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Acquisition/Logistics

INTEGRATED LIFE CYCLE MANAGEMENT

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This publication implements Air Force Policy Directive (AFPD) 63-1/20-1, *Integrated Life Cycle Management*. This instruction establishes the Integrated Life Cycle Management (ILCM) guidelines and procedures for Air Force (AF) personnel who develop, review, approve, or manage systems, subsystems, end-items, services, and activities (for the purpose of this publication referred to as programs throughout this document) procured under Department of Defense (DoD) Instruction (DoDI) 5000.02, *Operation of the Defense Acquisition System.* Additionally, this AF Instruction (AFI) implements the policies in Department of Defense Directive (DoDD) 5000.01, *The Defense Acquisition System*, DoDI 5000.02, (collectively called the DoD 5000 acquisition series), Office of Management and Budget (OMB) Circular A-11, *Preparation, Submission, and Execution of the Budget*, DoDI 3020.41, *Contractor Personnel Authorized to Accompany the U. S. Armed Forces*, DoDI 3200.19, *Non-Lethal Weapons (NLW) Human Effects Characterization*, DoDI 4151.19, *Serialized Item Management (SIM) for Material Maintenance*, DoDI 4151.20, *Depot Maintenance Core Capabilities Determination Process*, DoDI 4151.21, *Public-Private Partnerships for Depot Level Maintenance*, DoDI 4151.22, *Condition Based Maintenance Plus (CBM+) for Materiel Maintenance*, DoDI 4245.14, *DoD Value Engineering (VE) Program*, DoDI 5000.67, *Prevention and Mitigation of Corrosion on DOD Military Equipment and Infrastructure*, DoDI 5000.69, *DoD Joint Services Weapon and Laser System Safety Review Process*, DoDD 3000.09, *Autonomy in Weapon Systems*, DoDD 3020.49, *Orchestrating, Synchronizing, and Integrating Program Management of Contingency*

Acquisition Planning and Its Operational Execution, DoDD 5000.52, *Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program*, DoDI 5000.66, *Operation of the Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program*, DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*, 10 USC §2330 - *Procurement of Services*, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01, *Joint Capabilities Integration and Development System*, and CJCSI 3312.01, *Joint Military Intelligence Requirements Certification*.

Statutory law, Federal, DoD, or Joint Staff (JS) directives take precedence over Air Force Instructions. If there is any conflicting guidance between this AFI and DoD 5000-series and CJCSI 3170.01 higher level guidance shall take precedence.

To ensure standardization, any organization supplementing this instruction must send the implementing publication to Deputy Assistant Secretary of the Air Force for Acquisition Integration (SAF/AQX) for review and coordination before publishing. Refer recommended changes and questions about this publication to SAF/AQXA using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**.

This publication applies to all military and civilian Air Force personnel including major commands (MAJCOMs), direct reporting units (DRUs) and field operating agencies (FOAs), and to other individuals or organizations as required by binding agreement or obligation with the Department of the Air Force (DAF). This publication applies to the Air Force Reserve Command (AFRC) and Air National Guard (ANG), except as noted in the publication. For nuclear systems or related components ensure the appropriate nuclear regulations are applied in addition to the guidance in this AFI.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. This guidance consolidates systems engineering, product support, and program management into one integrated life cycle management document. This revision incorporates policy on the realignment of space under the acquisition framework, program integration, quick reaction capability, industrial affairs, intelligence supportability, corrosion, Government Industry Data Exchange Program (GIDEP), and Information Technology (IT) compliance. This revision consolidates the policies in the superseded publications with new guidance into one integrated life cycle instruction. It clarifies that operational safety, suitability, and effectiveness (OSS&E) is the outcome or desired end state of the systems engineering process and that OSS&E is not a process in itself. This guidance has been substantially revised in multiple areas and requires a complete review of all sections of the guidance. This guidance eliminates many of the non-directive best practices which can be found in other non-directive publications.

Chapter 1

INTEGRATED LIFE CYCLE MANAGEMENT

1.1. Purpose of AFI 63-101/20-101, Integrated Life Cycle Management (ILCM). This instruction contains the directive overarching processes and procedures required for execution of a program. Used in partnership with the non-directive best practices and procedures in AFPAM 63-128, *Guide to Acquisition and Sustainment Life Cycle Management*, AF personnel can efficiently implement the concepts of ILCM. ILCM is the seamless governance with transparent processes that integrate all aspects of infrastructure, resource management, and business systems necessary for successful development, acquisition, fielding, sustainment, decommission, and disposal of systems, subsystems, end items, and services to satisfy validated warfighter capability needs. This instruction must be used in conjunction with AFI 10-601, *Operational Capability Requirements Development*, AFI 99-103, *Capabilities Based Test and Evaluation*, and applicable 33-series documents to provide an integrated framework for the implementation of ILCM.

1.2. Applicability. This instruction applies to the management of all Acquisition Category (ACAT) programs, designated weapon systems cited in AFPD 10-9, Lead Command Designation and Responsibilities for Weapon Systems, and weapons systems, automated information systems, and business systems in the operations and support (O&S) phase including all product groups, systems, activities, services, and projects that support warfighter capability planning and validated needs.

1.2.1. Air Force acquisition programs utilizing investment funding to satisfy a validated need (i.e., Research, Development, Test and Evaluation (RDT&E) and procurement) are ACAT programs or Technology Projects. ACAT III has no funding floor and encompasses all programs not included within ACAT I, IA, II, or identified as a Technology Project per DoDI 5000.02.

1.2.2. Due to their unique nature requiring additional security measures, Special Access Programs (SAPs) shall follow guidance regarding reporting, coordination, and use of specified tools, systems, and databases only as directed and as coordinated with Assistant Secretary of the AF (Acquisition) and Directorate of Special Programs (SAF/AQL) and approved by the Milestone Decision Authority (MDA).

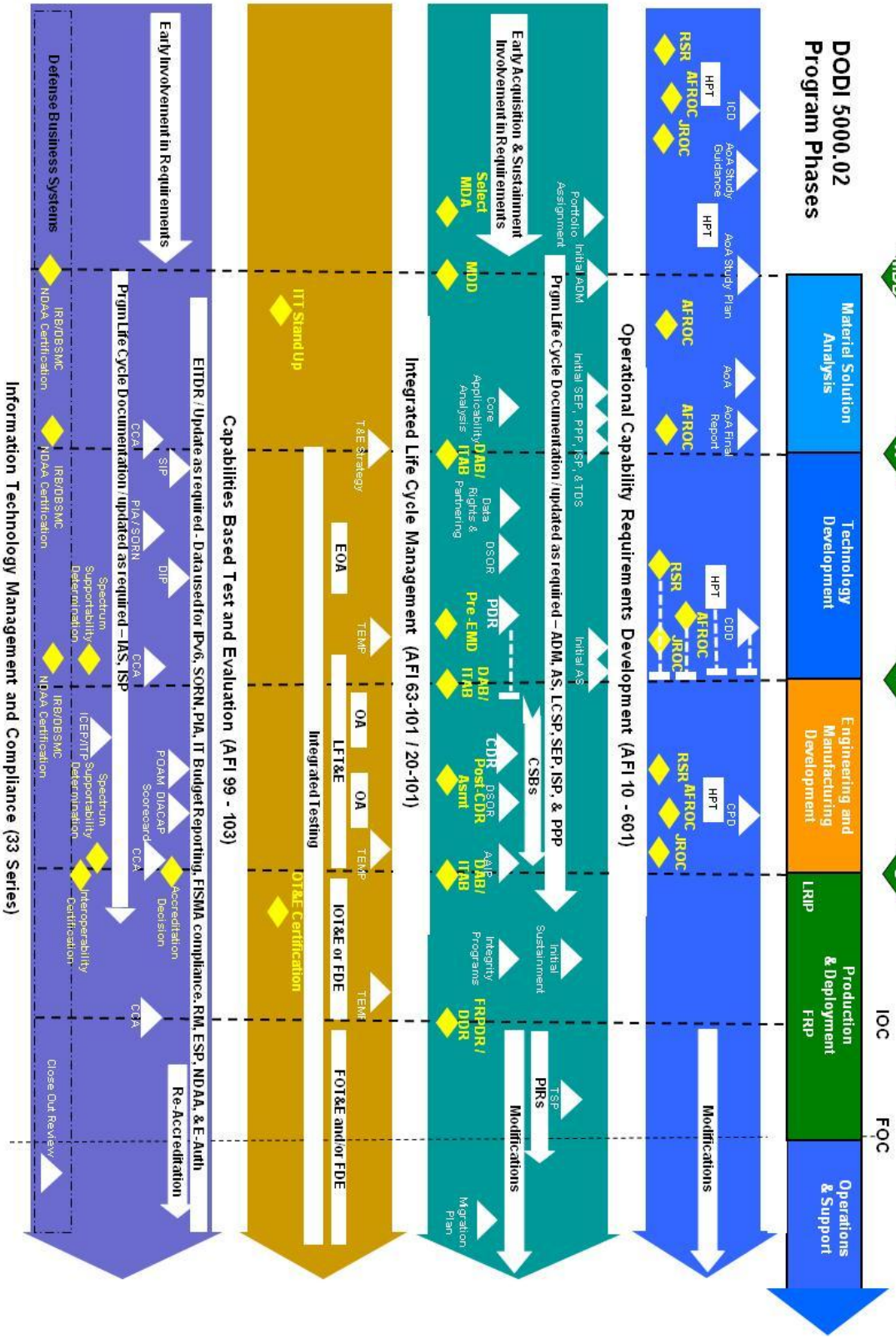
1.2.3. Science and technology activities are managed in accordance with AFPD 61-1, *Management of Science and Technology*.

1.2.4. Regardless of Acquisition Category (ACAT), where there is a clear conflict between approved courses of action and where DoD policy/guidance does not allow for tailoring of process, Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) or Assistant Secretary of the Air Force (Installations, Environment, and Logistics) (SAF/IE) shall request waivers from the appropriate DoD office. Where the course of action, as approved and documented through the programmatic chain of authority, conflicts with an AFPD, the Program Manager (PM) shall submit a request for a waiver to the certifying authority for the publication, who will obtain Secretary of the Air Force (SECAF) approval for the waiver if warranted. Where the course of action, as approved and documented through the programmatic chain of authority, conflicts with Air Force Departmental directive issuances other than AFPDs, the

PM shall submit a notification via memorandum to the publication Office of Primary Responsibility (OPR) for action. The OPR shall take appropriate action to either provide direction to comply with policy, obtain a waiver to requirements, or to initiate changes to publications as appropriate to resolve the conflict in accordance with (IAW) AFI 33-360, *Publications and Forms Management*. Resolution of conflicts between Air Force issuances shall be resolved by the appropriate Headquarters Air Force (HAF) functional.

1.3. Integrated Life Cycle Framework. Figure 1.1 details the multi-functional collaborative effort among the requirements, acquisition and sustainment, test, information operations, and intelligence communities necessary for system life cycle management required for acquisition of a system. Details on key acquisition and sustainment activities outlined in the framework can be found in the body of this document and other supporting documentation. For more information regarding requirements and test and evaluation reference AFI 10-601 and AFI 99-103. For more information regarding information technology management and compliance refer to the applicable 33-series documents describing IT acquisition and Chief Information Officer (CIO) compliance requirements.

Figure 1.1. Integrated Life Cycle Framework (Acronyms in Atch 1).



1.4. Integrated Life Cycle Management Chain of Authority. All Air Force (AF) programs shall have a clear and unambiguous chain of authority. The management structure shall be streamlined and characterized by short, clearly defined lines of responsibility, authority, and accountability. Air Force acquisition management responsibility for all ACAT programs flows from the Service Acquisition Executive (SAE) to the Program Executive Officer (PEO) to the accountable PM. In no case shall there be more than two levels of review between the PM and the MDA in accordance with DoDD 5000.01, DoDI 5000.02, and AFPD 63-1/20-1. Organizational leaders that are between or support the accountable PM and the MDA and/or PEO need to stay informed, shall not hinder direct and open access, and shall not exercise decision-making authority on programmatic matters.

1.4.1. Program Execution Chain. The programmatic execution chain (acquisition chain of authority) shall be documented in the AS and in appropriate program strategy documents. Examples of representative lines of authority can be found in AFPAM 63-128. All programs shall establish clear lines of program execution authority with documentation based on the guidance below.

1.4.1.1. Milestone Decision Authority (MDA). The MDA, as defined in DoDI 5000.01, is the designated individual with overall responsibility for a program. The MDA shall have the authority to approve entry of a program into the next phase of the life cycle process, shall certify milestone (MS) criteria, and shall be accountable for cost, schedule, and performance reporting to higher authority, including Congressional reporting. MDA authority and delegation is defined in Table 1.1. For Acquisition of Services, decision authority delegations are in AFI 63-138, *Acquisition of Services* (when published).

1.4.1.1.1. Defense Acquisition Executive (DAE). The DAE shall act as the MDA in accordance with the guidelines specified in DoDI 5000.02.

1.4.1.1.2. Service Acquisition Executive (SAE). The SAE shall have overall authority and responsibility for the management of AF acquisition programs. MDA responsibilities are performed by the following:

1.4.1.1.2.1. MDA responsibilities for ACAT IC, ACAT IAC, ACAT II, or special interest programs are conducted by the SAE. MDA responsibilities for ACAT II programs may be delegated to a PEO.

1.4.1.1.2.2. MDA responsibilities for ACAT III programs are delegated to a PEO. PEOs may delegate ACAT III MDA responsibilities to an appropriately qualified Deputy PEO. Unless waived or specifically directed by the SAE, delegated MDAs shall comply with the PEO position requirements, and execute the same authorities and responsibilities of a MDA. PEOs shall notify the AFMC/CC or AFSPC/CC and the SAE of all such delegations. The SAE shall have the authority to rescind such delegations. No further delegation is allowed.

