA-STD-0007).		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 Hazardous material packages have been tested per the applicable requirements for performance packaging contained in the International Air Transport Association Dangerous Goods Regulations or the International Maritime Dangerous Goods Code and with the Code of Federal Regulation, Titles 29, 40 and 49.		I	IP	F	

7.0 Technical Data	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
7.1 Technical Data Management Strategy				
7.1.1 A technical data management strategy has been developed that: <ul style="list-style-type: none"> 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 (ref. DoDI 5000.02, SNI 5000.2, USD(AT&L) Memo, Data Management and Technical Data Rights, dtd 19 Jul 07)	F	U	U	
7.1.2 The program office has a plan that identifies its intent for data rights which allows the government the right to use, modify, reproduce, perform, display, release.	F	U	U	
7.2 Integrated Digital Environment				
7.2.1 If applicable, all network (e.g., Navy Marine Corps Intranet) compatibility issues are addressed and mitigation steps identified.	IP	F	U	U
7.2.2 Electronic data interchange, on-line access, and automation issues are addressed starting with development of the information exchange requirements and continuing throughout the program life cycle.	IP	F	U	U
7.2.3 A logistics data enterprise architecture has been generated which identifies electronic data repositories, information exchange requirements, and usage (DoDAAF format recommended).	I	IP	F	
7.2.4 Authoritative Data Sources and the associated change authority have been identified, described and designated by the appropriate Services, 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	U
7.3 Product/Technical Data Package and Publication				
7.3.1 A product/technical data management plan, that includes change control processes, in-process review/validation/verification schedules as appropriate, has been developed (ref. DoD 5010.12-M).	I	IP	F	
7.3.2 Computer Aided Design, modeling, and engineering product source data is acquired in acceptable digital format such as XML per the DON Product/Tech Data Policy and managed according to the Integrated Digital Data Environment (IDDE) CONOPS (ref. "DON Policy on Product/Technical Data," 23 Oct 04, MCO P5215.17C).	IP	F	U	
7.3.3 The product/technical data package is consistent with the maintenance plan, calibration support plan, and Information Support Plan and provides a sufficient level of detail for re-procurement, upgrade, and maintenance. The product/technical data package normally includes: <ul style="list-style-type: none"> Specifications, technical manuals, publications, engineering drawings/product data models, calibration procedures, and special instructions such as for unique manufacturing and test processes 	I	F	U	

7.0 Technical Data	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
<ul style="list-style-type: none"> • Interchangeability, form, fit and function information • ESOH constraints or requirements • Preservation and packaging requirements • Test requirements data and quality provisions • Preventative maintenance system/maintenance requirements card • Environmental stress screening requirements 				
7.3.4 The product/technical data package elements have been specified in the contractual package accordance with requirements of MIL-STD-31000, as appropriate.	F	F	F	U
7.3.5 The contract identifies and requires delivery of the technical data requirements as identified by the analysis, as appropriate.		F	U	U
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: <ul style="list-style-type: none"> • Phased development schedule is in parallel with the system development, including validation/verification and transition to the Navy/USMC • Contents are validated on production configured system or equipment by fleet personnel • Hardware or part number changes • COTS manuals have been evaluated using MIL-PRF-32216 	I	IP	F	U
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. A quality assurance plan has been developed to ensure technical manuals and technical data packages have been validated and verified.	I	IP	F	
7.4.3 A process for distribution of technical manuals is established.	I	IP	F	U
7.4.4 Approved technical manuals will be available to support the end item and peculiar support equipment and in the quantities required, and have been registered in the authoritative database.	I	IP	F	U
7.4.5 An approved Calibration Requirements List is available to support the end item and all peculiar installed instrumentation.	I	F	U	U
7.4.6 Technical manuals and IETMs include notes, aids and procedures to minimize environmental risks and personnel exposure during maintenance activities, such as warnings, cautions, etc.	I	IP	F	U
7.4.7 The contents of the product/technical manuals have been integrated into the IETM, considering the following: <ul style="list-style-type: none"> • Contents meet web enabled DoD requirements as applicable • Phased development schedule is in parallel with the system development, including validation and transition to the services • Operator/maintainer training is embedded and job performance aids included 				

8.0 Support Equipment and Test Equipment (SE&TE)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
8.1 General Requirements				
8.1.1 The environmental and physical constraints, such as size, weight, power, temperatures and interfaces have been factored into SE&TE design (ref. DoD 5000.02, SNI 5000.2, OPNAVINST 3960.16A, DON ATE & TPS Acquisition Handbook, MIL-HDBK 2097A).	F	U	U	
8.1.2 There are no environmental and physical constraint issues (e.g., size, weight, power, temperatures and interfaces) between the SE&TE and hosting platform.	I	IP	F	U
8.1.3 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 5000.02, SNI 5000. 2, OPNAVINST 3960.16A).	IP	F	U	
8.1.4 Common SE&TE vs. peculiar SE&TE (new development) decision has been considered (see references above).	IP	F	U	
8.1.5 Types and quantity of SE&TE for each location are available to support test of fielded systems.			F	U
8.1.6 Overall support strategy for SE has been defined, and includes identification of the following: <ul style="list-style-type: none"> • Support equipment requirement documents • Supply Support • Interim Spares • Manpower • Training • Technical Data • Maintenance Levels and maintenance task requirements • Computer Resources Support • Calibration • Facility Requirements • SE to support the SE 	IP	F	U	U
8.1.7 Required technical documentation to support the SE&TE is identified and includes: <ul style="list-style-type: none"> • 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 support equipment throughout the life cycle of that product • Test fixtures and/or interfaces to connect the system to the test equipment 	IP	IP	F	U
8.1.7(a) For ships/submarines.	IP	F		
8.1.8 Requirements for the testing of SE&TE during TECHEVAL, SUPEVAL, etc. have been identified (see above references).	F	U	U	

8.0 Support Equipment and Test Equipment (SE&TE)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
8.1.9 Test Program Sets (TPSs) and associated documentation have been evaluated and verified.			IP	F
8.1.10 Availability of calibration standards and procedures, SE&TE, TPS and tools at required maintenance sites and training schools have been verified, including types and quantity of SE&TE for each location (see above references).	IP	F	U	U
8.1.11 SE&TE has been identified in the COSAL/Navy Tactical Command Support System database, Ships Portable Electrical/Electronic Test Equipment Requirement List (SPETERL) as appropriate.		I	F	U
8.1.12 SE&TE has been identified in the AVCAL, as appropriate.		I	F	U
8.1.13 A plan has been developed for certifying SE&TE for shipboard use.		F		
8.1.14 SE&TE has been certified for shipboard use. An installation change document has been developed for any changes to the ship configuration resulting from S&TE requirements.		IP	F	U
<p>8.1.15 For Major Defense Acquisition Programs (MDAPs), a plan for preservation and storage of unique tooling has been provided as an annex to the LCSP. It includes:</p> <ul style="list-style-type: none"> • 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. OSD(AT&L) memo dtd 3 Aug 09, Preservation and Storage of Tooling for Major Defense Acquisition Programs) 	IP	F	U	U

9.0 Training and Training Support				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
9.1 Training System Planning and Execution				
9.1.1 A Training Planning Process Methodology (TRPPM) and Front End Analysis (FEA) is conducted (ref. OPNAVINST 1500.76 and Marine Corps ref. Manpower & Training Analysis Manual).	IP	F	U	
9.1.2 The Training Systems Plan (TSP) is approved as delineated in SECNAVINST 5000. 2).	IP	F	U	
9.1.3 Resource requirements are specified for training equipment, services, calibration standards, test equipment, materials, 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 requirements and constraints, etc. Requirements to bring training onboard a host platform, including Local Area Network (LAN) based computer training, has been coordinated.	IP	F	F	U
9.1.4 Instruction provides training commensurate with the TSP. Examples include: <ul style="list-style-type: none"> • Formal schools, on-the-job-training and follow-on training • System operation, maintenance levels, and calibration requirements (e.g., daily, weekly, monthly, quarterly, and on condition) • Individual and team training • Instructor training 	I	IP	F	
9.1.5 Operator, maintainer, and calibration training along with job performance aids are embedded in the IETM, where applicable.	I	IP	F	
9.1.6 Initial production equipment and technical manuals for the new system's delivery and installation schedule must be planned so that trained personnel shall be available for the first operational unit (ref. OPNAVINST 1500.76).	I	IP	F	
9.1.7 The effectiveness of training, using measures such as MTTR, is measured and corrective action implemented when required.				U
9.1.8 Training is being executed per the training plan.			F	U
9.1.9 Cross training and crew drills are being conducted; crew-based training systems, if fielded, are being utilized.			F	U
9.1.10 Instructor training (train the trainer) is included in the training requirements planning documentation.		IP	F	U
9.1.11 Initial Fleet training for Operational Evaluation and Service Introduction is in place (see above references).		F	U	U
9.2 Training Material				
9.2.1 Technical publications are developed prior to the development of training materials (ref. OPNAVINST 1500.76).	I	IP	F	
9.2.2 Terminal and enabling learning objectives are derived through appropriate job task and learning analysis and formatted per service	IP	F	F	

9.0 Training and Training Support				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
training development guidance (Naval Education and Training Command(NETC), CeTAR 1501.10, MIL-HDBK-29612-2A, NAVEDTRA 131.A, and NAVEDTRA 130B.).				
9.2.3 Instructor guides, course curriculum, training aids, support equipment, and student guides are planned/developed for classroom training (see above references).	I	IP	F	U
9.2.4 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 (see above references).		IP	F	U
9.2.5 Safety procedures, warnings, cautions and advisory labels have been incorporated into training materials and curriculum.		IP	F	U
9.2.6 Contractor/government test and evaluation activities are used to validate training requirements (see above references).		IP	F	
9.3 Training Product and Support				
9.3.1 Training simulators and devices are in place and instructor and support personnel have been trained on their use and maintenance (OPNAVINST 11101.1and above references).	IP	F	U	U
9.3.2 A Training Transfer Agreement has been developed to ensure that all training resources and capabilities are in place to support execution of the transfer of responsibility for a complete training system from the training support agent to the training agent (ref. OPNAVNOTE 1500.7017).	IP	F	U	U
9.3.3 Plans for the installation, transfer and support of training simulators and training devices have been executed.		IP	F	U
9.3.4 A military characteristics document or Training System Functional Description (TSFD) is prepared for each training device, defining its basic physical and functional requirements (see above references).		IP	F	U
9.3.5 Delivered content uses an Information Assurance compliant delivery mechanism, and has been accredited.			F	U
9.3.6 Logistics support (spares, support equipment, etc.) for training schools is planned (see above references).	IP	F	U	U
9.3.7 Training to support Urgent User Operational Need (UUON) /Joint Urgent Operational Need (JUON) deployments are in place and adequate.			F	U
9.3.8 Feedback loops exist that allow operating forces to inform the training command and program manager of training shortfalls or changes needed as a result of experiences obtained in an operating environment.		IP	F	U
9.3.9 If applicable, Inter-service training agreements have been established or updated.	IP	F	U	U
9.3.10 If applicable, requirements for training system integration into live, virtual, and constructive training environments have been planned for or met.	IP	F	U	U

10.0 Manpower and Personnel				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
10.1 Human Factors Engineering (HFE)				
10.1.1 Human Engineering (HE) analysis has been performed addressing operator, maintainer and support personnel (ref. SNI 5000.2, MIL-STD-46855A): <ul style="list-style-type: none"> • Accessibility • Visibility • Human factors/ergonomics • Testability • Complexity • Standardization and interchangeability • Use of mock-ups, modeling and simulation • Operational experience • Workspace Environment - heating, cooling, ventilation, illumination, noise, vibration • Design for effective handling and carrying • Controls and displays • User computer interface • Habitability • Safety and personnel survivability • Workload 	IP	F	U	
10.1.2 There are no HE issues, such as those identified in 10.1.1.				U
10.1.3 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	
10.1.4 A Human Systems Integration (HSI) plan has been developed, executed and maintained, and has been coordinated with subsystem HSI plans and the overall SEP.	IP	F	U	U
10.2 Manpower and Personnel				
10.2.1 A Manpower Estimate (ME) for operation and maintenance of the program has been developed and approved by the manpower authority for all programs (ref. DoDI 5000.02, SNI 5000.2, OPNAV Instruction 5310.23, OPNAVINST 9640.1A).	F	U	U	
10.2.2 Manpower and personnel requirements have been identified for both organic and contractor support including: <ul style="list-style-type: none"> • 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 • Inherently government tasks 	IP	F	U	U

10.0 Manpower and Personnel				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
• Peacetime and Wartime				
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 (see Maintenance planning).	IP	F	U	
10.2.4 Requirements for both organic and contractor manpower requirements are validated under representative operating conditions.		IP	F	
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	U
10.2.6 Actual manpower requirements are in accordance with the Manpower Estimate for operation and maintenance of the program.				U
10.2.7 Manpower and personnel requirements include affected duties beyond operational, maintenance and support (e.g., watch standing, collateral duties).		IP	F	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
11.1 Facility Requirements				
<p>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:</p> <ul style="list-style-type: none"> • 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, 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 Air Installation Compatible Use Zone (AICUZ), Ordnance Explosive Safety 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 US and outside continental US activities that are not regular homeports/support sites 	IP	F	U	U
<p>11.1.2 The facilities/infrastructure support requirements are documented in the Program's Facilities Requirements Document (FRD), Platform Basic Facilities Requirements (BFR), or equivalent documentation and coordinated with base or installation planners via headquarters and the appropriate regional commands as required.</p> <p>Note: The NAVAIR Facilities Enterprise Team provides a web-based (Ship/Shore Aviation Requirements (SSAR)) alternative for developing facilities requirements documents available at https://ssar.nswc.navy.mil/.</p>	F	U	U	U
<p>11.1.3 The facilities/infrastructure support requirements are documented in the Facilities Requirements Plan or equivalent documentation.</p>	IP	F	U	
<p>11.1.4 BFRs have been developed as required by the Service (e.g., Navy or USMC) in accordance with NAVFAC P-72 (DON Facility Category Codes), UFC 2-000-05N Jan 05 (Facilities Planning Criteria for Navy and Marine Corps Facilities) and other appropriate documents (e.g., MIL-HDBKs) using the system's logistics support requirements.</p>	IP	F	U	
<p>11.1.5 All host tenant agreements are in place.</p>	IP	IP	F	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
11.1.6 A site activation plan has been developed.	IP	F	U	U
11.2 Evaluation of Existing Facilities/Capabilities				
11.2.1 All necessary changes to shipboard spaces have been made to accommodate the installation and/or storage PARM systems, SE, and related supplies.	IP	IP	F	U
11.2.1(a) For design changes on new construction ship/submarine programs.	IP	F	U	
11.2.2 System support and BFRs are provided to the naval activities/regions expected to support operations, maintenance, calibration, training and other logistical support related to the system as required by the service (e.g., Navy or USMC). 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.	IP	F	U	U
11.2.3 Site surveys are scheduled and criteria developed. Surveys have been coordinated through appropriate Fleet Introduction Team or other appropriate user representative and will include representation from appropriate local and regional NAVFAC and CNIC offices.	IP	F	U	
11.2.4 Site surveys have been conducted and the proper coordination was made with the installation facilities staff. 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 MILCON project). 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 workaround has been identified and received Fleet concurrence.	IP	IP	F	U
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 Military Construction (MILCON) or Facilities Sustainment Restoration and Modernization. This is usually documented in the Program's Facilities Management Plan or its equivalent.	IP	F	U	
11.3.2 Estimates of facility requirement and associated costs have been refined and 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	

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
11.3.3 Formal home porting decisions with appropriate environmental documentation have been completed and a Basing Letter and/or Record of Decision have been signed. This permits the coordination of projects with Navy Regions and ensures successful promulgation through Force Management Budget, DoD and congressional authorization.	IP	F	U	U
11.3.4 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 Navy Region by the second quarter of FY11.	IP	F	U	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	U
11.3.6 Equipment (e.g. simulators, Air Traffic Control, Magnetic Silencing equip., 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	U
11.3.8 Where applicable, interim facility support (aka "workaround") has been identified to meet requirements earlier than can be met by the completion of new facility projects.	IP	F	U	U
11.4 Integration (Ship/Air/Ground Systems/C4I)				
11.4.1 An integration team has been formed between the host platform, weapon system/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 Program planning/schedule includes: <ul style="list-style-type: none"> • Requirement to conduct ship suitability tests for each class of ship receiving the system • Ship installation assurance tests for each ship receiving a ship alteration as part of the Ship Change Document (SCD) process 	F	U	U	
11.4.4 Program documentation includes the development of the program Interface Control Document. The Program Interface Control Document has been coordinated with NAVSEA 05 Ship Design Managers for each class of affected ships.	IP	F	U	
11.4.5 Shipboard storage requirements (e.g., workspaces, storage, spaces storage for ordnance, etc.) have been identified and spaces allocated.	F	U	U	U

11.0 Facilities and Infrastructure (and Platform Integration)	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
11.4.6 A site survey has been conducted for each class of ship receiving the system. Access to allocated spaces has been modeled and/or verified to ensure there is sufficient height, length, turning radius, SE, etc. to move weapon system, spares, etc.	IP	F		
11.4.7 Flight deck certifications have been obtained or are in the process of being obtained with no pending issues.	IP	F		
11.4.8 Power, water, chillers, overhead cranes, etc. requirements have been coordinated with the host platform to ensure maintenance actions can be conducted as planned.	IP	F		
11.4.9 The program has identified the requirements, bandwidth, and interfaces with the host platform's LAN.	IP	F		U
11.4.10 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.	IP	F		U
11.4.11 Systems integration facilities can handle work throughput (e.g., integration of electronic warfare systems and communication gear, etc. on ground vehicles).	IP	F		U

12.0 Computer Resources and Software Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
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 (DIACAP) and developed a System Security Authorization Agreement. Systems comply with DON Public Key Infrastructure Policy.	IP	F	U	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 and the USD(AT&L) Memo "Document Streamlining - Program Protection Plan (PPP)," dtd 18 Jul 2011. Note: The Anti-Tamper Plan is an Annex to the Program Protection Plan (ref. DoDI 5000.02).	F	U		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 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 PMS.	I	F	U	
12.1.13 The SSA has been designated/established.	I	IP	F	U
12.1.14 The software documentation support matches the software in use.	IP	F	U	U
12.1.15 Software support is described in the LCSP and implementing documentation.	IP	F	U	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	U
12.1.17 A mechanism is in place 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	U
12.1.18 A process has been established for distributing corrections and	F	U	U	U

12.0 Computer Resources and Software Support	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
revisions of the software to the users.				
12.1.19 There is adequate reserve capacity (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 may be easily upgraded without impacting the software.	I	F	U	U
12.1.20 There are plans for processor upgrades so that tech refresh may be accomplished with minimal software modifications.	F	U	U	U
12.1.21 HSI considerations have been incorporated into software development, integration, and test phases. This effort 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 Naval 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 (CMMI) 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 refreshes can be adequately planned.	F	U	U	U
12.1.24 Software support planning requirements/data (e.g. these handbook criteria) are presented in the Information Support Plan (ISP) (ref. SNI 5000.2).	F	U	U	
12.1.25 A software configuration control plan has been developed and is implemented.	F	U	U	

12(a) Automated Information Systems Specific Criteria	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post FDD/FDD
12(a).1 General Requirements				
12(a).1.2 A proactive process is in place for de-support of software to include system and third party software to effectively: <ul style="list-style-type: none"> • Forecast software sustainment issues and identify time periods for software availability and support • Capture cost trade-off criteria for full or partial software updates • Identify upgrade schedules to reduce transition costs associated with updates • Identify accurate budget estimates • Provide a process that can be used to help manage and optimize the efficiency and effectiveness of software tech refreshment 				U
12(a).2 Data Management				