Table 1.1. Milestone Decision Authority (MDA) Delegation.

ACAT	Designation Authority	MDA
ID	DAE	DAE
IC	DAE	SAE
IAM	DAE	DAE
IAC	DAE	SAE
II	SAE	SAE or PEO (as delegated)
III	SAE	PEO or Deputy PEO (as delegated)

Notes: Refer to DoDI 5000.02 *Operation of the Defense Acquisition System* for ACAT descriptions.

Legend:

ACAT – Acquisition Category

DAE – Defense Acquisition Executive

SAE – Service Acquisition Executive

PEO – Program Executive Officer

1.4.1.2. Program Executive Officer (PEO). The PEO is responsible for the management of assigned portfolio and shall ensure collaboration across the ILCM framework. The PEO is responsible for, and has authority to accomplish assigned portfolio/program objectives for development, production, sustainment, and disposal to meet warfighters' operational needs.

1.4.1.2.1. The PEO shall provide dedicated executive program management of delegated programs.

1.4.1.2.2. The PEO shall not have other command responsibilities unless waived by the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)). The PEO may be dual-hatted as a center commander when the provisions

of DoDI 5000.02 are waived by USD (AT&L), however, the primary responsibility of a dual-hatted center commander shall remain PEO program execution management.

1.4.1.2.3. All personnel assigned as a PEO shall meet the Key Leadership Position (KLP) qualifications and tenure requirements identified in this instruction and AFI 36-1301, *Management of Acquisition Key Leadership Positions (KLPs).*

1.4.1.3. Program Manager (PM). The PM, as defined in DoDD 5000.01, is the designated individual with the responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs.

1.4.1.3.1. All ACAT programs, weapons systems designated by AFPD 10-9, and weapons, automated information, and business systems in the O&S phase shall be assigned only one PM. The PM shall be clearly identified and documented in the System Metrics and Reporting Tool (SMART) and program documentation.

1.4.1.3.2. The PM shall be accountable for credible cost, schedule, and performance reporting and analysis to the MDA, and have responsibility and authority to accomplish objectives for the total life cycle of the program.

1.4.1.4. Functional Program Support. The PM leads the program organization in executing the mission. Functional representatives within the program, irrespective of location or whether supporting the program on a full-time or part-time basis, shall take program direction from the PM for program related activities. When applicable, the PM shall include the following positions when documenting the execution chain of authority. Other functional positions may be included at the PM's discretion.

1.4.1.4.1. Lead Systems Engineer (LSE). The Air Force commonly refers to the LSE as the Director of Engineering or the Chief Engineer. The LSE is the PEO's or PM's designated technical authority in the disciplined execution of the SE process, including development of Systems Engineering Plans (SEP).

1.4.1.4.1.1. The PEO's LSE takes program direction from the PEO and has the responsibilities as defined in DoDI 5000.02. **NOTE:** DoDI 5000.02 refers to this as lead or chief systems engineer.

1.4.1.4.1.2. The PM's LSE shall take program direction from the PM and is accountable to the PM for execution of program's SE effort. The PM's LSE must also work with the Product Support Manager (PSM) to ensure that sustainment and product support are integral parts of SE. The PM's LSE shall be assigned simultaneously with the PM.

1.4.1.4.2. Product Support Manager (PSM). A PSM shall be assigned to all ACAT I, ACAT II programs and AFPD 10-9 Weapon Systems. For ACAT I and II programs in the O&S phase and all ACAT III programs, the PM and PSM may be dual-hatted if approved by Air Force Materiel Command (AFMC) or Air Force Space Command (AFSPC) and the PEO. For Joint Major Defense Acquisition Programs (MDAPs) where the PSM is not an AF position, an AF Service PSM position shall be established to support the MDAP PSM. The Service PSM shall report directly to the

AF organization assigned responsibility for supporting the Joint Program Office. The PSM shall be assigned simultaneously with the PM.

1.4.1.4.3. Chief Developmental Tester (CDT)/Test Manager (TM). All MDAP and Major Automated Information Systems (MAIS) programs are required to have a CDT according to 10 U.S.C. § 139b. All other ACAT programs shall identify a TM. The TM does not need to meet the more stringent workforce qualifications of the CDT.

1.4.1.4.4. Other Functional Program Support. Other functional program support consists of resources performing program execution activities in support of a PM. This includes, but is not limited to, financial management, cost analysis, contracting, legal review, intelligence, counterintelligence, program integration, information assurance, safety, small business, security, and project management.

1.4.2. Staff Organizations. Staffs at all levels exist to advise ILCM leadership/management and assist them with their responsibilities. Councils, committees, advisory groups, panels, and staffs provide advice and recommendations to the PM, PEO, MDA, SAE and/or DAE who are accountable for the overall program results. While the PM is responsible for and has the authority to execute a program, staff organizations supporting the PM shall provide trained personnel and advice to the PM to maximize the PM's opportunity to successfully execute the program. These staff elements shall provide objective inputs to the program decision process but will not exercise decision-making authority on programmatic matters except as otherwise documented in statute or regulation.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Purpose. This chapter defines the roles and responsibilities for positions responsible for integrated life cycle management of Air Force weapons and information systems. This chapter is not meant to be all inclusive; additional complementary functional and organizational roles and the details to execute the roles and responsibilities may be found throughout this document, in AFPD 63-1/20-1, AFI 99-103, AFI 10-601, AFI 63-138 (when published), applicable 33-series documents, and other publications referenced in Attachment 1. Responsibilities of headquarters staff are located in Mission Directives (MD); the responsibilities of Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) staff are included in MD 1-10, *Assistant Secretary of the Air Force (Acquisition).*

2.2. Service Acquisition Executive (SAE) will: Component Acquisition Executives (also called Service Acquisition Executives (SAEs) and referred to in this document as the SAE) are Secretaries of the Military Departments with the power of redelegation. In the Air Force, the official delegated as the SAE is SAF/AQ. The SAE is responsible for all acquisition functions within the Air Force.

2.2.1. Execute SAE responsibilities outlined in DoD guidance for execution of AF acquisitions. The SAE is responsible for the integrated life cycle management of systems and services programs from entry into the defense acquisition management system to system retirement and disposal. This includes research, development, test, evaluation, production, and delivery of new systems, or modifications and support of existing systems. For ACAT ID or IAM programs, management responsibility flows directly, without intervention, from the MDA to the SAE to the PEO to the PM. For all other programs, management responsibility flows directly, without intervention, from the MDA to the PEO to the PM.

2.2.2. Exercise Acquisition of Services roles as identified in this document and AFI 63-138 (when published).

2.2.3. Support Title 10 USC §2464 (Core) and Title 10 USC §2466 (50/50) AF enterprise assessments and planning. Ensure implementation across acquisition programs for compliance with Core and 50/50 requirements.

2.3. Senior Procurement Executive (SPE) will: Provide management direction of the acquisition system of the executive agency, including implementation of the unique acquisition policies, regulations, and standards of the executive agency. **NOTE:** The SPE for the Air Force is SAF/AQ.

2.4. Program Executive Officer (PEO) will:

2.4.1. Be responsible for total life cycle management of the assigned portfolio including assigned ACAT programs and ensure collaboration across the ILCM framework. The PEO is responsible for, and has authority to accomplish, portfolio/program objectives for development, production, sustainment, and disposal to meet warfighters' operational needs. The PEO will lead the portfolio based on solid business strategies, ensure all assigned programs are reporting and listed in accordance with this guidance, and work with the Lead

Command and Capability Director (CD) to secure necessary funding in time to meet portfolio/program objectives.

2.4.2. Execute portfolio oversight of the assigned portfolio of programs by continuously assessing portfolio health. Assessments include ensuring alignment to the portfolio by identifying solutions that support the business need and optimizing programs by identifying gaps and redundancies within the portfolio. For programs with significant programmatic issues, the program shall be reviewed for restructure or termination.

2.4.3. Maintain insight; interact with other PEOs, to include other Services and equivalent functions in other executive branch departments, with program content within the same contractor/ business segment portfolio; identify shared concerns, opportunities for leverage, develop an informed position of contractor performance within the portfolio at the department, Service, PEO, and program level. Maintain knowledge of prime and major subcontractor effort within the portfolio.

2.4.4. Execute program oversight of assigned programs by acting as MDA for delegated programs, collaborating with Lead Commands on technical feasibility and alignment with overall AF priorities, ensuring and documenting appropriate trade-offs early in the life cycle to achieve affordability targets, monitoring and managing requirements baseline, and continuously assessing program against portfolio strategies for requirements, cost, performance, supportability, and schedule adjustments that could result in benefits to the warfighter, program, and portfolio.

2.4.5. Execute portfolio in the most effective manner by eliminating unnecessary functions and management layers, concentrating on core functions performed at appropriate levels, and consolidating related functions.

2.4.6. Notify HQ AFMC and/or HQ AFSPC of new missions and changes to include proposed program realignments. Work with HQ AFMC and/or HQ AFSPC to identify requirements for program facilities, personnel, and resources and validate infrastructure investment requirements identified by PMs. This notification will occur at Initial Capabilities Document (ICD) and/or Capability Development Document (CDD) initiation, Materiel Development Decision (MDD), initial Acquisition Decision Memorandum (ADM), or completion of Materiel Solution Analysis but not later than program initiation. Notification should occur with enough lead time to ensure HQ AFMC or HQ AFSPC can assess, define, and program for resources to support life cycle planning.

2.5. Milestone Decision Authority (MDA) will:

2.5.1. Maintain overall responsibility for a program.

2.5.2. Approve tailoring of program strategies, life cycle phases, and documentation of program information as proposed by the PM. Tailor oversight, documentation, timing and scope of decision reviews and decision levels to fit particular program conditions consistent with applicable laws and regulations.

2.5.3. Be accountable for cost, schedule, risk, and performance reporting to higher authority, including Congressional reporting.

2.5.4. Ensure that when a program enters the acquisition management system at a point other than pre-MS A all phase-specific criteria relating to a skipped MS are reviewed for

applicability and completed as determined appropriate by the MDA consistent with statutory/regulatory requirements.

2.5.5. Comply with all program MS certification requirements as prescribed by statute or DoD policy.

2.5.6. Conduct program oversight to assess the adequacy of all life cycle execution strategies, planning, and documents.

2.6. Program Manager (PM) will:

2.6.1. Be accountable for assigned programs through the ILCM governance chain of authority on all matters of program cost, schedule, risk, and performance.

2.6.2. Be responsible for program execution and deliver systems that meet documented user requirements while seeking to minimize costs and improve readiness throughout the life cycle.

2.6.3. Ensure assigned programs comply with all applicable statutes, executive orders, DoD issuances, AF publications, FAR, Defense Federal Acquisition Regulation Supplement (DFARS), Air Force Federal Acquisition Regulation Supplement (AFFARS), and the requirements in this publication.

2.6.4. Develop appropriate programmatic documentation as required by this and other applicable instructions. Ensure the programmatic documentation is coordinated with all applicable stakeholders. Maintain programmatic documentation throughout the life cycle of the system in accordance with this and other instructions.

2.6.5. Develop tailored and executable program strategies and documentation, appropriate for the program risk, for approval by the MDA.

2.6.6. Propose waivers and deviations as needed to streamline and execute the assigned program.

2.6.7. Assure the OSS&E of their systems and end items across the life cycle.

2.6.8. Assure that relevant engineering information and recommendations, including underlying assumptions and uncertainties, are made available to senior leaders in the program execution chain IAW DoDI 3200.20, *Scientific and Engineering Integrity*.

2.7. Product Support Manager (PSM) will:

2.7.1. Take program direction from the PM and be accountable for all product support matters regarding program cost, schedule, performance and supportability. The PSM is the point of contact for overall product support throughout the system life cycle.

2.7.2. Develop and implement a comprehensive, performance based product support strategy that addresses the total life cycle support for the system and is captured in program documentation.

2.7.3. Ensure the program's product support strategy identifies and supports interrelationships and integration with programs and processes both inside and outside the program's current PEO portfolio. Additionally, ensure the program's product support strategy aligns to Air Force enterprise priorities.

2.7.4. Analyze maintenance data, mishap data, and Environment, Safety, and Occupational Health (ESOH) risk data to evaluate operation and maintenance performance Analysis shall inform updates to the overall product support strategy.

2.8. Lead System Engineer (LSE) will:

2.8.1. Take program direction from the PM and be accountable to the PM for all engineering matters. The LSE is the point of contact for overall systems engineering throughout the system life cycle.

2.8.2. Develop and implement a comprehensive systems engineering strategy that addresses the total life cycle of the system and is captured in program documentation.

2.9. Chief Development Tester (CDT)/Test Manager (TM) will:

2.9.1. Take program direction from the PM and coordinate the planning, management, and oversight of Test and Evaluation (T&E) activities for the program.

2.9.2. Maintain oversight of program contractor T&E activities and the T&E activities of test organizations supporting the program.

2.9.3. Advise the PM to support technically informed, objective judgments about developmental T&E results under the program.

2.10. Implementing Commands (AF Materiel Command (AFMC) and AF Space Command (AFSPC)) will:

2.10.1. Provide the SAE, PEOs, and PMs technical assistance, infrastructure, test capabilities, laboratory support, professional education, training and development, management tools, and all other aspects of support.

2.10.2. Provide the Chief of Staff of the Air Force (CSAF), SAE, PEO, and MAJCOM/CCs support for requirements formulation and phasing, continuous capability and technology planning, and development of acquisition and product support strategies.

2.10.3. Support the SAE, PEO, and/or the MDA by reviewing and coordinating on program documentation, as required by this AFI and other publications.

2.10.4. Establish processes to ensure personnel and resources are in place, infrastructure is provided, and programmatic support is available in sufficient time to support life cycle planning, but not later than program initiation.

2.10.5. Provide expertise to the SAE, PEOs, and PMs by supporting program reviews, independent review teams, and logistics assistance teams.

2.10.6. Support all domestic, international, and security cooperation (including Foreign Military Sales (FMS)) programs in which the AF participates in accordance with the signed agreement.

2.10.7. Implement Acquisition Professional Development Program (APDP) according to this policy.

2.10.8. Ensure timely, complete, sufficient, and accurate intelligence analysis, information, and support is provided to and integrated within the acquisition process. Ensure the identification and documentation of derived intelligence requirements for intelligence

products and services, and assessment of intelligence-related risk during all phases of the life cycle as appropriate. Integrate intelligence supportability analysis into life cycle planning, programming, and technical life cycle documentation.

2.10.9. Develop processes, procedures, and automated systems to facilitate the AF-wide implementation and effective execution of ILCM critical processes.

2.10.10. Ensure implementation across programs for compliance with AF enterprise Core and 50/50 requirements identified to meet 10 USC §2464 (Core) and 10 USC §2466 (50/50). Develop processes and procedures for accurate collection and reporting of 50/50 and Core data. Maintain depot maintenance 50/50 workload mix database and analysis products.

2.10.11. In collaboration with lead MAJCOMs and PMs, collect, validate, and maintain current requirements and funding data by system for all elements of depot activation and report data to HAF upon request. Establish a central depository for depot activation requirements data, to include associated rationale and/or impacts.

2.10.12. Function as the single point of entry for receiving, evaluating, and responding to all requests in support of pre-MDD development planning (DP) efforts for which there is no established program. Provide pre-MDD governance to ensure effective management, prioritization, and execution of AF DP activities and resources. Conduct DP activities to address Operational Command capability development needs and in accordance with the Service Core Function Master Plans.

2.10.13. Support the SAE by recommending alignment of programs to PEO portfolios.

2.10.14. Ensure PSM assignment per statue and regulation.

2.10.15. Appoint and charter Product Group Managers (PGMs) when enterprise management of material used to support multiple weapon systems is desired to improve interoperability and decrease costs through commonality.

2.10.16. Nominate a MAJCOM Competition and Commercial Advocate and Alternate (reference AFFARS MP5306.502).

2.11. Operational Commands and Field Operating Agencies (FOA) will: Operational commands (e.g., Air Combat Command, Air Mobility Command, AF Special Operations Command, Air Education and Training Command, Air Force Global Strike Command, and AFSPC) and FOAs.

2.11.1. Develop and document capability based requirements and accomplish analysis to ensure needs of capability users are met. Advocate needs through the Joint Capability Integration and Development System (JCIDS) or Business Capability Lifecycle (BCL) process.

2.11.1.1. Collaborate with implementing commands to integrate long-term studies, future concepts, and existing and planned systems into AF and DoD investment strategies.

2.11.1.2. Submit requests to AFMC or AFSPC for materiel resources in support of development planning to meet operational capability needs for prioritization of resources and to ensure visibility of all stakeholder interests.

2.11.1.3. Coordinate with the PM on capability/cost trade opportunities.

2.11.2. Plan and advocate for programming and budgeting for the life cycle of the systems.

2.11.3. For actions relating to the basing of the system, identify planned National Environmental Policy Act (NEPA)/Executive Order (EO) 12114, *Environmental Effects Abroad of Major Federal Actions* analysis requirements and provide the PM and other organizations with NEPA responsibilities with the schedule for completing planned NEPA/EO 12114 analyses.

2.11.4. Generate use, cost and maintenance data to support sustainment metric reporting.

2.11.5. Nominate a MAJCOM Competition and Commercial Advocate and Alternate (reference AFFARS MP5306.502).

2.11.6. Establish policy to assure the preservation of baselined characteristics to a system or end-item. Ensure that any configuration modification or maintenance procedure change is approved by the PM, and that any new operational change or degradation of baselined characteristics to a system or end-item is coordinated with and assessed by the PM.

Chapter 3

INTEGRATED LIFE CYCLE PROCESSES

3.1. Life Cycle Management Execution. The PM must assess and balance multiple processes from this guidance and other DoD and HAF issuances. The PM shall ensure that DoD Directives and Issuances take precedence over AF unique direction.

3.1.1. All life cycle execution activities including assessments, processes, procedures, or direction which require resources and are not required by statutes, executive orders, DoD issuances, AF directive issuances, or previously approved through the programmatic chain of command, must add value to the mission. If the PM analysis indicates an activity does not add value, the PM can require the proponent to justify the activity and identify the resources (e.g., materiel, personnel, skills, training, and funding) for execution. The proponent may appeal a PM determination through the programmatic chain up to the MDA. The burden of proof lies with the proponent.

3.2. Tailoring. Tailoring provides the ability to integrate, consolidate, incorporate, and streamline strategies, oversight, reviews, decision levels, documentation, and information. The purpose is to streamline the acquisition program to the maximum extent possible, consistent with risk, in order to deliver a capability most efficiently and effectively. MDAs shall promote maximum flexibility in tailoring programs under their oversight to fit particular conditions of that program, consistent with applicable laws and regulations and the time sensitivity of the capability need. The MDA shall ensure that programs are tailored to 1) provide the needed capability to the warfighter in the shortest practical time, 2) balance risk, 3) ensure affordability and supportability, and 4) provide adequate information for decision making. Reference AFPAM 63-128 for more information on tailoring.

3.2.1. Tailoring shall be documented, including the supporting rationale and citation to the applicable statute or regulation. The PM shall identify the tailoring strategy in the Acquisition Strategy (AS) and/or Acquisition Decision Memorandum (ADM) for the MDA's approval.

3.2.2. MDAs and PMs shall tailor within the scope of the applicable statute or regulation. MDAs shall have tailoring authority over all programmatic execution requirements except where stated in statute or regulation.

3.2.3. MDAs shall not waive requirements when the waiver authority resides outside MDA authority. Waiver authority, other than those explicitly defined, belongs to the publication or requirement owner. A waiver is an expressed or written statement to relinquish or provide exceptions to specific statutory or regulatory requirement.

3.3. Capability Based Requirements Development. The operational community is responsible for developing capability based requirements as defined in CJCSI 3170.01, *Joint Capabilities Integration and Development System*, the JCIDS Manual, and AFI 10-601. For Defense Business Systems (DBS), per BCL guidance, an Investment Review Board (IRB) approved Problem Statement is used in lieu of JCIDs documentation.

3.3.1. For ACAT I, ACAT IA, and non-delegated ACAT II programs, the SAE and AFMC/CC or AFSPC/CC shall certify Information System (IS) ICDs and CDDs to the

SECAF concurrent to document presentation to the Air Force Requirements Oversight Council (AFROC). The certification shall certify:

3.3.1.1. The IS ICDs or CDD requirements can be clearly and unambiguously translated for evaluation in a source selection.

3.3.1.2. The CDD capabilities are prioritized (if appropriate) and organized into feasible increments of capability. Feasible is defined as the requirements are technically achievable and executable within the estimated schedule and budgeted life cycle cost.

3.3.2. For delegated ACAT II programs and below, AFMC/CC or AFSPC/CC shall attest that the capability requirements as described in all Capability Production Documents (CPDs) and delegated ACAT II and below CDDs are feasible. Attestation will be completed concurrent with document presentation to the AFROC.

3.4. Development Planning (DP). The materiel contribution to AF capability planning that provides the foundation for informed investment decisions on the fundamental path of potential materiel solutions to effectively and affordably meet operational needs. DP is conducted by the acquisition community in support of the operational community when performing capability based planning and requirements development. Activities include requirements analysis; concept development; trade space evaluation; system-of-systems assessments; wargaming assessment; cost estimating; identification of technology maturity, risk drivers, needs, and opportunities; product support; intelligence support; and acquisition life cycle planning. AFI 10-601 provides additional information.

3.5. Milestone Decision Authority (MDA) Certifications. The MDA shall comply with all program MS certification requirements as prescribed by statute or DoD policy including:

3.5.1. MS A Certification. The MDA for an MDAP, without the authority to delegate, shall assess the program and sign a certification memorandum prior to MS A approval. The certification will be completed via a memorandum for record and will include the statements in 10 USC §2366a.

3.5.2. MS B Certification. The MDA for an MDAP, without the authority to delegate, shall assess the program business case and sign a certification memorandum prior to MS B approval. The certification memorandum shall include the statements in 10 U.S.C. §2366b. If the program is initiated later than MS B a similar certification memorandum shall be prepared. The certification shall be submitted to the congressional defense committees with the first Selected Acquisition Report submitted after completion of the certification.

3.6. Air Force Review Boards (AFRB) and Acquisition Strategy Panels (ASP). AF Review Boards/Acquisition Strategy Panels are integral to a deliberative process that supports AF leadership in making MS decisions or conducting major decision reviews.

3.6.1. Air Force Review Boards (AFRB).

3.6.1.1. AFRBs are forums chaired by the SAE, or as delegated, for conducting major decision reviews (in- or out-of-cycle). AFRBs are not conducted for services.

3.6.1.2. For ACAT ID and ACAT IAMs, AFRBs are used to develop the AF corporate consensus prior to an Office Secretary Defense (OSD) Defense Acquisition Board (DAB) (pre-DAB within AF) or Information Technology Acquisition Board (ITAB). The AFRB

should be conducted prior to OSD Integrating Integrated Product Team. The SAE, or as delegated, determines if an ACAT ID or ACAT IAM program requires an AFRB.

3.6.1.3. The AFRB process is required for all ACAT IC, ACAT IAC, non-delegated ACAT II programs, and special interest programs. The PEO may recommend what type of AFRB is necessary: full, mini (tailored attendance), or paper. A template and more information can be found at the Acquisition functional page on the AF Portal in the Acquisition Excellence and Change Office section.

3.6.1.4. PEOs shall execute a tailored review process for major decisions for delegated ACAT II and ACAT III programs.

3.6.2. Acquisition Strategy Panel (ASP).

3.6.2.1. The Acquisition Strategy Panel supports the MDA. ASPs are forums that evaluate proposed acquisition strategies to ensure all key viable alternatives have been considered and that the best recommendation is provided to the program's MDA for approval. Unless delegated in writing, the MDA is the ASP Chair, and is the sole authority to approve members of the panel. MDA delegations shall be done in accordance with the AFFARS.

3.6.2.2. ASPs shall be held for all ACAT programs that are presenting a new strategy or a significant revision to an approved strategy. The Acquisition Strategy still requires approval by the MDA.

3.6.2.3. Information concerning ASPs, such as the current draft template for briefings, can be found at the Acquisition functional page on the AF Portal in the Acquisition Excellence and Change Office section. Additionally, similar information pertaining to non-SAE chaired ASPs can be found by contacting the Field Acquisition Centers of Excellence.

3.7. Coordination of Requirements Document Used in Conjunction with Request for Proposals (RFP). All acquisition programs will coordinate the requirements document used in conjunction with a RFP with the requiring Lead Command prior to the release of the final RFP. The level of coordination will be based on the program's ACAT as follows: (**NOTE**: Lead Command Commander may delegate Lead Command coordination no lower than one level below designated level):

3.7.1. ACAT I, IA – PEO to Lead Command Commander

3.7.2. ACAT II – PEO to Lead Command Vice Commander

3.7.3. ACAT III – PM to Lead Command Director of Requirements

3.7.4. In addition to providing the Lead Command the requirements document for coordination, the PM shall provide any supporting documentation needed to aid in understanding the requirements traceability from the approved capability requirements document to the RFP.

3.7.5. If the requirements document used in conjunction with the final RFP has previously been coordinated with the requiring Lead Command at the appropriate level, there is no need to re-accomplish coordination.

3.7.6. A Systems Requirements Document (SRD) shall be used whenever warfighter/user capabilities and/or requirements must be translated into acquisition requirements for a new contract in support of a system/sub-system specification. For existing contracts, the guidance in MIL-HDBK-520 should be used whenever warfighter/user capabilities and/or requirements must be translated into acquisition requirements. For additional information on preparation of an SRD refer to MIL-HDBK-520, *Systems Requirements Document Guidance*. Guidance instructions in MIL-HDBK-520 are tailorable as required.

3.8. Request for Reclassification of Acquisition Programs Categorization. For reclassification of an ACAT I or IA program to a lower ACAT, the SAE must submit requests to USD(AT&L). The request shall identify the reasons for the reduction in ACAT level. The PM shall notify the PEO and the SAE when it is necessary to raise the ACAT category from an ACAT III or ACAT II to a higher level ACAT category. This notification shall be made immediately upon determining that the program meets the requirements of the higher category as defined in DoDI 5000.02. If the program qualifies as an ACAT I program, the program is assumed to be an ACAT ID or IAM until the SAE requests and the USD(AT&L) agrees to categorize the program as an ACAT IC or ACAT IAC. USD(AT&L) has the authority to reclassify an acquisition program as an ACAT ID or IAM at any time.

3.9. Air Force Acquisition Master List (AML).

3.9.1. Acquisition Master List (AML). The AML is the AF master list of all programs as defined in DoDI 5000.02 regardless of the acquisition phase. The efforts meeting the following requirements shall be included on the AML:

3.9.1.1. ACAT I, ACAT IA, ACAT II, and ACAT III programs responding to a Joint Requirements Oversight Council (JROC), AFROC, Investment Review Board (IRB), Air Force Form 1067, *Modification Proposal* approved requirement, or top down directed activity as identified in AFI 10-601.