12(a) Automated Information Systems Specific Criteria	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post FDD/FDD
12(a).2.1 Data and Resources agreements, such as a MOA between the gaining system activity and the transferring system activity are approved and detail the actions required by each activity.		IP	F	U
12(a).2.2 Agreements, such as a MOA between the program management office and gaining commands are current.		IP	F	U
12(a).2.3 A data migration plan has been developed for transfer of data from legacy systems.	IP	F	U	
12(a).2.4 Interfaces for migration of data between systems have been defined.	F	U	U	
12(a).2.5 Middleware requirements have been defined.	F	U	U	
12(a).2.6 Middleware has been developed.	F	U	U	
12(a).2.7 A methodology and process for data cleansing, data translation mapping, and data validation have been documented in a data migration plan.	IP	F	U	
12(a).2.8 Data conversion has been completed per Data Conversion Agreements.			F	U
12(a).2.9 Data cleansing, data translation mapping, data validation and resources are completed.			F	U
12(a).2.9 MOAs between the gaining system activity and the transferring system activity are approved and detail the actions required by each activity.	IP	F	U	U
12(a).2.10 Mock loads with actual data have been conducted with no outstanding issues prior to cut-over.	IP	IP	F	U
12(a).3 System Reliability				
12(a).3.1 The system is meeting its RAM measures and KPPs/KSAs.	I	IP	F	U
12(a).3.2 The Disaster Recovery/Secondary Site is fully operational. Disaster recovery reliability is factored into overall system reliability.		IP	F	U
12(a).3.3 Agreements are current for the command/activity hosting the disaster recovery center.		IP	F	U
12(a).3.4 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.		IP	F	U
12(a).3.5 Trouble calls/tickets to the help desk are processed through a FRACAS as input to the reliability program.	I	IP	F	U
12(a).3.6 Processes for the help desk are adequate for recompetete with another provider.		IP	F	U
12(a).3.7 Help desk staffing and KSAs of personnel is adequate to support functions required by the help desk.			F	U
12(a).3.8 System Architecture has been defined to include redundancy, modularity, etc. and impact on availability due to server failure.	IP	F	U	

12(a) Automated Information Systems Specific Criteria	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post FDD/FDD
12(a).3.9 Requirements for a Disaster Recovery/Secondary Site have been developed. Disaster Recovery reliability is factored into overall system reliability.	IP	F	U	
12(a).3.10 Agreements are in place for the command/activity hosting the disaster recovery center.	F	U	U	U
12(a).3.11 Requirements for the help desk have been defined and factored into the reliability of the system.	F	U	U	
12(a).3.12 Trouble calls/tickets to the help desk are processed through a FRACAS as input to the reliability program.	I	IP	F	U
12(a).3.13 Help desk procedures have been established.	IP	F	U	U
12(a).3.14 Help desk staffing and KSAs of personnel is adequate to support functions required by the help desk.		IP	F	U

13.0 Product Support Budgeting Funding	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
13.1 Cost Estimating				
13.1.1 A Program Life Cycle Cost Estimate (LCCE) has been approved by the Director of the appropriate SYSCOM cost organization for the program (all ACATs) (ref. DoDI 5000.02, SNI 5000.2, SNI 5223.2).	F	U	U	
13.1.2 A Cost Analysis Requirements Document (CARD) has been developed by the program office for ACAT I programs and ACAT II programs if an Independent Cost Estimate (ICE) is required. These are approved by the Director of the appropriate SYSCOM cost organization (ref. DoDI 5000.02, SNI 5000.2, SNI 5223.2).	F	U	U	U
13.1.3 An ICE is completed for ACAT I programs conducted by the Cost Assessment and Program Evaluation (CAPE) or Naval Center for Cost Analysis (NCCA) (as appropriate). An ICE or Independent Cost Assessment (depending on MDA option) is completed for ACAT II programs (ref. DoDI 5000.02/SNI 5000.2, SNI 5223.2). A comparison of the results of the ICE and PLCCE for the costs of logistics support (for both acquisition, and operations and support) is available for review.	F	U	U	
13.1.4 A component cost analysis has been conducted by the NCCA (ACAT IA) (ref. DoDI 5000.02/SNI 5000.2, SECNAVINST 5223.2).	F	U	U	U
13.1.5 Logistics funding requirements are developed using accepted cost estimating methodologies appropriate to the program phase (ref. DoDI 5000.02, SNI 5000.2).	F	U	U	U
13.1.6 The program has conducted Should Cost analyses to identify the availability of cost reductions in logistics operations (for both acquisition and sustainment operations). And, in those instances where advantageous and actionable logistics cost savings are available, the program manager has developed, and is tracking and reporting Should Cost estimates on the savings (ref. SECDEF Memo 22 Apr 11, USD (AT&L) Memo 22 Apr 11, ASN (RD&A) Memo 19 Jul 11).	F	U	U	
13.2 Funding				
13.2.1 The program budget is funded to the requirements identified in the ownership cost estimates.	IP	F	U	U
13.2.2 A LRFS has been established and kept updated that identifies all appropriations (ref. SNI 5000.2): <ul style="list-style-type: none"> • The LRFS supports the budgetary requirements of the logistics support plan and requirements documentation and is appropriately phased • Rationales to support the funding amounts in the LRFS are documented • The correct appropriations 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 	F	U	U	U

13.0 Product Support Budgeting Funding	Milestones			
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
<ul style="list-style-type: none"> • Funding shortfalls and impacts are identified, prioritized, fully documented and addressed to the program manager and resource sponsor • LRFS numbers/dollars are traceable to appropriate budget exhibits 				
13.2.3 Life-cycle cost estimates, including cost reduction efforts have been developed and validated optimizing Total Ownership Costs (TOCs).	F	U	U	U
13.2.4 Funding requirements identified in the replaced system sustainment plan are identified and funded, as appropriate.	F	U	U	U
13.1.5 TOC analysis is being performed, including fielding and Operational and Support costs to date.				U
13.1.6 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.				U

14.0 Environment Safety and Occupational Health (ESOH)				
ASSESSMENT CRITERIA	B	C	FRP/ FDD	Post- FRP/FDD
14.1 Environment				
<p>14.1.1 A Programmatic Environment, Safety, and Health Evaluation (PESHE) has been developed that describes as a minimum:</p> <ul style="list-style-type: none"> • The strategy for integrating ESOH considerations into the systems engineering process using the methodologies in the Standard Practice for System Safety, MIL-STD-882 • Identification of responsibilities for implementing the ESOH strategy • An approach to identify, then eliminate or reduce ESOH hazards • Describes 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-882) • The method for tracking hazards • A schedule for completing NEPA/ EO 12114 documentation including the approval authority of the documents as detailed in DoD and DON policy • Describe the Engineering and Logistics pollution prevention efforts being implemented to identify hazardous materials, wastes, and pollutants (discharges/emissions/noise) associated with the system, including replaceable and disposable components, and plans for their minimization, reuse, recycling and/or safe disposal <p>Note: Should consider components with hazardous materials such as 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 hazardous materials (example lead containing microelectronics).</p>	F	U	U	U
<p>14.1.2 Programmatic environmental compliance requirements and considerations relative to the acquisition, life-cycle operations and maintenance of the system are included in the PESHE (i.e. existing or lack of NEPA/EO 12114 coverage, discharge/emissions requirements, etc.) that directly affect testing have been addressed in the TEMP as limitations or conditions of the testing.</p>	F	U	U	U
<p>14.1.4 All known ESOH risks have been accepted by the appropriate approval authority prior to exposing people, equipment or environment to known system-related ESOH hazards, 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.</p>	IP	IP	F	U
<p>14.1.5 NEPA/EO 12114 Compliance Schedule should identify all known or projected NEPA documentation requirements throughout the life cycle</p>	F	U	U	

14.0 Environment Safety and Occupational Health (ESOH)				
ASSESSMENT CRITERIA	B	C	FRP/FDD	Post-FRP/FDD
to include identification of the proponent responsible for the documentation. Significant program events that could trigger NEPA/EO 12114 may include: <ul style="list-style-type: none"> • Conducting test and evaluation of the system and/or subsystem • Contracting for production • Planning basing, training, and home porting location • Planning new or major upgrades to facilities or supporting infrastructure to support the system • Demilitarization/disposal of the system 				
14.1.6 Documents referenced in the NEPA/EO 12114 Compliance Schedule are maintained by the Program Office and NEPA/EO 12114, and decision results are included in one or more of the following: <ul style="list-style-type: none"> • Categorical Exclusion (CATEX) • Finding of no significant impact (FONSI) or harm (FONSH) based upon an environmental assessment (EA) or overseas environmental assessment • Record of decision (ROD) based upon an environmental impact statement (EIS) • Memorandum for Record stating that NEPA/EO 12114 compliance is part of a larger environmental planning document or overseas environmental impact statement 	F	U	U	
14.1.7 The program has a plan for end of life-cycle demilitarization and disposal including munitions disposition (ref. DoDI 5000.02, SNI 5000.2, DoD 4160.28-M, OPNAVINST 8026.2, OPNAVINST 4520.1).	I	F	U	U
14.1.8 ESOH requirements have been address in the ICD/CDD/CPD and flowed down to other programmatic documents and RFP/contract as appropriate (ref. CJCSI/M 3170.01).	F	U	U	U
14.2 Safety and Occupational Health				
14.2.1 Noise sources are identified and evaluated during system's design and control measures implemented to minimize personal exposure.	F	U	U	U
14.2.2 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	U
14.2.3 A system safety program to include interaction with systems engineering has been established per MIL-STD 882 and DoDI 5000.02, SNI 5000.2.	F	U	U	U
14.2.4 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	