3.9.1.2. Joint programs led by the AF or another DOD Component or Government Agency with AF participation.

3.9.1.3. Potential materiel solutions that may result in an ACAT program in response to a validated requirement or requirement in the process of being validated that has investment funding in the AF budget.

3.9.1.4. Any effort or program designated as “Special Interest” by the DAE, SAE, or an effort requested by SAF/AQ.

3.9.1.5. Programs with acknowledged SAP elements shall include the non-SAP components of the program on the AML.

3.9.2. Each system development, upgrade, or modification with a separate acquisition program baseline that meets the AML criteria shall be listed separately on the AML; however, activities that share an acquisition program baseline or recurring activities (e.g. Low Cost Modifications, Service Bulletins) may be combined into a single effort on the AML.

3.9.3. Inclusion on the AML does not constitute program new start approval and does not constitute authority to commit, obligate, or expend funds.

3.9.4. AML Removal. Removal from the AML may occur upon disposal, termination, program completion, or as directed by SAF/AQ. Modification programs may be removed upon program completion and incorporation into the system baseline.

3.9.5. AML Exemptions.

3.9.5.1. Acquisition special access programs and technology efforts managed in accordance with DODD 5205.07, *Special Access Program (SAP) Policy*, AFPD 16-7, *Special Access Programs*, and AFI 16-701, *Special Access Programs*, are exempt from posting to the AML.

3.9.5.2. Exemptions can be granted for replenishment spares procurements, spares procurements, commodity procurements, civilian pay, developmental infrastructure sustainment, and development of enterprise architectures/certifications. SAF/AQ will review and approve each request for exemption on a case-by-case basis.

3.9.6. AML Updates, Changes, Requests, and Removal. All AML changes including additions, updates, removal, exemption requests, status updates, and questions shall be submitted to SAF/AQ via SAF/AQXR Workflow.

3.9.7. Reporting. All activities utilizing investment funding whether they are on the AML or not are required to conduct an appropriate level of reporting as defined in Chapter 10 of this AFI.

3.10. Risk-Based Program Management and Decision Making. PMs on all programs, including commercial-off-the-shelf (COTS) and non-developmental item (NDI) programs must assess and mitigate risks of all kinds as a routine part of program management and must clearly identify risk during program reviews. Active Risk Manager (ARM) is the current standard tool to manage program risks. Refer to *The Risk Management Guide for DoD Acquisition* and AFPAM 63-128 for more information.

3.10.1. Programmatic Risk. The PM shall pursue a comprehensive integrated risk analysis throughout the life cycle and shall prepare and maintain a risk management plan. Methodologies used to manage risk shall include Risk Management Plans (RMP), program risk reviews, risk-based source selection, technical risk management, safety risk management, and the *DoD Standard Practice for System Safety* prescribed in MIL STD 882.

3.10.2. Risk-based Source Selection. The source selection approach, as part of the acquisition strategy, shall be developed to reduce risk over the life cycle of the program. This includes identifying the strengths, weaknesses, domain experience, process capability, development capacity, and past performance for all developer team members with significant development responsibilities. This should inform key technical and appropriate program risks and the formulation of source selection evaluation criteria. Source selection guidance and procedures are contained in FAR Part 15, DFARS Part 215, AFFARS 5315.3 and AFFARS Mandatory Procedure 5315.3.

3.10.3. Schedule Risk Management. The PM shall have execution responsibility for schedule risk management and shall utilize appropriate tools to develop, guide, and manage associated risks. Schedule risk includes schedule slips due to manufacturing issues, contracting and subcontracting issues, testing, government rules/impediments, uncertainty in work, unrealistic schedules, natural causes, and complexity. All programs will maintain an

Integrated Master Schedule and review it frequently including analyzing a program's "critical path" in order to determine and manage potential risks associated with schedule slips.

3.10.4. Cost Risk Management. The PM shall have responsibility shall adjust program decisions based on potential cost variation and cost uncertainties. Uncertainty feeding the overall programs' costs will be identified from the risks and risk mitigation activities associated with prediction of future costs based on current knowledge of technical, schedule and market analysis. Uncertainty in the program is the risk associated with the ability of the program to achieve its life cycle cost objectives. A program's cost estimator has the responsibility for supporting the PM's integrated cost risk management efforts, utilizing methods and cost management principles outlined in AFPD 65-5, *Cost and Economics*, and AFI 65-508, *Cost Analysis Guidance and Procedures*.

3.10.5. Technical Risk Management. The PM has execution responsibility for technical risk management, and shall utilize systems engineering throughout the life cycle to manage program technical risks. Technical risk management includes risk based prototype planning and development. Technical risk management shall consider technology maturity, cyber and information assurance risks, interoperability and supportability, testing risks, and security threats to mission critical functionality and critical program information.

3.10.6. Product Support Risk Management. The PM has execution responsibility for product support risk management, and shall utilize applicable logistics assessment tools throughout the life cycle to manage program product support risks. The Acquisition Sustainment Tool Kit and Logistics Assessment (LA) are product support/logistics life cycle tools that can be used by PSMs to identify, track, and mitigate product support risks.

3.10.7. Environment, Safety and Occupational Health (ESOH) Risk Management. The PM shall use MIL-STD-882 and AFPD 90-8, *Environment, Safety & Occupational Health Management and Risk Management*, to manage ESOH risks as part of SE process in all developmental and sustaining engineering activities. The PM shall report the status of applicable ESOH requirements at program and technical reviews.

3.10.7.1. Formal ESOH Risk Acceptance. The PM shall document that the associated risks have been accepted by the following acceptance authorities: the SAE for high risks, PEO-level for serious risks, and the PM for medium and low risks prior to exposing people, equipment, or the environment to known system-related ESOH hazards. Formal risk acceptance requirements apply throughout the life of the system.

3.10.7.1.1. The user representative shall be part of the ESOH risk acceptance process throughout the life cycle and shall provide formal concurrence prior to all serious- and high-risk acceptance decisions.

3.10.7.1.2. High risk acceptance packages shall be coordinated with the user representative and Air Force Chief of Safety (AF/SE) before submission to the SAE for acceptance.

3.10.7.1.3. The PM shall ensure each high and serious risk acceptance package describes the hazard, predicted risk consequence and probability, available mitigation measures, costs or other limitations to mitigation implementation, proposed mitigation measures, target risk after implementation of proposed mitigation, the

proposed acceptance period, and an assessment of the expected losses for the period of acceptance.

3.10.7.1.4. The period of a risk acceptance should be either the remaining life of the system if no mitigations are proposed, or the period for implementation of the proposed mitigation(s) throughout the entire fleet plus sufficient time to validate the effectiveness of the implemented mitigation(s).

3.10.7.1.5. The risk assessments that support high risk acceptance packages must conform to the guidance in MIL-STD-882 and AFI 91-202, *The US Air Force Mishap Prevention Program*.

3.10.7.2. The PM shall track ESOH hazards including identified hazardous materials either imbedded in the system or used for system operations and maintenance; the PM will also provide additional information on the locations, amounts, disposal requirements, and special training requirements for the hazardous materials. PMs developing or sustaining aircraft will provide this information to the Air Force Civil Engineer Support Agency (AFCESA) responsible for including these data in Technical Order (TO) 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information (Emergency Services)*.The PM shall provide a safety release for the system prior to each developmental and operational test involving personnel. The safety release must identify the hazards involved in the test and their formal risk acceptance. This is also a part of T&E risk management.

3.10.7.3. The PM shall provide system-specific ESOH hazard and risk analyses and data to support using commands' and T&E organizations' *National Environmental Policy Act/Environmental Impact Analysis Process* (NEPA/EIAP) and E.O. 12114, *Environmental Effects Abroad of Major Federal Actions*, documentation requirements. The SAE is the final approval authority for system-related NEPA documentation.

3.10.7.4. The PM shall work with Air Force Safety Center to provide the inputs required by DoDI 6055.07, *Mishap Notification, Investigation, Reporting, and Record Keeping*, Enclosure 4, paragraph 3.b.(9) as part of mishap investigations of all Class A and B mishaps involving their systems. The PM shall provide analyses of the ESOH hazards that may have contributed to the mishap under investigation, and make recommendations for resulting materiel risk mitigations measures, especially those designed to minimize the potential for human error.

3.10.8. T&E Risk Management. The PM has execution responsibility for T&E risk management, and shall utilize both system engineering and T&E processes throughout the life cycle to manage program T&E risks. T&E risk management shall consider test resources, test schedule, certifications, and technical risks (to include the PM's safety release) from a T&E perspective. Refer to AFI 99-103 for more information on T&E processes.

3.10.9. Operational Risk Management. The PM shall assist the system testers, operators, and maintainers in the application of risk management by providing the assessment of hazards and potential mitigation measures. Refer to AFI 90-802, *Risk Management*, for more information.

3.11. Program Integration. Program integration provides the Air Force with consistent insightful and synchronized recommendations, improved data reporting and analysis, and maximized utilization of resources. Its objectives are twofold: strengthen decision-making and harmonize the information across Air Force Acquisition leadership. It is a responsibility of the PM to demonstrate and document how they integrate cost, schedule and performance information and analysis into program decisions, but successful program integration requires involvement of each functional expert within the program office to provide guidance and recommendation. Program Integration is supported by Earned Value Management (EVM), Integrated Master Plans (IMP) and Integrated Master Schedules (IMS), Performance Measurement Baseline (PMB) Analysis, Work Breakdown Structure (WBS), document and process/information control, program management reviews, and other activities.

3.12. Earned Value Management (EVM)/EVM System (EVMS). As defined by the Defense Acquisition Guidebook (DAG), EVM is a key integrating process in the management and oversight of acquisition programs including information technology programs. The qualities and operating characteristics of the EVMS are described in American National Standards Institute/Electronics Industries Alliance (ANSI/EIA) Standard–748. The Defense Contract Management Agency (DCMA) is responsible for EVMS compliance and for ensuring the integrity and application effectiveness of the contractor's EVMS.

3.12.1. EVM/EVMS applicability shall be based on the type of contract and the dollar threshold in accordance with DFARS subpart 234.2 (EVMS) and DoDI 5000.02 unless a waiver is obtained from the MDA.

3.12.1.1. Request for tailoring/waiving EVM/EVMS requirements for MDAPs shall be coordinated with SAF/AQX who will coordinate with Program Assessment Root Cause Analysis (PARCA) EVM Division.

3.12.1.2. EVM applicability with reference to authorizing documents (regulations/ policies/instructions), waivers, and business case/cost benefit analysis (if applicable) shall be included in program acquisition strategy documents and the program acquisition plan submitted to the MDA.

3.12.2. Where EVMS is required, the PM/PEO shall ensure that:

3.12.2.1. The contract will contain the DFAR clauses IAW DFARS 252.234-7001 and 252.234-7002 (EVM clauses) and DFARS clause 252.242-7005 (Contractor Business Systems).

3.12.2.2. The Work Breakdown Structure (WBS) is IAW MIL-STD-881.

3.12.2.3. The Integrated Master Plan (IMP) is IAW the latest version of the *DOD IMP/IMS Preparation and Use Guide*.

3.12.2.4. EVM reporting is IAW DODI 5000.02. Integrated Program Management Report (IPMR) and Contract Funds Status Report (CFSR), which include reconciliation between IPMR and CFSR, are required IAW latest version of the Data Item Description.

3.12.2.5. Integrated Baseline Reviews (IBRs) will be conducted as required by the DODI 5000.02 and DFARS clause 252.234-7002.

3.12.3. EVM shall integrate the cost, schedule, and technical requirements of the program and link them with the project's risk management process. The PM shall perform the following EVM analysis and reporting:

3.12.3.1. Validate compliance of IPMR (or Contract Performance Report on older contracts) and CFSR, with contractual Contract Data Requirements List (CDRL) requirements. For contracts requiring submission to the OSD EVM Central Repository (EVM-CR), acceptance/rejection of each document shall be in accordance with EVM-CR requirements.

3.12.3.2. EVM performance analysis (cost/schedule variance, indices, schedule margins, critical/near critical path, risks, Performance Measurement Baseline (PMB) integrity, etc.) to ensure continuing progress and program realism. Based on this analysis, the PM shall develop a risk based independent Estimate at Completion (EAC).

3.12.3.3. Prior month level-one EVM data along with the PM's independent EAC for each contract shall be reported in SMART for inclusion in the Monthly Acquisition Report (MAR).

3.12.4. EVM Requirements for Over Target Baselines (OTB)/Over Target Schedules (OTS).

3.12.4.1. An OTB is defined as an EVM baseline that exceeds contract value. An OTS is defined as a schedule that exceeds the contractually required delivery dates.

3.12.4.2. SAF/AQ shall be notified through the MAR of any OTB/OTS: (1) prior to implementation, and (2) upon completion.

3.12.4.3. Contractor EVM reporting may not be waived while implementing an over-target baseline, unless otherwise agreed to by SAF/AQX. At a minimum, Actual Cost Work Performed (ACWP) shall be reported in Format 1 during the hiatus.

3.12.4.4. Programs implementing an OTB/OTS will conduct a subsequent Integrated Baseline Review (IBR) on the revised baseline if not conducted during the OTB/OTS.

3.12.5. Single Point Adjustment (SPA). SPA refers to eliminating cumulative performance variances (setting cost and/or schedule variances to zero). SPAs shall not be performed solely to improve contract performance metrics. Therefore a SPA by setting cost variances to zero will not be permitted without the execution of an OTB formal reprogramming action or PEO authorization with coordination by SAF/AQX.

3.13. Integrated Master Plans (IMP) and Integrated Master Schedules (IMS). The PM shall develop and maintain the Integrated Master Plan (IMP) and Integrated Master Schedule (IMS). Both IMP and IMS integrate all program activities to include disposal and schedules into a single sight picture. This includes integrated master schedules from all contractors, as well as government activities to include test plans and depot activation. Refer to the DAG and the *DOD IMP/IMS Preparation and Use Guide* for additional information.

3.14. Performance Measurement Baseline (PMB) Analysis. The PM shall perform cost, schedule, and risk analysis of the contractors' PMB to assure continuing progress and program realism. The PMB should contain sufficient detail, account for all scope, and reflect accurate schedules. The PMB must be reviewed to assess implementation of the contractor's earned value system via the Integrated Baseline Review (IBR) process. The IBR is a continuous, iterative process throughout the life of the effort to ensure continued realism of the integrated

PMB. Disciplined and comprehensive reviews of the IMP, IMS, and PMB are essential to avoid surprises and miscommunication.

3.15. Program Work Breakdown Structure (WBS). The PM shall develop a Program Work Breakdown Structure (WBS) (detailed guidance on the work breakdown structures for defense materiel items is located in MIL-STD-881).

3.16. Selection of Contractors for Subsystems and Components. PMs shall determine the approach to establish and maintain access to competitive suppliers for critical areas at the system, subsystem, and component level and document in appropriate program documentation.

3.17. Procurement Fraud. The PM shall immediately notify the Air Force Office of Special Investigations, Deputy General Counsel for Contractor Responsibility (SAF/GCR), and the AFLOA Fraud Branch of any actual or suspected procurement fraud. Reference AFI 51-1101, *The Air Force Procurement Fraud Remedies Program* for more information.

3.18. Program Funding. Authority is delegated to SAF/AQX, to direct the implementation of programs in the Research, Development, Test and Evaluation; Aircraft; Missile; Ammunition; and Other Procurement appropriations. SAF/AQX direction is provided through Program Authorization (PA) documents which request formal allocation of resources to modernization programs and subprograms.

3.18.1. Programs will submit requests for PA adjustments (via the associated AQ Capability Directorate) when authorizations are inconsistent with program requirements, or when necessary to meet critical requirements. SAF/AQX authorizes, via issuance of PA documents, execution-year adjustments to program funding, to include release/withdrawal of funds, and subprogram level funding realignments.

3.18.2. SAF/AQX will coordinate on all investment New Start actions, Below Threshold Reprogramming (BTR), and Above Threshold Reprogramming (ATR) actions, prior to submittal to the Assistant Secretary of the Air Force (Financial Management) (SAF/FM) and Assistant Secretary of the Air Force (Legislative Liaison) (SAF/LL).

3.19. New Start Notification. A New Start is any program, subprogram, modification, project, or subproject not previously justified to and funded by Congress in a given appropriation through the normal budget process. When a determination has been made that the efforts undertaken meet the New Start criteria, Congress must be notified via either a Letter of Notification or DD1415-1 (Prior Approval Reprogramming Action). The methods of notification to be used are delineated in AFI 65-601, *Budget Guidance and Procedures*, Volume I and DoD 7000.14-R, *Department of Defense Financial Management Regulation (FMR)*, Volume III Chapter 6. Additional guidance on new start business rules can be provided by SAF/FMBI.

3.19.1. New Start Validation Responsibilities. The PM, along with the respective Program Office Chief Financial Officer, is required to document and validate that efforts underway have obtained approval for new start or have been adequately assessed and determined not to meet the new start criteria before any funds are obligated for programs not categorized as "commodity" programs. Pre-contract cost agreements are subject to new start criteria and require completion of the validation form. RFPs, proposal evaluations, and contract negotiations are part of normal Program Office activities and therefore, do not represent new start activities.

3.19.1.1. Refer to AFI 65-601, *Budget Guidance and Procedures*, Volume I and *DoD Financial Management Regulation (FMR)* Volume III Chapter 6 for additional guidance on the key points delineated in the Validation Form in AFPAM 63-128. If no item in the Validation Form is marked YES, then the PM shall work with the respective Program Element Monitor (PEM) and/or Capability Director (CD) at the HAF to coordinate the initiation of the appropriate New Start Notification package (i.e., Letter of Notification/1415-1 Packages). Once the Validation Form is completed it shall be filed as part of the program's contract file.

3.19.2. Validation Form Exemptions. Funding actions for the following are excluded from the requirement to complete the validation form prior to obligating funds. The exemption from completing the validation form does not absolve activities from complying with all regulations pertaining to New Start Notifications in the event that a New Start is planned for initiation.

3.19.2.1. All Basic Research (6.1), Applied Research (6.2), and Advanced Technology Development (6.3) efforts in Budget Activities 1, 2, & 3, UNLESS initiating a new research project (budget program activity code) that is not a transfer of an existing effort nor listed in the applicable descriptive summary (R-2 exhibit). These exemptions DO NOT include program elements (PEs) beginning with a 63 designation, but do include those falling under another Budget Activity Development and Prototypes budget program activity code.

3.19.2.2. All Small Business Innovation Research (SBIR) Phase I and II efforts.

3.19.2.3. Incremental funding actions for ongoing efforts if no change in required work.

3.19.2.4. Contract changes pursuant to clauses that do not change the work requirement of the contract (i.e., award fees and some price adjustments).

3.19.2.5. Program management and administrative efforts directed at business management and Program Office operations.

3.19.3. Reference AFI 65-601 Volume I for details on the New Start Notification process, procedures, and reporting requirements. In addition, individuals can contact SAF/AQXR and SAF/FMBI for additional guidance and/or help regarding New Starts specific issues.

3.20. Modification Management. For the purposes of this instruction, a modification is defined as a change to the form, fit, function, and interface (F3I) of an in-service, configuration-managed AF asset. Reference AFI 63-131, *Modification Program Management* for more information.

3.20.1. All approved modifications shall be implemented by a PM or project manager who will be the designated individual with the responsibility for, and authority to accomplish modification program objectives for the development, production, and sustainment of materiel modifications that satisfy user operational needs.

3.20.2. Modification efforts shall comply with all program requirements commensurate with the respective ACAT level.

3.20.3. Guidance on documenting requirements for modifications can be found in AFI 10-601. For additional information on modification funding guidance reference AFI 65-601. For

additional information on modification requirements relating to nuclear weapons reference AFI 63-125, *Nuclear Certification Program*.

3.21. Program Terminations. It may be necessary to terminate a program for a variety of reasons including a Presidential, Congressional, DoD, or AF Leadership decision, change in threat, poor contractor performance, or withdrawal of funding. The termination decision and plan shall be approved by the MDA and documented in an ADM.

3.21.1. Upon the termination decision, the PM shall notify the Head of Contracting Activity (HCA) and SPE of all ACAT program terminations. The HCA and SPE shall notify OSD when applicable and coordinate with SAF/FMBL and LL to make Congressional notifications prior to termination actions.

3.21.2. Upon termination decision, the PM shall develop a termination plan to describe how to close the program down in an expeditious, orderly manner with the least impact to the government.

3.21.3. For the termination plan and ADM templates, reference AFPAM 63-128.

3.22. Materiel Fielding. Materiel fielding is the process by which AF systems and equipment are delivered to and put into service by operational units in the field.

3.22.1. The PM shall develop and maintain a Materiel Fielding Plan (MFP) from MS B through the production and deployment phase. The PM shall coordinate the MFP with the lead/using command(s) and other stakeholder organizations that will interface with, or provide support (e.g. training) for the materiel being developed. At the PM's discretion, the MFP may be a stand-alone document, an annex to the program AS or Life Cycle Sustainment Plan (LCSP), or embedded within the AS or LCSP itself.

3.22.2. At MS C and all subsequent production decision reviews, the PM shall update the MFP as necessary to reflect the materiel fielding-related requirements specified in the user's CPD, or any changes in the user's system/product delivery and acceptance criteria, the user's operational/mission employment and the user's requirements to support operator and maintenance training (e.g. Required Assets Available), Initial Operational Capability (IOC), and Full Operational Capability (FOC). The PM should address levels of maintenance, sources of repair, sustainment partnering relationships, source of supply, support equipment, and use of interim contractor support and/or contractor logistics.

3.22.3. Consult AFPAM 63-128 for additional guidance and information related to the materiel fielding process.

3.23. Program Realignment. Program realignment, to include transfer of program management responsibilities, is the process by which AF systems and acquisition programs are formally realigned between geographically separate locations. Management authorities and responsibilities execute through the PEO regardless of program location. The PEO shall thoroughly coordinate the transition requirements, activities, and timeframes associated with realignment. The overall objective of this process is to ensure a seamless and transparent (to the user) transition of the system or program.

3.23.1. Program Transition Requirements. The PM and associated workload for systems and acquisition programs should not be realigned unless, at a minimum, the system, subsystem, component, or increment of capability has been certified as interoperable within its intended

operational environment, has achieved Initial Operational Capability (IOC) and Full Rate Production (FRP), is logistically supportable per the user‘s requirement, and can align the program office responsibilities to co-locate with the organization(s) responsible for the system’s/program’s depot maintenance and supply chain management. Executive management responsibilities for acquisition programs shall remain with the PEO.

3.23.2. Program Realignment Process. The program realignment process is a collaborative activity that is executed by the PM. PMs may initiate planning for program realignment at any point in the acquisition process, but must establish and document the initial target transition date in the AS no later than MS C or as determined by the MDA. As part of this planning activity, the PM shall determine and coordinate program transition requirements and timelines based on the criteria outlined in the previous paragraph, and the program realignment planning criteria and considerations described in AFPAM 63-128. As the planning effort unfolds, the PM shall brief their transition plans, requirements, risks and risk mitigation plans, and associated timelines during applicable milestone and production/deployment decision reviews, and during other program/portfolio reviews as necessary to inform senior system/program management executives and resolve realignment-related issues.

3.23.3. Transition Support Plans (TSP). All program realignments shall be conducted in accordance with a TSP that is prepared by the PM. The PEO and center commander(s) shall be signatories on the TSP. The AFMC/CC or AFSPC/CC shall be the final signatory on the TSP prior to forwarding the plan to SAF/AQ for signature. The PM shall target completion of the TSP no later than three years prior to the target realignment date. Once the TSP is approved, the PM shall update the program documentation as necessary to reflect the actions, timelines, and responsibilities specified in the TSP. The TSP will be maintained until the program realignment is completed, or a determination is made to terminate the proposed program realignment.

3.23.4. The PM shall provide TSP status to AFMC or AFSPC as requested and shall coordinate changes impacting the realignment date/TSP with the MDA and notify AFMC or AFSPC of approved changes.

3.23.5. Consult the Program Realignment Guide chapter in AFPAM 63-128 for additional guidance and information related to the PM and program realignment process. This pamphlet provides detailed planning criteria and considerations that PMs can use to develop, coordinate, and implement TSPs.

3.24. Post Implementation Review (PIR). The PIR evaluates the project's benefit-cost and risk analyses and the projected benefits to mission accomplishment and the performance measures for comparing expected versus actual results. A draft PIR plan is developed and then submitted to the CIO at MS B. The plan for conducting a PIR is reviewed and approved at the Full Rate Production Decision Review or Full Deployment Decision Review. The actual PIR is conducted and a report is generated after Initial Operational Capability and generally before Full Operational Capability. The Lead Command/Sponsor is responsible for planning the PIR, gathering data, analyzing the data, and assessing the results. The PM is responsible for supporting the Lead Command/Sponsor with respect to execution and reporting of the PIR. For more information, refer to AFMAN 33-407, *Air Force Clinger-Cohen Act (CCA) Compliance Guide* and the Defense Acquisition Guidebook.

3.25. Quick Reaction Capability (QRC). The QRC approach is a highly tailored acquisition process, geared to provide rapid acquisition solutions to urgent needs. PMs and lead commands shall use the QRC process for addressing Urgent Operational Needs, Joint Urgent Operational Needs, and Top-Down Direction. For more information refer to AFI 63-114, *Quick Reaction Capability Process*, CJCSI 3170.01, and AFI 10-601.

3.26. Warfighter Rapid Acquisition Program (WRAP). WRAP exists to accelerate the development, thus subsequent fielding, of operational initiatives resulting from innovation. Specifically, it offers RDT&E (3600) money to promising operational initiatives so that they may begin formal development activities during the current fiscal year, rather than waiting for Program Objective Memorandum (POM) funds which may not be available for 18 to 24 months. Guidance on the WRAP process can be found in AFPAM 63-128.

3.27. Joint Capability Technology Demonstration (JCTD). The JCTD process is a pre-acquisition activity, spanning from two to three years. It provides the user an opportunity to assess innovative technologically mature capabilities and determine their military utility before deciding to acquire additional units or incorporate new technology. The concept falls between the Joint Rapid Acquisition Cell (JRAC) "urgent needs" process of fewer than two years with little or no development and the traditional, more deliberate, formal acquisition process described in this AFI. JCTDs focus on four areas: Joint, Transformational, Coalition, and Inter-agency capabilities. More information can be found in CJCSI 3170.01, the JCIDS Manual, AFI 10-601, and at the JCTD webpage.

3.28. Missile Defense Agency Related Acquisition. Life cycle management support shall be provided to the Director, Missile Defense Agency, as required, to carry out the responsibilities and functions assigned to the Missile Defense Agency in accordance with DoDD 5134.09, *Missile Defense Agency (MDA)*. Where the Air Force and the Missile Defense Agency have agreed through a weapon-specific memorandum of understanding that the AF will be responsible for the life cycle management of an element of the ballistic missile defense system in accordance with the Deputy Secretary of Defense guidance on BMDS funding responsibility, the Air Force shall follow the DoD 5000-series publications and this instruction.

3.29. Nuclear Weapon Related Policy. Air Force Nuclear Weapon related acquisitions shall be developed IAW DoDD 5000.01 and DoDI 5000.02.