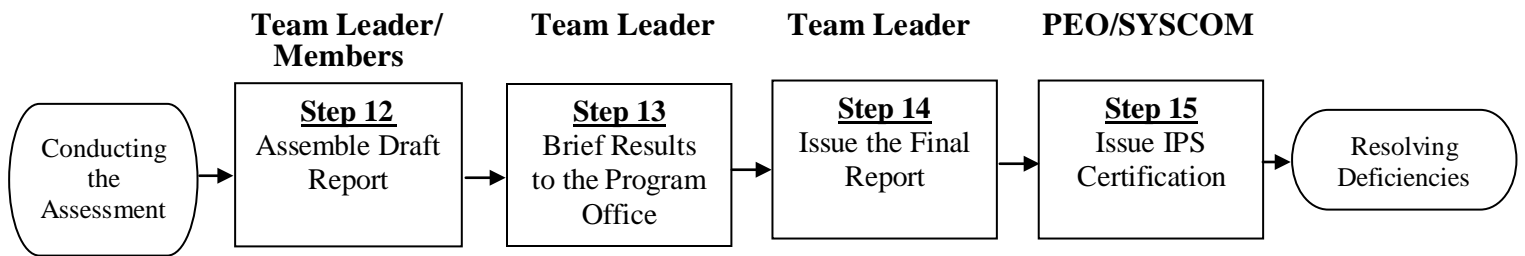
14.0 Environment Safety and Occupational Health (ESOH)				
ASSESSMENT CRITERIA	B	C	FRP/FDD	Post-FRP/FDD
14.2.5 A closed-loop hazard tracking system is implemented. Hazard analysis is performed during the design process to identify and categorize hazards, including hazardous materials and associated processes. Corrective action is taken to eliminate or control the hazards, or to reduce the hazard to an acceptable level.	IP	IP	IP	U
14.2.6 Weapon System Explosive Safety Review Board approval is scheduled or obtained as upgrades/changes.	IP	F	U	U
14.2.7 All systems containing energetic materials comply with insensitive munitions criteria.	IP	F	U	U
14.2.8 The ESOH risk management strategy has been incorporated into the SEP (ref. USD Memo dtd 23 Sept 04, Defense Acquisition Safety System and USD(AT&L) Memo dated 20 April 2011 “Document Streamlining - Program Strategies and Systems Engineering Plan.” This is done as a “hotlink” in the SEP	F	U	U	
14.3 Hazardous Material Management				
14.3.1 Hazardous materials prohibited (or limited/requiring waiver for use) in the weapon system design have been identified and communicated via contracts to include sub-contractors.	F	F	F	
14.3.2 Hazardous materials whose use cannot be avoided and associated processes have been documented in IPS planning documents (e.g., Logistics Product Data) 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 operations and maintenance, and hazardous wastes generated from maintenance processes.	IP	F	F	U
14.3.3 There is a plan for tracking, storing, handling and disposing of hazardous materials and hazardous waste consistent with Hazardous Material Control and Management and NAS 411 requirements (references OPNAVINST 5090.1, OPNAVINST 5100.23G, OPNAVINST 5100.19 and NAS 411).	IP	F	U	U
14.3.4 Hazardous material findings and determinations are incorporated into the training program for all system-related personnel as applicable to include approval to use hexavalent chromium in the system, if required.	IP	F	U	U
14.3.5 No Class I or II Ozone Depleting Substances are used to operate or maintain the system without having obtained appropriate approval. Use of Class I or Class II Ozone Depleting Substances are identified in the PESHE.	F	U	U	U

PART III – Assessing and Reporting the Results

Objective

Part III addresses the preparation of the ILA 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 IPS certification decision by the PEO or SYSCOM.

3.1 Process



3.2 Process Description

Step 12 – Assemble Draft Report

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

Draft the Report. The team leader and team members (in conjunction with the program office) must:

- Document all deficiencies and recommendations using the Appendix D format. Deficiencies should describe the ILA Team’s recommended actions to resolve the deficiency, and include a Green, Yellow or Red Rating using the ILA rating criteria in Appendix C, Table C-1. For Post-FRP/FDD ILAs, use Appendix C, Table C-4
- Compile programmatic data for the introduction (program POCs, system description, purpose and scope of the assessment, support concept)
- Summarize the results of the ILA (review dates, list of assessors, and status of each IPS area)
- Review the individual deficiencies and recommendations and rate the overall risk for each IPS element area in the report. The Risk Matrix (Figure C-1) and accompanying Consequence and Likelihood Decision Tables (Tables C-3a and C-3b) should be used as a tool in recommending the program logistics certification as delineated in SECNAVINST 4105.1. This format is consistent with overall program risk assessment tools currently used in the acquisition community for determining and briefing cost, schedule, and performance risk. Assessment Criteria areas without deficiencies need not be reflected in the risk matrix. Careful consideration of all outstanding deficiencies and their associated risk will be used to develop the overall IPS program certification recommendation to proceed or not proceed to the next acquisition milestone
- In general, if there are major deficiencies that cannot be corrected prior to the issuance of IPS certification or the milestone decision, the rating should not be “Green.” The team leader should brief the program manager prior to release of the final ILA Report on each deficiency and recommendation as well as the team leader's recommendation for logistics certification
- Draw conclusions regarding the program’s IPS posture/risks in terms of its ability to:

1. Meet established performance metrics
 2. Have achievable interim support plans
 3. Be fully supportable at system IOC
 4. Meet other support requirements and milestones
- Draw recommendations regarding the program's preparation to proceed into the next phase

The report must reflect a clear distinction between issues requiring resolution prior to the milestone decision and issues that may be resolved after the milestone at specific timeframes (e.g. prior to contract award or release of the request for proposal, or prior to Fleet introduction or operational evaluation, etc.). As the report is being drafted, the program manager provides a formal POA&M to address each deficiency identified in the ILA report. POA&Ms should be submitted and included in the final report, if possible. If they are not finalized prior to issuance of the final report, they will be provided to the team leader at a mutually agreed to time. All proposed actions should address funding availability and support overall program milestones. The team leader, in consultation with respective team members, shall review and respond to the proposed POA&Ms, ensuring adequacy and appropriateness of the planned actions. The ILA Report Format is provided in Appendix D.

Step 13 – Brief Results to the Program Office.

The team leader provides the program manager, logistics manager and other key program office personnel the draft results of the assessment to ensure the content of the report is accurate and understood. The team leader discusses the following:

- Assessment overview
- Summary of each deficiency
- Rating for the program, including individual assessments and overall program rating
- Concurrence from the Program Office
- Any follow-up discussions on issues requiring action plans
- Coordination of the final report prior to formal issuance

Step 14 – Issue the Final Report.

The team leader incorporates any changes or corrections resulting from discussions with the program office during Step 13 and forwards the final report, to include the final risk matrix and assessment criteria color summary, to his signature authority as appropriate. The final report is forwarded by the team leader to the program manager and PEO/SYSCOM Commander. For ACAT I and II programs, with a copy of the ILA report is sent to DASN(ELM), the appropriate Product DASN, and OPNAV (N4) for Navy / HQMC (I&L)(TLCM/LPC) for USMC, as well as other stakeholders identified in SECNAVINST 4105.1. For joint programs, a courtesy copy of the ILA report should also be provided to other affected Service's PEO and/or Acquisition Executive (ref. DASN(A&LM) Memo, IPSA Reporting Requirements, 7 Dec 09).

Step 15 – Issue IPS Certification.

Upon receipt of the final report, the cognizant PEO/SYSCOM Commander will review the report and certify the IPS program as Ready to Proceed, Conditionally Ready to Proceed, or Not Ready to Proceed in accordance with SECNAVINST 4105.1. The PEO shall submit their ILA report and associated certification to the MDA and key DON Stakeholders no later than four weeks prior to the scheduled milestone or FRP/FD decision meetings. For ACAT ID programs, PEOs shall also copy the Deputy Assistant Secretary of Defense (Materiel Readiness) (DASD(MR)) (ref. DASN(A&LM) Memo, IPSA Reporting Requirements, dtd 7 Dec 09). For Post-FRP/FDD ILAs, the IPS program risk will be certified by the program sponsor or user representative as Low, Moderate, or Major per Table C-4.

3.3 Process Deliverables

- ILA Report, including POA&M
- IPS Certification Letter

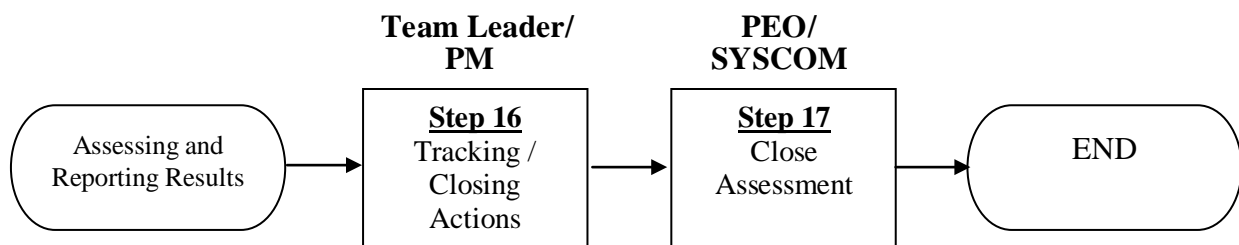
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PART IV - Resolving Deficiencies

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 ILA process. If deficiencies in planning, funding, or execution are only documented and not resolved, the end user will not receive necessary IPS products. To ensure deficiencies are adequately resolved, the ILA team leader must remain engaged with the Program Office until completion of each deficiency can be independently verified.

4.1 Process



4.2 Process Description

Step 16 – Tracking/Closing Actions

The responsibility for implementing and completing corrective actions remains with the program office, and where applicable, with the external agencies or organizations responsible for logistics support elements not under direct control of the program manager. Written status of the actions in the POA&M must be provided to the ILA team leader. The periodicity of these status reports will be as agreed to between the Project Management Office and the team leader. The final responsibility for closing ILA deficiencies remains with the team leader, who should consult with the originator of a deficiency prior to closing it. Corrective Action Status will be reported and assessed at Gate reviews that fall in between ILAs.