3.29.1. Joint Air Force-National Nuclear Security Administration developed nuclear weapons will be accomplished in accordance with DoDD 5000.01, DoDI 5000.02 as directed in DoDD 3150.1, *Joint DoD-DOE Nuclear Weapon Life-Cycle Activities*, DoDI 5030.55, *DoD Procedures For Joint DoD-DOE Nuclear Weapons Life-Cycle Activities*, and AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management*.

3.29.2. Additional Air Force nuclear weapon related policy may be found in AFI 16-601, *Implementation of, and Compliance With, International Arms Control and Non-Proliferation Agreements*, AFI 20-110, *Nuclear Weapons-Related Materiel Management*, AFI 21-204, *Nuclear Weapons Maintenance Procedures*, AFI 63-104, *The SEEK EAGLE Program*, AFI 63-125, AFI 91-101, *Air Force Nuclear Weapons Surety Program*, AFI 99-103, *Capabilities Based Test and Evaluations*, and the *Memorandum of Understanding Between the National Nuclear Security Administration and the Department of the Air Force Regarding Joint Testing and Assessment of the Nuclear Weapons Stockpile*.

Chapter 4

PROGRAMMATIC REQUIREMENTS

4.1. Program Documentation. The PM is responsible for completing and coordinating all applicable program documentation as required by statute and policy.

4.1.1. All new AF programs and existing programs requiring Office of the Secretary of Defense (OSD) oversight shall prepare documentation consistent with OSD approved templates. For other existing programs, the MDA will make the determination how to capture the information requirements dictated by the OSD templates. Regardless of the format used to document the results, PMs are responsible for ensuring that the content of the plans meets all applicable statutory and regulatory requirements. Refer to the DAG for information on the OSD templates.

4.1.2. The PM shall ensure that program documentation is streamlined to ensure applicable program information is presented and coordinated efficiently. The PM shall consolidate information requirements and tailor documentation as approved by the MDA and consistent with statute and regulations. The PM shall identify tailoring of the documentation in the AS and/or ADM. The MDA has tailoring authority over documentation where the MDA holds approval authority, except where stated in regulation or statute.

4.1.2.1. Document approval authority is detailed in Table 4.1 for ACAT IC, IAC, II, and III programs. Table 4.1 details the organizations required to approve the document per statute and regulation not coordination of the document.

4.1.2.2. ACAT ID and ACAT IAM programs shall follow OSD guidelines concerning approval authority.

4.1.2.3. When the SAE is the MDA, the SAF/AQ military or principal deputy shall have signature authority for MDA approved documentation. This applies to all documentation with the exception of the AS, ADM, and Acquisition Program Baseline (APB).

4.1.3. Documentation shall be coordinated with all organizations that will be required to support the implementation of the plan.

4.1.4. Reviewing offices need to expedite coordination within the time specified by the MDA/PM and either “concur” or “non-concur.” Concurrence and coordination by all parties involved may not be necessary for an MDA to make a decision. However, staff packages should reflect the “non-concur” and stated reasons so the MDA can make a fully informed decision. Format driven changes should not result in delaying the coordination process. PMs, reviewing offices, and staffs shall use automated tools, as available, to streamline coordination and approval. The PM shall ensure program documentation is maintained and made available electronically, as applicable.

Table 4.1. Document Approval Authority.

	Governance	ACAT IC/IAC							ACAT II						ACAT III					
AS: Approve & Sign Document **A:** Required Approval		AF/TE	AF/A2	AFMC or AFSPC	SPONSOR	CIO	PEO	MDA	AFMC or AFSPC	AF/A2	SPONSOR	CIO	PEO	MDA	AFMC or AFSPC	AF/A2	SPONSOR	CIO	PEO	MDA
Acquisition Plan	Regulatory						AS						AS							AS
Acquisition Strategy	Regulatory							AS						AS						AS
Acquisition Program Baseline (APB)	Statutory							AS						AS						AS
Acquisition Decision Memo (ADM)	Regulatory							AS						AS						AS
- Exit Criteria	Regulatory							AS						AS						AS
Acquisition Info Assurance Strategy (All IT - including NSS)	Regulatory					AS						AS						AS		
Affordability Assessment	Regulatory							AS						AS						AS
AoA Study Guidance and Plan	Regulatory							A						A						A
Analysis of Alternatives Report (AoA)	Statutory							A						A						A
Clinger Cohen Act Compliance	Statutory					AS						AS						AS		
Competitive Acquisition Strategy	Regulatory						AS						AS							AS
Corrosion Prevention Control Plan	Regulatory						AS						AS							AS
Information Support Plan (ISP) (All IT - including NSS)	Regulatory					A		AS				A		AS				A		AS
IUID Implementation Plan	Regulatory						AS						AS							AS
IT & NSS Joint Interoperability Test Cert (All IT - including NSS)	Regulatory					AS						AS						AS		
Life Cycle Sustainment Plan (LCSP)	Regulatory			A				AS	A					AS	A					AS
Life Cycle Mission Data Plan	Regulatory		A					AS		A				AS		A				AS
Materiel Fielding Plan	AF Reg						AS						AS							AS
Post PDR Report Assessment	Regulatory							AS						AS						AS
Post Implementation Review	Stat./Reg.				AS			A			AS			A			AS			A
Prog Env Safety Occ Health Eval (PESHE)	Statutory						AS						AS							AS
Program Management Agreement	Regulatory				A			AS			A			AS			A			AS
Program Protection Plan	Regulatory							AS						AS						AS
Spectrum Supportability Determination	Regulatory					AS						AS						AS		
Spectrum Cert Compliance (DD 1494)	Statutory					AS						AS						AS		
Systems Engineering Plan (SEP)	Regulatory						AS						AS							AS
Technology Development Strategy (TDS)	Stat./Reg.							AS						AS						AS
Test and Evaluation Master Plan (TEMP)	Regulatory	A						A						AS						AS
Transition Support Plan - NOTE: Final signature is SAF/AQ	AF Reg			A			A		A				A		A				A	
AF MDA MDAPS ONLY																				
2366a Certification	Statutory							AS												
2366b Certification	Statutory							AS												
Beyond LRIP Approval	Statutory							AS												
LRIP Production Quantities	Statutory							AS												
Replaced System Sustainment Plan	Statutory							AS												

This table describes approval authority, coordinate documentation with all organizations required to support the implementation of the plan.

This table is not all inclusive, additional documentation and certification requirements should be reviewed for applicability.

4.2. PEO Portfolio Assignment.

4.2.1. Upon validation of a requirements document, the sponsor shall inform SAF/AQ of the potential program. Information provided shall contain proposed program description, estimated dollar value, funding status, and anticipated ACAT. With input from AFMC or AFSPC, SAF/AQ shall assign the effort to a PEO and include confirmation of proposed ACAT level and MDA authority.

4.2.2. For legacy systems or systems transitioning from another agency, the sponsor shall provide the program description, estimated dollar value, and funding status to SAF/AQ for

assessment. Upon acceptance and with input from AFMC or AFSPC, SAF/AQ shall assign the effort to a PEO and determine MDA authority.

4.2.3. Transfer of programs between PEO portfolios shall be coordinated through AFMC or AFSPC (as appropriate) and approved by SAF/AQ. The impacted organizations shall prepare a joint request providing rationale and justification for the proposed transfer.

4.3. Materiel Development Decision (MDD). All potential programs proceed through an MDD review when entering the acquisition life cycle framework. The MDD review is the formal entry into the acquisition process. MDD reviews will be conducted using the established Defense Acquisition Board (DAB), Information Technology Acquisition Board (ITAB), Air Force Review Board (AFRB), or a PEO tailored AFRB processes for ACAT III programs. The MDD review shall ensure that a complete analysis/assessment of alternatives and their non-materiel implications will be or has been conducted. An MDA decision to begin Materiel Solution Analysis DOES NOT mean that a new acquisition program has been initiated.

4.3.1. MDD Authority. The MDA chairs and approves all MDD decisions.

4.3.2. MDD Requirements. At a minimum, conducting an MDD is dependent upon a Joint Requirements Oversight Council (JROC)/AFROC approved ICD, approved 1067, or an IRB approved Problem Statement, and the Director of Cost Assessment and Program Evaluation (DCAPE), AF/A5R, or Lead MAJCOM being prepared to present the Analysis of Alternatives (AoA) Study Guidance and AoA Study Plan or alternative analysis/supporting analysis guidance for MDA approval.

4.3.3. MDD. The MDA shall:

4.3.3.1. Determine if additional information is required.

4.3.3.2. Review AoA Study Guidance and AoA Study Plan or alternative analysis / supporting analysis guidance.

4.3.3.3. Approve recommended acquisition phase of entry and phase-specific entrance criteria for next program MS.

4.3.3.4. Designate lead acquisition organization. **NOTE**: If DAE is MDA, designation is of lead DoD Component.

4.3.3.5. Make decision to begin Materiel Solution Analysis Phase (or other acquisition phase based on appropriate justification).

4.3.3.6. Approve resource strategy for post MDD phase of effort.

4.3.4. MDD Outcome.

4.3.4.1. Document the decisions of the MDD in an ADM (e.g., phase of entry with phase-specific exit criteria for next program MS, AoA Study Guidance and AoA Study Plan approval, AF organization, termination or temporary suspension of the effort).

4.3.4.2. Provide ADM and AoA Study Guidance and AoA Study Plan or alternative analysis/supporting analysis guidance to lead DoD Component/appropriate Capability Director.

4.4. The Acquisition Decision Memorandum (ADM). The ADM documents the results of the MDD and every MS decision. The ADM will document descriptions of the responsibilities of

each organization, the funding source, and the actions necessary to prepare for the next MS decision. The ADM is also used to document MDA decisions not related to a milestone such as Pre-EMD decision and formal acceptance of moderate and high residual risks. The MDA signs the ADM. A copy of ACAT I or non-delegated ACAT II ADMs shall be provided to HQ AFMC or HQ AFSPC.

4.5. Technology Development Strategy (TDS). The TDS defines the activities of the Technology Development Phase and provides the technology development strategy over the system life cycle.

4.5.1. The MDA shall determine who will prepare the TDS. The Air Force Research Lab (AFRL) shall assist in the preparation of a TDS when appropriate.

4.5.2. The TDS is required for MS A and precedes the formal acquisition strategy.

4.5.3. Final Requests for Proposals (RFPs) for the Technology Development Phase shall not be released nor any action be taken that would commit the program to a particular contracting strategy for Technology Development until the MDA has approved the TDS and completed the MS A review.

4.6. Acquisition Strategy (AS). The AS is the overall life cycle strategy for the system. The PM shall develop an AS that documents the life cycle strategies necessary to satisfy statutory and regulatory requirements under DoDI 5000.02. For more information refer to AFPAM 63-128.

4.6.1. An AS is required for all acquisition programs.

4.6.2. For all ACAT levels the MDA is the approval authority for the AS.

4.6.3. The AS is initially required for the Pre-EMD review. The AS shall be updated and approved at each subsequent MS decision point or whenever there is a significant change (e.g., change in contract type, change in quantities).

4.6.4. The MDA shall approve the AS prior to the release of a formal solicitation.

4.6.5. The PM shall ensure the AS is documented in sufficient detail to ensure that it meets the information requirements of the OSD approved AS template.

4.6.6. At the discretion of the MDA, the AS for a modification may be an annex to the existing and approved system AS.

4.6.7. Fact-of-life changes, such as updates to schedule and funding adjustments, do not require a re-coordination of the AS unless they drive a significant change in the approved strategies or APB.

4.6.8. Existing programs that do not currently have an AS shall transition to an AS when the program:

4.6.8.1. Enters a new milestone, or

4.6.8.2. Implements a major system modification. At the discretion of the approval authority, the requirement may be met with an annex to the existing system approved acquisition/sustainment strategy documentation. The annex will be completed in accordance with all AS requirements.

4.6.9. For AF programs delegated to the SAE and below, that have an approved Life Cycle Management Plan (LCMP) (as of the publishing date of this instruction), the MDA may approve the continued use of the LCMP for the life of the program. The PM shall ensure that the LCMP meets the information and coordination requirements of the OSD AS and LCSP templates. Programs are not required to have a standalone AS and LCSP with an approved LCMP meeting the conditions of this paragraph.

4.7. Acquisition Program Baseline (APB). The PM shall ensure each program or increment has an APB establishing program goals—thresholds and objectives—for the minimum number of cost, schedule, supportability, and performance parameters that describe the program over its life cycle. Reference 10 USC §2433 and 10 USC §2435.

4.7.1. The original APB shall be prepared prior to the program entering EMD or program initiation whichever occurs later. The APB shall be reviewed at each subsequent MS decision and full rate production to determine if updates/changes are required. The APB shall be updated at significant or critical Nunn-McCurdy cost breaches or at MAIS Critical Changes. The APB shall be approved by the MDA.

4.7.2. ACAT II and III programs are required to enter their APB data into the APB module in SMART.

4.7.3. For additional information refer to the APB guide in AFPAM 63-128.

4.8. Pre-Engineering and Manufacturing Development (Pre-EMD) Review. MDAs shall conduct a Pre-EMD review prior to releasing the final RFP for the EMD phase. The MDA shall approve the AS and review key related planning documentation. The MDA shall authorize final RFP release and document in an ADM. Other than the AS, planning documentation may be in draft format for this review.

4.8.1. In order to meet the intent and requirements of the Pre-EMD Review, ACAT ID and IAM programs will not have a separate AFRB and ASP for programs where OSD is the MDA. The AF will conduct a combine ASP/AFRB with no further review prior to the MDA holding its Pre-EMD Review. A template and more information can be found at the Acquisition functional page on the AF Portal in the Acquisition Excellence and Change Office section.