Step 17 – Close Assessment

The ILA team leader must remain engaged with the program manager to ensure all POA&M actions are completed. Once all deficiencies have been satisfactorily resolved, as agreed to by the team leader, the ILA may be closed. The team leader provides the program office with correspondence identifying that the program has closed all issues and provides recommendation that the certification can be changed to Green. The PEO or SYSCOM commander does not have to re-issue a certification but can status the ILA as closed in future IPS briefs or Gate reviews. This process should be documented in the PEO/SYSCOM implementing procedure.

4.3 Process Deliverables

- Status reports
- Team leader responses/guidance to status reports
- Final IPS Certification (if appropriate)

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**Appendix A -
Documentation Request List**

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Objective

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

A.1 Process

Table A-1, Documentation Request List, below, provides a mix of statutory, regulatory and discretionary documents that contain information related to product support. Table A-2 provides a list of documents that should be reviewed during sustainment ILAs in addition to those identified in Table A-1, as applicable. Table A-3 provides program documents specific to Automated Information Systems (AIS). These tables provide the ILA team lead and program office representative a list of documents that are typically reviewed during an ILA. While a program office must provide statutory and regulatory documents, the discretionary documents may or may not exist as titled below. For example, the required information may be a standalone plan or be included as a subset or chapter of another document. Using Diminishing Manufacturing Sources and Materiel Shortages (DMSMS) as an example, a program office may not have a standalone DMSMS Program Management Plan, but the detailed process for managing DMSMS is included as a section in another program document. Likewise, there may not be a Failure Reporting, Analysis and Corrective Action System (FRACAS) plan; however, that information on FRACAS may be included as part of the reliability plan or other program planning document. SECNAVINST 5000.2, Enclosure 2, Tables E2T1 and E2T2 identify the statutory and regulatory documents and information required for programs at each milestone.

D= Draft/In process

F= Final

U= Update as required/necessary

Table A-1: Documentation Request List

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/ FDD
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; SNI 5000.2	F	F	F
Acquisition Program Baseline (APB) Documents the agreement among resource and functional sponsors, program managers 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 reevaluate the program and consider alternative program concepts or	10 USC 2435, DoD 5000.02; SNI 5000.2	F	F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
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; SNI 5000.2	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; SNI 5000.2	F	F	F
Business Case Analysis (BCA) for Performance Based Decisions and Support Decisions Evaluates alternative solutions for obtaining best value while achieving operational requirements balancing cost, schedule, performance and risk.	DoD 5000.02; SNI 5000.2, PBL Guidance Directives	F	U	U
Configuration Management Plan (CMP) Defines the technical and administrative directions and surveillance actions to identify 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; SNI 5000.2	F	F	F
Contractual Documentation Contains the program contractual requirements. This may include the Request For Proposal (RFP), statement of work/objectives, specification, contract requirements deliverables, performance	FAR/DFARS, DoD 5000.02; SNI 5000.2	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
agreements and any other related contractual documentation that contains support criteria and requirements.				
<p>Cost Analysis Requirements Description (CARD) Describes the complete program and used as the basis for program office and Component cost analysis 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.</p>	DoDI 5000.02; SNI 5000.2	F	U	U
<p>Initial Capability Document (ICD) 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 (DOTMLEPF) analysis and schedule/program affordability for the system. Replaces the mission needs statement.</p>	CJCSINST 3170.01, DoDI 5000.02; SNI 5000.2	F		
<p>Capability Development Document (CDD) 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</p>		F		

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
Milestone B.				
Capability Production Document (CPD) 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; SNI 5000.2, DoDI 5000.67	F	U	U
Data Management Strategy Identifies long term needs and strategy for management and ownership of data rights for re-procurement of the system.	DoDI 5000.02; SNI 5000.2, USC Title 10, Sec 2320; OSD Memo, same subj: dtd 19 Jul 2007	F	U	U
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; SNI 5000.2; USC Title 10, Sec 2464/2466	IP	F	U
Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Plan Identifies the program approach to managing DMSMS. DMSMS addresses identifying, defining, and establishing activities and functions to enhance the efficiency and cost-effectiveness of obsolescence mitigation.	DoDD 4140.1-R SYSCOM/PEO 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 Services Directives, NAVSO P-6071, OPNAVINST 3000.12A, Tech brief ABM 1002-03 DRMP Development	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/ FDD
	guidelines			
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.	SYSCOM/PEO 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; SNI 5000.2: Services 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 all ACAT programs, including both information technology and national security systems that connect to the communications and information infrastructure.	DoDI 4630.8, DoDD 4630.5, CJCSI 6212.01, DoDI 5000.2; SNI 5000.2	F	U	U
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; SNI 5000.2, MIL-HDBK-881, IPPD best practice, DAG Services Directives	F	U	U
Item Unique Identification (IUID) Plan Annex to the Systems engineering Plan (SEP), describes the plan for physical marking and encoding of the two-dimensional data matrix symbols that are	DoDI 5000.2; SNI 5000.2; USD (AT&L) Memo 23 Dec 04, SYSCOM/PEO	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
applied to items to facilitate electronic data capture and transmission. Data elements are then used to track parts throughout their life cycle.	Directives, USD(AT&L) Policy memo dtd 12/30/2010			
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; SNI 5000.2; SYSCOM/PEO Directives	F	U	U
Life Cycle Sustainment Plan (LCSP) Describes the overall supportability program and includes all requirements, tasks, schedules and milestones for each ILA element integrated into the overall program milestones during acquisition and sustainment.	DoDI 5000.02; SNI 5000.2, USD(AT&L) LCSP Streamlining Memo, dated 9/14/2011	F	U	U
Logistics Requirements Funding Summary 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 (IPSEs) and related disciplines, by fiscal year and appropriation, and is traceable to logistic support plan tasks and activities.	SYSCOM/PEO 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.	SYSCOM/PEO Directives	F		
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	SYSCOM/PEO Directives, Acquisition Knowledge Sharing		F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
based on different supportability analyses, the Level of Repair Analyses (LORA), maintenance analyses, etc.	System (AKSS)			
Manpower Estimate (ME) The ME provides the official statement of manpower requirements and risk assessment for achieving and supporting those requirements for all ACATs.	DoD 5000.02; SNI 5000.2; DAG Services 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	F	F	F
Operational Test Agency Report of Operational and Test Evaluation Results Provides operational test results from the Services testing agencies.	DoDI 5000.02; SNI 5000.2	D	F	F
Programmatic Environment, Safety, and Health Evaluation (PESHE) This document is a management tool used to help program managers identify and manage Environment, 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; SNI 5000.2	F	U	U
Program Protection Plan (Includes the Anti-Tamper plan as an Annex) Prepared for programs with critical program information.	DoDI 5000.02; SNI 5000.2; DoDI 5200.39; USD(AT&L) Streamlining Memo dtd 18 July 2011	F	F	F
Replaced System Sustainment Plan Identifies how the system being replaced	DoD 5000.02; SNI 5000-2 Series	F	F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
will be sustained.				
Risk Management Plan/Assessment Describes the approach to identify, assess, mitigate and continuously track, control and document program risks.	DoD 5000.02; SNI 5000.2	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) and systematically controlling changes to the configuration, and maintaining the integrity and traceability of the configuration throughout the software life-cycle.	SYSCOM/PEO 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.	SYSCOM/PEO 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; SNI 5000; SYSCOM/PEO 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.	SYSCOM/PEO 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/AS. It identifies the Development Test and Evaluation	DoD 5000.02; SNI 5000.2	F	U	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
(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.				
Training Analysis Provides a methodology to determine manpower, personnel, training and education requirements to support the planning and programming process and the Training Systems Plan.	SYSCOM/PEO Directives	IP	F	U
Training Systems Plan (TSP) 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.	SYSCOM/PEO 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.	SYSCOM/PEO 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.	SYSCOM/PEO 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; SNI 5000.2		D	F
Failure Reporting, Analysis and Corrective Action System (FRACAS)	SYSCOM/PEO Directives,	D	F	F

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
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.	AKSS			
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 requirements as well as economic and non-economic considerations.	SYSCOM/PEO Directives, DAG		F	U
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.	SYSCOM/PEO 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.	SYSCOM/PEO 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.	SYSCOM/PEO Directives, DFARS 207.1		F	U
Quality Assurance Plan Provides the contractors plan for assuring the quality of the system.	DoD 5000.02; SNI 5000.2		F	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
<p>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).</p>	DoD 5000.02; SNI 5000.2; SYSCOM/PEO Directives	D	F	U
<p>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.</p>	SYSCOM/PEO Directives, DFARS 207.1		F	F
<p>Software Development Plan 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.</p>	SYSCOM/PEO Directives, DAG		F	U
<p>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.</p>	SYSCOM/PEO Directives		F	U
<p>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.</p>	SYSCOM/PEO Directives, AKSS		F	U

Typical Document Request/Description	Source	Milestone/Decision Point		
		B	C	FRP/FDD
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.	SYSCOM/PEO Directives, DAG		F	U
System Operating & Maintenance Documents Contains information and instructions for the installation, operation, maintenance, training and support of a system.	SYSCOM/PEO Directives		F	U

The following documents apply to systems that are conducting Post-IOC Phase (Post FRP/FDD) ILAs. These are in addition to the documents identified in Table A-1 above but that documentation list should be tailored for each program by the ILA team lead and program office.

Table A-2: Sustainment ILA Documentation Request List

System Operational Verification Tests (SOVT) List of deficiencies upon system installation.	DON/SYSCOM/PEO Directives
Maintenance History, Supportability/Cost Drivers Component failures per installed population.	DON/SYSCOM/PEO Directives
Diagnostic Help History Tech assists per system.	DON/SYSCOM/PEO Directives
Configuration Management Information Configuration control and change history to include number of engineering design changes, etc.	DON/SYSCOM/PEO Directives
PBL Performance Information on how the PBL provider is performing against required metrics.	DON/SYSCOM/PEO Directives
Training Performance Training effectiveness/issues.	DON/SYSCOM/PEO Directives
Depot Performance Component repairs per installed population.	DON/SYSCOM/PEO Directives
Planned Maintenance System (PMS) Performance User feedback on PMS program.	DON/SYSCOM/PEO Directives
Product Data Performance User feedback on Technical Data.	DON/SYSCOM/PEO Directives

Table A-3: Major Automated Information System (MAIS) Documentation List

Requirement	Milestone/Decision Point					
	MDD	A	B	P-CDRA	C	FRP/FDD
Acquisition Information Assurance Strategy (all IT & National Security Systems)		X	X		X	X
Analysis of Alternatives (AoA)		X	X		X	X
Beyond LRIP Report (include MDAPs that are also MAIS)						X
Component Cost Estimate (MAIS, optional MDAP)		X	X			X
Consideration of Technology Issues (MDAP & MAIS)		X	X		X	
Cost Analysis Requirements Description (MDAP & MAIS)			X		X	X
Data Management Strategy (MDAP, MAIS & ACAT II)		X	X		X	X
DoD CIO Confirmation of CCA Compliance (MDAP & MAIS)		X	X		X	X
Economic Analysis (MAIS)		X	X			X
Joint Interoperability Test Certification (IT & NSS)						X

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**Appendix B -
Relationship between Reliability, Availability,
Maintainability (RAM) and Logistics**

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Objective

The objective of this Appendix is to provide a cross reference and define the relationship between reliability, availability and maintainability and the Integrated Product Support (IPS) factors.

B.1 Requirements

RAM requirements and tasks are primary sources of information and serve as drivers of many logistics support factors. They provide a critical logistics support interface that can influence design decisions, optimizing long-term system supportability.² This chart identifies some typical key RAM requirements and tasks, their influence on ILA elements and guidance in reviewing these factors. When assessing a specific IPS area, RAM requirements should be reviewed to determine if they would be met.

This table should be used as a cross-reference to determine the effect reliability will have on the IPS factor under review.

Reliability Measures	Relationship to ILA Element Assessment Criteria
<p>Mean Time Between Failures (MTBF) is generally defined for a particular operating time interval as the total functional life of a population of an item, divided by the total number of failures within the population. The definition holds for time, rounds, miles, events, or other measures of life units. MTBF is often specified in varying forms to include Mean Time Between Operational Mission Failures and Mean Time Between Mission Critical Failures.</p>	<ul style="list-style-type: none"> a. Maintenance Planning: Generally the MTBF impacts the frequency of preventative and scheduled maintenance. b. Supply Support: The MTBF impacts the range and depth of spares and drives provisioning requirements. c. Manpower, Personnel, Training and Education (MPT&E): The MTBF drives the frequency and scheduling of maintenance, and therefore drives the manpower needed to perform this maintenance or repair functions. d. Facilities: The MTBF impacts the number and items turned in for repair, directly affecting the space and power requirements for repair and storage. e. Funding: The MTBF affects the frequency of repair and preventative maintenance, spares and manpower requirements, and has a direct relationship to operation and maintenance and funding requirements. Funding to achieve higher MTBFs during the development phase results in higher system availability and lower life cycle costs.
<p>Mean Time to Repair (MTTR) is the average elapsed time (clock hours) for corrective maintenance (including testing times for fault detection, isolation and verification of corrective action). Maintainability is often specified in</p>	<ul style="list-style-type: none"> a. Maintenance Planning: The MTTR impacts the duration of the down time for repairs. b. Manpower and Personnel: The MTTR impacts the duration of the repair and therefore the manpower required. c. Funding: The MTTR affects the amount of manpower required for maintenance and directly

² The OSD Guide to Designing and Assessing Supportability in DOD Weapons Systems: A Guide to Increased Reliability and Reduced Logistics Footprint, may be used as a guide to tailoring required ILA documentation as it specifies key logistics information and activities that must be completed by each acquisition Milestone.

Reliability Measures	Relationship to ILA Element Assessment Criteria
<p>other forms such as Maximum Time To Repair and Mean Corrective Maintenance Time for Operational Mission Failures.</p>	<p>impacts funding requirements. Funding to achieve lower MTTRs during the development phase results in higher system availability and lower life cycle costs.</p> <p>d. Training system. MTTR reflects the training system's capability to satisfy maintainability performance objectives.</p>
<p>Mean Logistics Delay Time (MLDT) is the average time a system is unavailable due to logistics system delays associated with the maintenance action (i.e., obtaining required parts Mean Supply Response Time, (MSRT) or other logistics resources (Mean Administrative Delay Time (MADT), and Mean Outside Assistance Delay Time (MOADT) and other delays).</p>	<p>a. Maintenance Planning: The MLDT may drive the level of repair since the time to obtain spares may determine if the weapon system is spared at the system level or component level.</p> <p>b. Supply Support: The amount of spares required is directly related to the off-station MLDT; the greater the off-station MLDT, the more spares will normally be required to be stored locally to meet availability requirements.</p>
<p>Operational availability (A_o) is the percentage of time that a system will be ready to perform satisfactorily in its intended environment. It is generally defined as Up Time/(Up Time + Down Time) or:</p> $\frac{MTBF}{(MTBF + MTTR + MLDT)}$	<p>a. See MTBF, MTTR and MLDT for impact on logistics support elements.</p> <p>b. Maintenance Planning: A_o analyses may assist in determining the optimum number of repair facilities depending on the maintenance and sparing concept.</p>
<p>Material Availability (A_m) is equal to the number of operational end items divided by the total population of end items. It measures the percentage of the entire population that is operational.</p>	<p>a. See MTBF, MTTR and MLDT for impact on logistics support elements.</p> <p>b. Maintenance Planning: A_o analyses may assist in determining the optimum number of repair facilities depending on the maintenance and sparing concept.</p>
<p>Material Reliability is equivalent to MTBF</p>	<p>a. See MTBF</p>
<p>System Analyses (FMECA), Single Point Failure Analysis (SPFA) and Fault Tree Analysis (FTA) from the system level to the lowest part level are performed as the design progresses, to assess the design robustness and overall reliability.</p> <p>Worst Case Analyses are performed to identify tolerance stack-up as well as drift in circuit parameters. Calibration and</p>	<p>a. Maintenance Planning: These analyses assist in determining the failure effects which drive the trouble shooting criteria, strategy and equipment for fault detection of failure modes.</p> <p>b. Supply Support: These analyses identify critical components and their failure modes so they can be adequately spared to optimize repair time and corrective action.</p> <p>c. Product/Technical Documentation: These analyses will assist in determining the troubleshooting description, requirements and diagnostics in the technical documentation by identifying failures and</p>

Reliability Measures	Relationship to ILA Element Assessment Criteria
measurement systems are included in these analyses.	<p>their effects.</p> <p>d. ESOH: These analyses may identify hazardous failure modes.</p> <p>e. MPT&E: These analyses may identify specific manpower and training requirements for special operating and maintenance conditions/procedures.</p> <p>f. Funding: Design changes or other corrective actions resulting from these analyses may reduce manufacturing, operation and maintenance cost. If these analyses are not performed, design deficiencies may not be identified until later during deployment, negatively affecting the program's sustainment cost.</p>
Sneak Circuit Analysis is performed to identify unintended product operating modes and is performed as a minimum on critical circuits, circuits that perform frequent switching functions, and areas of safety concern.	<p>a. Maintenance Planning: Results of the sneak circuit analysis will assist in determining the troubleshooting procedures by identifying potential sneak circuits and failure items.</p> <p>b. ESOH: These analyses may identify failure modes that are hazardous.</p> <p>c. Funding: These results are similar to the funding impacts found in Systems Analyses reliability measures.</p>
Thermal Analysis is performed to identify thermal conditions that require corrective actions and includes results from analyses of the detail designs, thermal surveys/tests, and operational tests.	<p>a. Supply Support: These analyses identify potential compromised reliability and stressed items, which affect the sparing requirements.</p> <p>b. ESOH: These analyses may identify failure modes that are hazardous.</p>
Stress Analyses (mechanical/finite element, electrical, and thermal) are conducted to identify design margins and assess de-rating.	<p>a. Maintenance Planning: The results of these analyses may require special procedures to be followed during maintenance actions.</p> <p>b. Funding: The results are similar to the funding impacts found in the Systems Analyses reliability measures.</p>
Reliability Predictions/FRACAS is used to estimate the reliability of an item.	<p>a. All IPS Areas: Provides information on whether the reliability (e.g., MTBF) will be achieved, exceeded or missed, so that adjustments can be made to sparing (supply support), maintenance planning, Manpower, Personnel, Training and Education requirements and PHS&T.</p> <p>b. These analyses may identify failure modes that are hazardous."</p>
Design Limit/Life Testing Qualification testing is conducted to measure system hardware compliance with performance and design requirements.	<p>a. Maintenance Planning: Test information is used in determining service life and technical refresh requirements.</p> <p>b. Supply Support: Test information is used to substantiate reliability information that will determine spares requirements.</p>