4.9. Configuration Steering Board (CSB). The CSB reviews all requirements changes and any significant technical configuration changes that have the potential to result in cost and schedule impacts to the program. Changes shall not be approved unless funds are identified and schedule impacts mitigated. The CSB also provides the PM the opportunity to propose descoping options, with supporting rationale addressing operational implications that would reduce program cost or moderate requirements. For more information reference Public Law 110-417 § 814, DoDI 5000.02, and the Defense Acquisition Guide.

4.9.1. At a minimum, CSBs shall be conducted annually for all ACAT I and IA programs in development starting at Milestone A.

4.9.1.1. Annual CSB reviews will be conducted in conjunction with the annual Program Executive Officer Portfolio Reviews and Program Management Reviews.

4.9.1.2. An event based CSB shall be conducted when a proposed change to program requirements would result in significant technical configuration changes that potentially result in cost and schedule impacts to the program.

4.9.1.3. Mandatory participants for the ACAT I and IA CSB include: SAF/AQ (Chair), OSD AT&L (Rep), CSAF Rep (A4I), Using MAJCOM Requirements (e.g., ACC/A8), AF/A5R, Joint Staff, SAF/FMB, SAF/AQ Mil Deputy, and the AFPEO for the program.

4.9.1.4. Additional CSB attendees may include as appropriate: SAF/AQX, SAF/AQC, SAF/AQR, SAF/AQI/AQP/AQL/AQQ/AQS, AFMC/CC/CV/CA, AFSPC/CC/CV/CA, SAF/GCQ, AF/A8P, SAF/FMC, SAF/CIO A6, SAF/IE/IEL, AF/A2, AF/A4/A4L, AF/TE, AFOTEC, and/or DOT&E.

4.9.1.5. CSB guidance and briefing templates are located at the Acquisition functional page on the AF Portal in the Acquisition Excellence and Change Office section.

4.9.2. The PEO shall ensure the intent of the CSB is met for all delegated ACAT II and ACAT III programs by:

4.9.2.1. Ensuring a process is in place to review all requirements changes and any significant technical configuration changes that have the potential to result in cost and schedule impacts to the program. This process will include appropriate stakeholders from the using MAJCOM, HAF, and the program execution chain.

4.9.2.2. Considering not approving changes unless funds are identified and schedule impacts mitigated.

4.9.2.3. Providing the PM the opportunity to propose descoping options, with supporting rationale addressing operational implications that would reduce program cost or moderate requirements.

4.10. Independent Program Assessment (IPA). For Space Acquisition Programs (as defined in 5000.02), the PM shall ensure an IPA is conducted before each milestone and whenever directed by the MDA. IPAs are designed to identify program cost, schedule, and performance risks; formulate handling/mitigation plans; and provide feedback to the program manager and reports to the MDA. For best practices and schedule recommendations refer to AFPAM 63-128.

4.11. Program Management Agreement (PMA). PMAs shall be prepared in accordance with DoDI 5000.02 guidance after the AF makes the investment decision to pursue a new program and the PM has been assigned.

4.12. Test Planning. The PM shall establish an Integrated Test Team (ITT), develop and document test planning and level of test support required for the life cycle of the system, and conduct readiness reviews IAW AFI 99-103 and AFMAN 63-119, *Certification of Readiness for Dedicated Operational Test and Evaluation*. PMs shall be aware of test and evaluation planning requirements and make provisions within contracts, reference OSD's guide on *Incorporating Test and Evaluation into Department of Defense Acquisition Contracts* for more information.

4.12.1. Test and Evaluation Master Plan (TEMP). The PM, working through the Integrated Test Team, shall ensure a TEMP is prepared prior to MS B for applicable programs in accordance with AFI 99-103 and the DAG. The SAE will coordinate on all TEMP for all ACAT I, IA, and programs on Office of the Secretary of Defense (OSD) T&E Oversight List, and forward to Director, Operational Test and Evaluation (DOT&E) and Deputy Assistant

Secretary of Defense for Developmental Test and Evaluation (DASD(DT&E))for approval. The MDA is the approval authority for delegated ACAT II and ACAT III programs not on OSD T&E Oversight.

4.12.2. Live Fire Test and Evaluation (LFT&E). SAE shall recommend candidate systems to OSD/Director, Operational Test and Evaluation (DOT&E) for compliance with LFT&E legislation. Approve agreed-upon LFT&E programs and allocate AF resources required to accomplish LFT&E plans. Approve and forward required LFT&E documentation and waivers (if appropriate) to OSD/DOT&E.

4.12.3. Test and Evaluation (T&E) Considerations. PMs shall ensure that Developmental Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E) considerations are addressed throughout the life cycle. A structured T&E strategy and process must be established to provide early feedback to the requirements and acquisition processes. Refer to AFI 10-601 and AFI 99-103 for more information.

4.13. Risk Management Plans and Risk Planning. The PM shall prepare a Risk Management Plan (RMP) or annex to an overarching RMP for all ACAT programs and potential ACAT programs. The RMP describes the strategy by which the program will coordinate and integrate its risk management efforts to include a description and the responsibilities of the cross-functional risk management Integrated Product Team (IPT). Refer to the *The Risk Management Guide for DoD Acquisition* and AFPAM 63-128 for more information.

4.13.1. The PM shall use the 5x5 risk matrix, likelihood criteria, and consequence criteria provided in AFPAM 63-128 to assess cost, schedule, performance, and other program risks.

4.13.1.1. Risks identified using MIL STD 882 shall be translated using the translation of MIL-STD-882 Risk Matrix to the OSD Risk Management Guide Matrix in AFPAM 63-128.

4.13.1.2. The RMP can be incorporated into the AS or other appropriate planning document. The RMP shall be linked to the risk management activities described in other planning documents (e.g., source selection plan, LCSP, Systems Engineering Plan (SEP), Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)).

4.13.1.3. The RMP shall be developed and continually matured throughout the life of the system.

4.13.2. The PM shall prepare risk handling/mitigation plans for all moderate and high risks. The PM shall ensure a mechanism is in place to track and archive all risks and handling/mitigation plans throughout the program's life cycle.

4.13.3. The PM shall present the following risk related information as a part of all program, technical, and Milestone decision reviews or to support other decision points.

4.13.3.1. The standard 5x5 risk matrix. On the risk matrix, the PM shall plot, and be prepared to discuss, each of the program's identified high and moderate risks and the corresponding mitigation plans.

4.13.3.2. The Technology Readiness Levels (TRLs) of all critical technologies. See the DAG and *DoD Technology Readiness Assessment (TRA) Guidance* for more information.

4.13.3.3. All high and serious ESOH risks identified using the MIL STD 882 system safety methodology and the translation table using translation of MIL-STD-882 Risk Matrix to the OSD Risk Management Guide Matrix.

4.13.4. Formal acceptance of moderate and high residual risks (after all mitigation plans have been completed) shall be included in approval documentation.

4.14. Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE). The PM shall prepare and maintain a PESHE throughout the life of the program to include disposal. The PESHE is required to be updated and formally reviewed at MS B, MS C, and at the Full-Rate Production Decision Review/Full Deployment Decision Review/Build Approval. The PESHE is required for all programs and is approved by the PEO for ACAT I and II programs. For ACAT III programs, the MDA is the approval authority. The PESHE shall satisfy the content requirements established in DoDI 5000.02. The PM shall obtain formal coordination of new and updated PESHEs from their Environmental, Safety, Surgeon General, and ESOHC-IPT offices, as applicable.

4.15. Modeling and Simulation (M&S). The PM shall plan for and insert appropriate application of M&S early and throughout the life cycle.

4.15.1. Models, simulations, and associated data supporting acquisition processes, products, and decisions must be accredited for an intended use. The infrastructure necessary to support system design and integration includes government-owned centers for live, virtual, and constructive (LVC) simulation, as well as contractor system integration facilities. To the maximum extent possible, existing LVC assets should be leveraged and compatible with Air Force and Joint LVC standards.

4.15.2. The PM shall work with end-user, operational requirements advocate(s), developmental and operational testers, the intelligence community and other relevant organizations to develop and implement a M&S strategy leading to M&S products that can be transitioned and used throughout the acquisition life cycle, including in T&E and training.

4.15.2.1. The M&S strategy shall be documented in the appropriate program documentation dependent upon the usage of M&S.

4.15.2.2. The M&S strategy shall illustrate how the use of M&S will benefit the program and address how the program will meet DoD M&S mandates such as the use of common architecture frameworks.

4.15.2.3. The M&S strategy shall describe how the PM will obtain sufficient M&S data to adequately characterize the technical and operational capabilities of the system.

4.15.3. The PM shall consult their local organic M&S agencies (e.g. Simulation and Analysis Facility within AFMC, National Air and Space Intelligence Center for threat Modeling and Simulation) and the Air Force Agency for Modeling and Simulation to identify M&S resources (capabilities, V&V status, and future plans) that can be utilized by the program instead of developing unique M&S tools.

4.16. Military Equipment Valuation (MEV). Military Equipment Valuation is a DoD initiative to capitalize, and depreciate assets, including modifications, to meet federal accounting standards as defined in DoD Instruction 5000.64, *Accountability and Management of DoD-Owned Equipment and Other Accountable Property*.

4.16.1. The PM shall account for all Military Equipment assets subject to capitalization and depreciation.

4.16.2. Military Equipment is defined as tangible assets that:

4.16.2.1. Have an expected useful life of two or more years;

4.16.2.2. Are not intended for sale in the ordinary course of business;

4.16.2.3. Are intended to be used or are available for use in performance of military missions, to include training; and

4.16.2.4. Meet the capitalization threshold found in the DoD Financial Management Regulation (FMR) Volume 4, Chapter 6.

4.16.3. Military Equipment Valuation:

4.16.3.1. Is required for aircraft, intercontinental ballistic missiles, unmanned air vehicles, pods, satellite launchers and satellites.

4.16.3.2. Will not be performed on target drones, munitions, initial spares, repair parts, simulators, and other ballistic missiles. In addition, other equipment assets (e.g., ground equipment, support equipment, etc.) will be valued as general purpose equipment.

4.16.3.3. Intangible assets, such as software, are not considered military equipment unless embedded in a piece of military equipment.

4.16.4. The PM shall include a military equipment program description as part of the AS. At Milestone C (or any other decision point that leads to production or procurement of end items to be used for operations) for any program, project, product, or system that has deliverable end items that meet the capitalization threshold, the program's military equipment description will identify the following deliverables at a detail level consistent with level 2 of the Program Work Breakdown Structure (WBS) (detailed guidance on the work breakdown structures for defense materiel items is located in MIL-HDBK-881):

4.16.4.1. The assets meeting the capitalization thresholds.

4.16.4.2. The government furnished material that will be included in the assets.

4.16.4.3. Other deliverables that will accompany the assets (e.g., manuals, technical data, etc.).

4.16.4.4. Other types of deliverables that will be bought with program funding (e.g., initial spares, support equipment, etc.) but that cannot be directly attributed to a specific asset.

4.16.5. The PM shall ensure proper accounting and contractual allocation of program expenditures between capitalized assets and expenses. This shall be completed for every program, project, product, or system that has deliverable assets. Detailed guidance on accounting policy and procedures may be found in DoD 7000.14-R, DoD FMR Volume 4 and at OSD's military equipment website.

4.16.5.1. The PM shall ensure the gross book value of military equipment assets and modification to those assets are provided in accordance with AFI 21-103, *Equipment,*

Inventory, Status and Utilization Reporting. The PM shall also ensure the useful life of the assets and modification programs are also provided in accordance with AFI 21-103.

4.16.5.2. The PM shall ensure Chief Financial Officer (CFO) reporting data elements (the full cost value and useful life) for military equipment assets and modifications are recorded in the Reliability and Maintainability Information System (REMIS) upon initial delivery. The PM shall update REMIS with CFO reporting data elements upon notification by the Aerospace Vehicle Distribution Officer. REMIS is the CFO compliant system used in military equipment valuation and reporting through the Defense Finance and Accounting System. Refer to AFI 21-103, *Equipment, Inventory, Status and Utilization Reporting* for additional guidance.

4.16.6. The PM shall provide the Procurement Contracting Officer (PCO) with the military evaluation requirements so the PCO can create the proper contract line item number (CLIN) and sub-line item number (SLIN) to reflect the distinction necessary to facilitate appropriate financial accounting treatment of the military equipment to be acquired. Proposals, solicitations, contracts, and/or orders for or related to the acquisition of military equipment will be structured so that each type of item or service is properly segregated by use of separate CLINs and SLINs.

4.17. Government Cost Estimates. The PM shall update life cycle cost estimates in accordance with AFPD 65-5, *Cost and Economics*, and AFMAN 65-506, *Economic Analysis*, and compare them to the program budget to assess program executability. Risk assessments and sensitivity analyses will be performed as level of knowledge and assumptions change. The acquisition strategy must address the estimated program cost and the planned program funding, to include advance procurement. As part of sustainment cost management, the PM shall ensure current technical and programmatic data is provided to Cost Estimators in support of life cycle cost estimates. See DoD 7000.14-R, *Department of Defense Financial Management Regulation (FMRS)* Vol. 2A for more details.

4.18. Cost Estimating and Confidence Level. The PM shall provide cost estimates at the mean confidence level to the MDA during reviews. The PM shall provide the MDA with estimates at a cumulative density function (S curve) to show varying levels of confidence. To the greatest extent possible, the PM shall identify the Total Ownership Cost (TOC) and the major drivers to this cost. Realistic program planning assumptions should be developed to ensure adequate analysis of life cycle cost, schedule, and performance risks. This will be documented in the Program Office Estimate, which is generally developed from the Cost Analysis Requirements Description (CARD) for major programs or a similar document for less than major programs. Refer to DFARS 215 for additional information and AFI 65-508, *Cost Analysis Guidance and Procedures*, for Air Force cost analysis requirements.