Reliability Measures	Relationship to ILA Element Assessment Criteria
<p>Accelerated life testing is conducted using higher than normal stresses to estimate the life of an item under normal operating conditions.</p> <p>Step stress testing is a method of performing accelerated life testing to determine design margins by using progressively higher levels of stress.</p>	<p>c. Funding: Design changes or other corrective actions resulting from these tests may reduce manufacturing, operation and maintenance cost. If these tests are not performed, design deficiencies may not be identified until later during deployment, negatively affecting the program's sustainment cost.</p>
<p>Design for Testing/BIT objectives are to achieve the required performance monitoring, fault detection/localization and fault isolation capabilities at the appropriate maintenance levels with the optimum mix of BIT, semi-automatic test and general purpose manual test equipment.</p>	<p>a. Maintenance Planning: BIT affects testability and diagnostics by optimizing the efficiency of troubleshooting and fault isolation localization, and assist in determining the level of repair.</p> <p>b. Supply Support: Properly designed BIT can reduce the demand for spares as a result of fewer false alarms.</p> <p>c. SE: The level of BIT implementation directly affects the extent of special test equipment or tools required to diagnose failures.</p> <p>d. Technical Documentation: BIT impacts the amount of technical publications required to diagnose failures. Documentation required to assess and troubleshoot failures is eliminated as BIT is optimized.</p> <p>e. MPT&E: BIT can reduce MPT&E requirements since it reduces diagnostic time, skills and training to perform diagnostics.</p> <p>f. Funding: BIT decreases cost for diagnostics, downtime and repair of units improperly determined to have failed.</p>
<p>Manufacturing Planning/Screening integrates actions required to produce, test and deliver acceptable systems on schedule and at minimum cost.</p>	<p>a. Maintenance Planning and Supply Support: Manufacturing/screening affects down time and spares since escapes from manufacturing will decrease reliability and increase requirements for parts.</p> <p>b. Funding: Manufacturing/screening effects decreases sustainment cost as a result of discovering failures in the factory rather than after deployment.</p>
<p>Parts and Materials Selection utilizes a disciplined design process including adherence to specific de-rating guidelines and the use of qualified manufacturers lists to standardize parts selection.</p>	<p>a. PHS&T: PHS&T is affected because parts robustness and environmental sensitivity is a significant concern and special handling and transportation requirements (e.g., electrostatic discharge, shelf life, shock, vibration, humidity and electromagnetic interference) may be required.</p> <p>b. ESOH: The selection and application of parts and materials may be limited by prohibited and environmentally unfriendly materials, as well as safety concerns.</p>

Reliability Measures	Relationship to ILA Element Assessment Criteria
	<ul style="list-style-type: none"> <li data-bbox="678 247 1427 405">c. Maintenance Planning and Supply Support: The selection and application of sustainable parts and materials may be limited by prohibited materials, availability of sustainable and/or less hazardous materials, as well as safety concerns. <li data-bbox="678 405 1427 531">d. MPT&E: The selection and application of parts and materials may affect the operating and maintenance training requirements, especially for unique or non-standard items. <li data-bbox="678 531 1427 657">e. Product/Technical Data: Depending on the acquisition and maintenance philosophy, the selection of unique or non-standard items may affect the technical data requirements. <li data-bbox="678 657 1427 751">f. Funding: The selection and application affects sustainment cost as a function of parts quality, availability and obsolescence. <li data-bbox="678 751 1427 882">g. CM: Identifies specific parts and material characteristics that must be under configuration control to ensure long-term performance and supportability.

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**Appendix C -
ILA Certification Criteria and Rating Criteria**

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Objective

The objective of this Appendix is to provide rating criteria for individual issues and rating and certification criteria for the overall program. It is broken into two parts: Part I provides Independent Logistics Assessment (ILA) rating and certification criteria in support of Milestones B, C and the Full Rate Production (FRP) decision/Full Deployment Decision (FDD). Part II provides rating criteria for Post-FRP/FDD ILAs.

Part I – Acquisition Phase ILA Rating Criteria

C.1 Process

The following tables provide guidance for rating individual elements and for rolling those individual ratings into an overall program rating.

- **Finding/IPS Element Rating Criteria (Table C-1):** Used to rate individual issues and each element.
- **Overall Program Assessment 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 Certification Authority identifies urgency factors or non-concurs with the ILA team’s recommendations.
- **ILA 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 Deputy Assistant Secretary of Defense (Materiel Readiness) (DASD(MR)) such as performance, cost, and schedule risks. This allows logistics risk to be presented at the same level during briefs to the MDA. The ILA Consequence Decision Table (figure C-3a) and Likelihood Decision Table (figure C-3b) are used in tandem to provide an overall rollup of findings onto the risk cube.

Table C-1: Finding/IPS Element Rating Criteria

Grade	Cost	Schedule	Performance
Low (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	Some impact to logistics tasks; internally adjustable with no milestone changes	Some impact to readiness, but can be remedied by program
	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
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)
<p>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 workarounds 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 ILA team lead, PEO sustainment manager, or next echelon of sustainment competency, the program is considered to be conditionally certified.</p>	<p>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 ILA team lead, PEO sustainment manager, or next echelon of sustainment competency, the program is considered certified.</p>	<p>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.</p>

ILA Risk Matrix

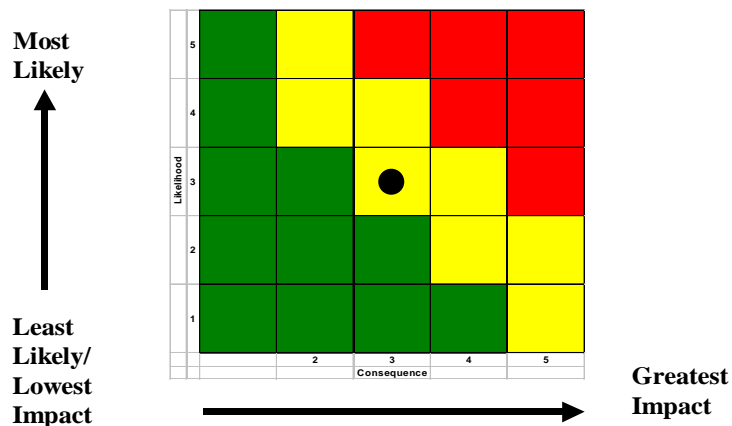


Figure C-1: ILA Risk Matrix

Table C-3a. ILA Consequence Decision Table

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

Table C-3b. ILA Likelihood Decision Table

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

Part II – Post-FRP/FDD Rating Information

C.2 Process

The following provides rating criteria for each individual finding, IPSE, and the overall program rating for Post FRP/FDD ILAs.

The ILA Risk Matrix in Figure C-1 and the accompanying ILA Consequence Decision Table (figure C-3a) and Likelihood Decision Table (figure C-3b) should be used to provide an overall rollup of findings onto the risk cube.

Table C-4: IPS Finding, Element and Overall Program Rating Criteria

Grade	
Low (Green)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 -
ILA Report Content**

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ILA Report Content

Objective

The objective of this Appendix is to provide the minimal content that should be included in an ILA report. However, formatting of a report is left up to the individual commands or team leads. This appendix provides content information on:

- ILA Summary/Executive Summary content
- Deficiency/Recommendation content

ILA Summary/Executive Summary Content

1. Introduction

Program: *(Identify Program)*

ACAT: *(Identify Acquisition Category)*

Next Milestone: *(Identify next milestone and date)*

MSD Authority: *(Identify the MDA)*

PEO: *(Name/code)*

Program Manager: *(Name/code/phone number)*

Assistant PEO (Logistics): *(Name/code/phone number)*

IPS Manager/Assistant Program Manager for Logistics: *(Name/code/phone number)*

System Description: *(Brief overview of the system being addressed during this decision)*

Support Concept: *(Brief overview of the maintenance concept)*

Purpose of ILA Review: *(What milestones/events are being addressed)*

Scope of ILA Review: *(Identify the configuration of the system(s) being addressed during this decision)*

2. Summary of ILA

Review dates: *(Start and finish of assessment)*

Team Lead: *(Name/Code/Phone Number)*

Listing of ILA reviewers by element: *(Name/code/phone number)*

Conclusions and Recommendations: *(Draw conclusions regarding the program's IPS posture/risk, its ability to meet established performance metrics and to be fully supportable at system IOC; provide recommendations regarding IPS certification (including contingencies) and the program's proceeding into the next phase)*

Logistics Risk Matrix: *(Insert 5x5 risk matrix reflecting the Likelihood and Consequences of the supportability risks)*

3. Listing of criteria, color code and PM’s position. *(Provide rationale for each support area not addressed)*

Assessment Criteria	Color Code
PSM Management	
Design Interface	
Sustaining Engineering	
Supply Support	
Maintenance Planning and Management	
Packaging, Handling, Storage and Transportation	
Technical Data Management	
Support and Test Equipment	
Training and Training Support	
Manpower and Personnel	
Facilities and Infrastructure	
Computer Resources and Software Support	
Product Support Budgeting and Funding	
Environment, Safety and Occupational Health	

4. Conclusions and Recommendations *(Draw conclusions regarding the program’s IPS posture/risk and its ability to meet established performance metrics and be fully supported at system IOC; provide recommendations regarding IPS certification (including contingencies) and the program’s readiness to proceed to the next acquisition phase)*

Individual Deficiencies/Recommendations: *(Format provided on page D-5)*

Status Reports: *(Identify when the PM’s first status report is due and the periodicity of future reports)*

Deficiency/Recommendation Content

Deficiency _____
Recommendation _____
{ Check One }

Program: *(Identify Program)*

Number: *(ILA team leader assigns numbering sequence. A number is not required for recommendations)*

Evaluator: *(Name of assessor)*

Deficiency/Recommendation: *(Clearly state what the assessor thinks can, or will, create a supportability problem if left uncorrected)*

PM's position: *(Concur/non-concur and/or rational)*

References: *(Identify documents reviewed – include date and/or version number)*

- a.
- b.
- c.

IPS Element: *(Identify the IPS element affected)*

Rating: *(Red/Yellow/Green)*

Discussion: *(Assessor provides background and impact. Should specifically address the matrix and how the green/yellow/red was determined)*

Corrective Action(s): *(Assessor identifies the top level action(s) required to correct the problem(s))*

Action Office: *(Assessor identifies the action office)*

Completion Date: *(Assessor identifies the date by which the program office has indicated the problem will be corrected)*

Program Office POA&M: *(Program office provides a detailed POAM which documents how specific issues will be resolved and should be submitted with the final report.)*

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Appendix E - Glossary of Terms

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Terms

Automated 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 somehow get the data into a computer without having employees type it in. The aim of most AIT 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 are 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 IUID.

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.

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.

Capabilities 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.

Capabilities 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.

Cost Per Unit Usage (CPUU): The total operating costs divided by the appropriate unit of measurement for a given weapon system. Depending on weapon system, the measurement unit could be flight hour, steaming hour, launch, mile driven, etc.

Defense Acquisition Management Information Retrieval System (DAMIRS): 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 Services, 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.

Distance Support: Established so the Navy could increase the efficiency, effectiveness and speed of the shore infrastructure, reduce support footprint and associated costs, and meet the reduced staffing requirements of future weapons systems. Distance Support is a Navy program that delivers tactically significant support enabling each Commanding Officer to operate at optimum capabilities in support of the command's mission, provides the sailor with a single desktop point of entry to an integrated tool bag of distance support efforts, simplifying access to Naval maintenance, technical, supply, training, administrative and personnel resources and provides infrastructure or people-related support."

Full Deployment Decision (FDD): For an automated information system program, FDD is the final decision made by the Milestone Decision Authority authorizing an increment of the program to deploy software for operational use.

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): IUID is a DoD program that encodes a globally unique item identifier (UII) in a two-dimensional data matrix (barcode) on all tangible personal property requiring traceability and accountability during its life cycle. It provides asset visibility within the DoD Supply Chain, Maintenance, Readiness, Operations, Property Accountability, and Finance. Items must have an IUID under the CLIN/SLIN if they meet the DFARS 252.211-7003 or 252.211-7007 requirements.

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 (JCB) 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.

Logistics Requirements Funding Summary (LRFS): The LRFS identifies the product support functions and sub-functions required to establish affordable and effective product support. It identifies support resource requirements and the funds available to meet those requirements. The summary displays requirements versus available funding for all IPS elements and related disciplines, by fiscal year and appropriation, and is traceable to logistic support plan tasks and activities.

Material Reliability (A_M): A_M is equal to the number of operational end items divided by the total population of end items. It measures the percentage of the entire population that is operational.

Milestone 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 Engineering and Manufacturing Development (E&MD) phase. E&MD has two major efforts: Integrated System Design and System Capability and Manufacturing Process Demonstration. The entrance point is MS B, which is also the initiation of an acquisition program.

Milestone C: The point at which a recommendation is made and approval sought regarding continuing an acquisition program, i.e., proceeding to the next phase. Milestone C approval allows entry into the Production and Deployment phase. MS C authorizes entry into Low Rate Initial Production (LRIP) (for Major Defense Acquisition Programs 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: O&S costs are those costs that are required to operate the system and to sustain or maintain it in a ready and operational state.

Operational Availability (A_o): A_o is the percentage of time that a system will be ready to perform satisfactorily in its intended environment. It is generally defined as $\text{Up Time}/(\text{Up Time} + \text{Down Time})$.

Performance Based Logistics (PBL): PBL 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.

Performance Based Life Cycle Support (PBLCS): PBLCS results from 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. PBLCS 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 user.

Performance Based Agreements (PBA): PBL support 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 user.

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. The PCA is 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/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 data, 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.

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 Life Cycle Systems Management (TLCSM): TLCSM is the implementation, management, and oversight, by the designated Program Manager, of all activities associated with the acquisition, development, production, fielding, sustainment and disposal of a weapon system across its life cycle. It empowers the Program Manager as the Life Cycle Manager with full accountability and responsibility for systems acquisition and follow-on sustainment.

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.

Unique Item Identifier (UII): A set of data elements marked on an item in a Data Matrix EC200 symbol that is globally unique and unambiguous; or the generic form of the concatenated data elements used as a common data base key for that unique item, and the four DoD-recognized IUID equivalents (Global Individual Asset Identifier (GIAI), Global Returnable Asset Identifier (GRAI) when assets are serialized, Vehicle Identification Number (VIN), or Electronic Serial Number (ESN), (for cell phones only)).

**Appendix F -
Glossary of Acronyms**

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A

ACAT	Acquisition Category
ACIM	Availability Centered Inventory Model
AICUZ	Air Installations Compatible Use Zones
AIS	Automated Information System
AIT	Automatic Identification Technology
AKSS	Acquisition Knowledge Sharing System
A _m	Materiel Availability
ANSI	American National Standards Institute
A _o	Operational Availability
AoA	Analysis of Alternatives
AP	Acquisition Plan
APB	Acquisition Program Baseline
ARROWS	Aviation Readiness Requirements Oriented to Weapon Replaceable Assemblies
AS	Acquisition Strategy
AVCAL	Aviation Coordinated Allowance List

B

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

C

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
CCA	Circuit Card Assembly
CDD	Capability Development Document
CDR	Critical Design Review
CFFC	Commander, Fleet Forces Command
CI	Configuration Item
CIO	Chief Information Officer
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CM	Configuration Management
CMC	Commandant, Marine Corps
CMMI	Capability Maturity Model Integration
CMP	Configuration Management Plan
CNIC	Chief, Naval Installations Command
CNO	Chief of Naval Operations

CONOPS	Concept of Operations
CONREP	Continuous Replenishment
COSAL	Coordinated Shipboard Allowance List
COTS	Commercial-Off-The Shelf
CPD	Capability Production Document
CPI	Critical Program Information
CPU	Central Processing Unit
CPUU	Cost Per Unit Usage
CSA	Configuration Status Accounting
CSI	Critical Safety Item
C4I	Command, Control, Communications, Computers and Intelligence

D

DADMS	DON Application and Database Management System
DAG	Defense Acquisition Guidebook
DAMIR	Defense Acquisition Management Information Retrieval
DASD(MR)	Deputy Assistant Secretary of Defense (Materiel Readiness)
DASN(ELM)	Deputy Assistant Secretary of Defense (Expeditionary and Logistics Management)
DFARS	Defense Federal Acquisition Regulation Supplement
DIACAP	DoD Information Assurance Certification and Accreditation Process
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DoD	Department of Defense
DoDAAF	Department of Defense Activity Address File
DON	Department of the Navy
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities
DRMP	Design Reference Mission Profile
DT	Development Test
DT&E	Director, Test and Evaluation

E

ECP	Engineering Change Proposal
EO	Executive Order
ESOH	Environment, Safety and Occupational Health
ESQD	Explosive Safety Quantity Distance

F

FCA	Functional Configuration Audit
FD	Full Deployment
FDD	Full Deployment Decision
FFC	Fleet Forces Command
FEA	Front End Analysis

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
FTA	Fault Tree Analysis

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
IER	Information Exchange Requirements
IETM	Interactive Electronic Technical Manual
ILA	Independent Logistics Assessment
IMP	Integrated Master Plan
IMS	Integrated Master Schedule
IOC	Initial Operational Capability
IPS	Integrated Product Support
IPT	Integrated Process Team
ISP	Information Support Plan
IT	Information Technology
ITIL	Information Technology Infrastructure Library,
IUID	Item Unique Identification

J

JCB	Joint Capabilities Board
JCIDS	Joint Capabilities Integration and Development System
JROC	Joint Requirements Oversight Council
JUON	Joint Urgent Operational Need

K

KPP	Key Performance Parameters
KSA	Key Systems Attribute

L

LAN	Local Area Network
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
LRFS	Logistics Requirements Funding Summary
LFT&E	Live Fire Test and Evaluation

M

MADT	Mean Administrative Down Time
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
MOADT	Mean Outside Assistance Delay Time
MOU	Memorandum of Understanding
MPT&E	Manpower, Personnel, Training and Education
MRL	Manufacturing Readiness Level
MS	Milestone
MSD	Material Support Date
MSRT	Mean Supply response Time
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair

N

NATO	North Atlantic Treaty Organization
NCCA	Naval Center for Cost Analysis
NDI	Non-Development Item
NEPA	National Environmental Policy Act
NETC	Naval Education and Training Command
NSS	National Security System

O

OBRP	On-Board Repair Parts
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OEM	Original Equipment Manufacturer
OLA	Operational Level Agreement
OSD	Office of the Secretary of Defense
O&S	Operation and Sustainment
OT	Operational Test
OT&E	Operational Test and Evaluation
OTRR	Operational Test Readiness Review

P

PARM	Participating Acquisition Requirements Manager
PBA	Performance Based Agreement
PBL	Performance Based Logistics
PBLCS	Performance Based Life Cycle Support
PCA	Physical Configuration Audit
PDASN	Product DASN
PDR	Preliminary Design Review
PEO	Program Executive Officer
PESHE	Programmatic 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
PQDR	Product Quality Deficiency Reports
PRR	Production Readiness Review
PSI	Product Support Integrator
PSM	Product Support Manager
PSP	Product Support Provider
PUK	Pack Up Kit

R

RAM	Reliability, Availability, and Maintainability
RAM-C	Reliability, Availability, Maintainability and Cost rationale
RBS	Readiness-Based Sparing
RCM	Reliability Centered Maintenance
RDT&E	Research, Development, Test and Evaluation
RFID	Radio Frequency Identification
RFP	Request for Proposal
R _M	Material Reliability
RO	Requirements Officer
ROD	Record Of Decision
RTOK	Retest-OK

S

SCP	Service Cost Position
SCD	Ship Change Document
SDD	System Development and Demonstration
SEP	Systems Engineering Plan
SETR	Systems Engineering Technical Review
SIM	Serialized Item Management
SLA	Service Level Agreement
SMR	Source, Maintenance and Recoverability
SOE	System Operational Effectiveness
SOVT	System Operational Verification Tests
SOW	Statement of Work
SPD	Ships Program Directive
SPFA	Single Point Failure Analysis
SPETERL	Ships Portable Electrical/Electronic Test Equipment Requirement List
SPO	Supply Parts Optimizer
SSA	Software Support Activity
SSAR	Ship/Shore Aviation Requirements
SSS	System/Subsystem Specification
S&TE	Support & Test Equipment
SYSCOM	Systems Command

T

TECHEVAL	Technical Evaluation
TEMP	Test and Evaluation Master Plan
T&E	Test and evaluation
TIGER	Tiger-Availability Centered Inventory Model
TLCSM	Total Life Cycle Systems Management
TOC	Total Ownership Cost
TRPPM	Training Planning Process Methodology
TRL	Technology Readiness Level
TSP	Training System Plan
TSFD	Training System Functional Description

U

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

V

VERTREP	Vertical Replenishment
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