4.18.1. For MDAP and MAIS programs, state the confidence level used in establishing the cost estimate and the rationale for selecting it for cost estimates used in support of MS A, MS B, MS C, Low Rate Initial Production, Full Rate Production, any certification under 10 USC §2366a, 2366b, or 2433a, any report under 10 USC §2445c, or as specified by appropriate authority.

4.18.2. The confidence level statement shall be included in (a) any decision document approving a cost estimate; (b) any other cost estimate requested by DCAPE or the MDA for MDAP and MAIS programs; (c) the APB; (d) the ADM as determined by the MDA; (e) any

cost estimates for MDAP and MAIS prepared in association with the 1459 estimates identified above; (f) the next Selected Acquisition Report prepared in compliance with 10 USC § 2432 for MDAPs; and (g) the next quarterly report 1461 prepared in compliance with 10 USC § 2445c for MAIS. Reference the *US Air Force Cost Risk and Uncertainty Handbook* for more information.

4.18.3. All AF ACAT I and II program cost estimates shall provide a range of potential costs based upon a robust assessment of, and accounting for, cost, technical, and schedule uncertainty for each program. Each cost estimate and associated risk assessment shall be established using approved AF cost estimating procedures and shall consider technical, schedule, and programmatic risk assessments to produce a cost estimate distribution or, where a distribution cannot be computed, a range of potential program costs.

4.18.4. To establish sufficient program funding, the MDA for an ACAT I or II program shall use the cost estimate distribution to make a deliberate choice of the cost estimate confidence level for the program. The selection of the appropriate program cost estimate confidence level is at the discretion of the MDA, however, an ACAT I and II program budget shall not be established at a confidence level lower than the mean of the program cost estimate distribution (typically 55 – 65% confidence level) or, where a distribution cannot be computed, the expected value of the cost estimate. For AF ACAT ID programs, SAF/AQ shall, in concert with SAF/FM, apply this approach in formulating the Service Cost Position.

4.18.5. When selecting a confidence level, the MDA shall consider program-specific requirements, schedule, and technical maturity issues, as well as interrelationships with other programs and program increments, and any other relevant environmental considerations. The cost estimate confidence level shall be documented in the ADM and other deliverables/documents as required. The same approach should also be followed for programs below ACAT II.

4.18.6. Independent Cost Estimates are required for MDAPs and MAIS programs in advance of: (1) MS A, MS B, LRIP, and full rate production; (2) Any certification pursuant to 10 U.S.C §2366a, 2366b, or 2433a.; (3) Any report pursuant to 10 U.S.C §2445c.; and (4) At any time specified by the MDA or the DCAPE.

4.19. Will-Cost and Should-Cost Management. Will-Cost and Should-Cost management shall be implemented for all ACAT I, II, and III programs.

4.19.1. Will-Cost and Should-Cost estimates are required at Milestone Decisions for all ACAT I, II, and III programs and shall be updated annually. Waivers to annual updates shall be approved IAW with AFI 65-508.

4.19.2. Will-Cost.

4.19.2.1. AF guidance and instruction (e.g., AFPD 65-5 and AFI 65-508) describe specific requirements for non-advocate Will-Cost estimates or Service Cost Positions in support of ACAT I milestone decisions.

4.19.2.2. ACAT II and III programs shall present at Milestone Decisions Will-Cost estimates that have been approved by the appropriate financial management cost estimating organization.

4.19.2.3. The non-advocate Will-Cost estimate shall be used as the basis for all budgeting and programming decisions.

4.19.3. Should-Cost.

4.19.3.1. PMs for ACAT I, II and III programs shall present Should-Cost estimates at the milestone decision. The MDA shall approve all initial Should-Cost estimates and will expect program managers to manage, report, and track to these estimates. The PEOs shall review and approve Should-Cost estimates for ACAT II and III programs.

4.19.3.2. PMs shall develop Should-Cost estimates and seek assistance from outside organizations (e.g. SAF/AQX, SAF/AQC, Air Force Cost Analysis Agency and the Defense Contract Management Agency.) throughout the development process. This effort should employ cross-functional teams, where practical, to perform detailed bottoms-up assessments on every ACAT I, II, and III program.

4.20. Use of Specifications and Standards. Consistent with the Defense Standardization Program and the Air Force Standardization Program (refer to DoDI 4120.24 and AFI 60-101 respectively), decisions to standardize must be balanced against specific mission requirements, technology growth, and cost effectiveness. Specifications and standards shall be used in solicitations and contracts to define essential standard practices (e.g., system safety and parts management) and technical requirements (e.g., materiel interoperability and support requirements) and to manage risk. Specific DoD policy on the use of specifications and standards and other methods to achieve objectives required by 10 USC §2451-2457, DoDD 5000.01, and DoDI 5000.02 are contained in DoD 4120-24M, *Defense Standardization Program (DSP) Policies and Procedures*. Additional AF guidance is contained in AFI 33-401, *Air Force Architecting*.

4.21. Program Protection Planning. The PM shall apply comprehensive program protection planning in order to provide secure, uncompromised military systems to the warfighter. The PM shall ensure a program's Critical Program Information (CPI) and mission-critical functions and components are protected to keep technological advantages in and malicious content out in accordance with DoDI 5200.39, *Critical Program Information (CPI) Protection within the Department of Defense*, DoDI 5240.24, *Counterintelligence (CI) Activities Supporting Research, Development, and Acquisition (RDA)*, and AFPAM 63-113, *Program Protection Planning for Life Cycle Management* (when published).

4.21.1. Program Protection Plans (PPP). A PPP is required for all programs beginning at MS A and every subsequent Milestone Decision including Full-Rate Production. The PPP is approved by the MDA.

4.21.1.1. The PPP shall be maintained throughout the life of the program. Ownership and responsibility for the PPP shall transfer to the PM from the technology development activity solely when a technology is incorporated into a system and remains with the PM throughout the life of the system.

4.21.1.2. For legacy systems, PPP requirements for modifications can be satisfied by updating or annexing to an existing PPP, creating a separate PPP for each modification, or creating a new PPP for the entire weapon system addressing all modification protection measures with provisions for annexes to cover future modifications.

4.21.1.3. Refer to AFPAM 63-113 (when published) and DoDI 5200.39 for critical component identification procedures, procedures to create a PPP, and the minimum required elements of the PPP.

4.21.2. Anti Tamper. The PM will collaborate with SAF/AQL for Anti-Tamper Planning. SAF/AQL is the Air Force OPR and DoD Executive Agent for Anti-Tamper Planning.

4.21.3. Special Access Programs (SAP). SAPs created under the authority of Executive Order 13526 are exempt from compliance, however collateral programs with acknowledged SAP elements shall comply. When SAP elements transition to collateral status, those elements shall also meet the requirements of this AFI. The PM will collaborate with Director, Security, Counterintelligence and Special Programs (SAF/AAZ) when SAP information is involved to determine a prudent protection approach prior to developing a PPP.

4.21.4. Counterfeit Detection and Avoidance. PMs shall identify and maintain an updated list of critical components vulnerable to counterfeiting throughout the system life cycle. PMs shall ensure contracts require prime contractors take the steps necessary to implement management controls to guard against counterfeit materiel in the supply chain. See DoDI 4140.01, *Supply Chain Materiel Management*, for further guidance on counterfeit materiel management. Items identified as suspect counterfeit shall be handled IAW AFMAN 23-110, *USAF Supply Manual*.

4.21.5. Counterintelligence. The PM shall collaborate with the local Air Force Office of Special Investigation Research Technology Protection office regarding defensive Information Operations and counterintelligence support for the life cycle of the system or technology.

4.22. Intelligence Supportability. The PM, in collaboration with the Center Intelligence Office, and other stakeholders, shall develop and document requirements and level of intelligence support required for the life cycle of intelligence-sensitive programs IAW and as defined in AFI 14-111, *Intelligence Support to the Acquisition Life-cycle*, AFI 14-205, *Geospatial Information and Services*, AFI 14-201, *Intelligence Production and Applications*, and CJCSI 3312.01, *Joint Military Intelligence Requirements Certification*. The results of Intelligence Supportability Analysis shall be used to develop and document requirements and level of intelligence support throughout the life cycle of the system, to include those involved in Foreign Military Sales.

4.22.1. The PM shall engage with the MAJCOM/A2 for Special Access Programs (SAP) or special access initiatives. The PM shall collaborate with the MAJCOM/A2 and if appropriate, the Center Intelligence Office, to develop and document requirements and level of intelligence support required for the life cycle of the system IAW AFI 14-111, AFI 14-205, AFI 14-201, and CJCSI 3312.01. **NOTE:** Per applicability section of this publication, SAP programs shall be coordinated with SAF/AQL.

4.22.2. The PM shall document the plan to satisfy life cycle mission data dependencies along with references to life cycle intelligence mission data requirements that are documented in mandated Intelligence Community requirements systems in the Life Cycle Mission Data Plan (LMDP). The LMDP, previously known as the Life Cycle Signature Support Plan, is required by DoD Directive 5250.01, *Management of Intelligence Mission Data (IMD) in DoD Acquisitions*.

4.22.2.1. The LMDP, developed for MS A and updated at each Milestone, shall be approved by the MDA or as delegated in accordance with statute and regulation.

4.22.2.2. At a minimum, the plan will be reviewed and agreements for production reaffirmed with the Intelligence Community via the program's Center Intelligence Office prior to each Milestone Decision. The plan can be developed and maintained as a stand-alone document or incorporated into the AS.

4.23. Information Support Plans (ISP). The ISP identifies IT and information needs, dependencies, and interfaces for all programs, focusing on net-readiness, interoperability, information supportability, and information sufficiency concerns. Additional guidance on ISPs can be found in: the DAG; DoDD 4630.05, *Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)*; DoDI 4630.8, *Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)*; and CJCSI 6212.01, *Net Ready Key Performance Parameters (NR KPP)*.

4.23.1. The PM shall prepare an ISP for IT and NSS programs regardless of ACAT and for systems in sustainment that exchange information of any type to other systems (e.g., not a stand-alone system or application). The Lead Command, as part of the requirements process and identification of Net-Ready Key Performance Parameter (NR-KPP), shall identify IT and NSS interoperability requirements, infrastructure, and other support requirements early in the life cycle.

4.23.2. Information Support Plans (including NSS) are required at the following intervals: Milestone B (Initial ISP), Critical Design Review (Revised ISP) (unless waived), Milestone C (ISP of Record).

4.23.3. The PM shall update/develop the ISP for a major modification to an IT/NSS system. A modification is major if any one of the following applies: the modification exceeds 10% of ACAT II minimum thresholds, the modification results in a change to the JCIDS or BCL requirements documents, or the Net-Ready KPP is changed or a new one developed.

4.23.4. For systems that will be part of a Family of Systems or System of Systems (FoS/SoS), an ISP is required unless waived. If the Milestone Decision Authority (MDA)/Cognizant Fielding Authority for the FoS/SoS approves, an annex to the FoS/SoS ISP may be developed to meet ISP requirements for a new system that is part of a FoS/SoS.

4.23.5. PMs that do not believe their IT or NSS system requires the development of an ISP shall submit a request to waive the ISP requirement IAW DoDI 4630.8.

4.23.6. If an intelligence appendix is developed, the PM shall coordinate the plan with the Center Intelligence Office and AFSPC or AFMC Intelligence Office.

4.23.7. ISPs prepared for Milestone Decision Reviews shall undergo the formal ISP review process before they can be approved by the MDA. ACAT I, ACAT IA, and special interest programs are reviewed at both the Air Force and Joint level. For ACAT II and below programs, the owning DoD Component shall select the appropriate additional DoD Components for the joint review; however, the review shall include at a minimum the Joint Staff and DISA. Review the following publications for detailed guidance and information on authority, roles and responsibility relating to the Information Support Plan: DoDD 4630.05, DoDI 4630.8, and CJCSI 6212.01. Reference the Information Support Plan Policy CoP and

the *Air Force Program Manager's Guide for Developing, Processing, and Approving Information Support Plans* for more information on the development, review, coordination, and approval of Information Support Plans.

4.24. Arms Control Compliance. The PM shall ensure all activities within the acquisition life cycle are compliant with all United States Government arms control obligations IAW AFI 16-601, *Implementation of, and Compliance With, International Arms Control and Nonproliferation Agreements*. This assessment will occur prior to all Milestone reviews or when concerns arise, whichever is earlier. If necessary, the PM shall seek (with Deputy Chief of Staff, Operation, Plans, and Requirements, (AF/A3/5) assistance) clearance to undertake or continue the activity in question from the appropriate Arms Control Compliance Review Group. PMs who oversee acquisition programs involving strategic weapons (e.g., bombs, warheads), their delivery vehicles (e.g., ballistic missiles, bombers, and cruise missiles, including their associated basing, testing, and launch facilities), or chemical and biological weapon defense-related materials and equipment should become aware of the implications and limitations that arms control treaties may have on or impact their program(s).

4.25. Legal Reviews. The PM shall ensure that all weapons and cyber capabilities are reviewed for legality at the earliest possible stage IAW AFI 51-402, *Legal Reviews of Weapons and Cyber Capabilities*. A legal review is required for both new acquisitions and modifications of existing weapons and cyber capabilities.

4.26. Security Cooperation and Foreign Military Sales (FMS). Security cooperation and FMS programs support U.S. foreign policy and national security objectives by enabling the United States to build, sustain, expand, and guide international partnerships that are critical enablers for its national security objectives.

4.26.1. The PM shall ensure Security cooperation FMS acquisition programs are executed in accordance with the Arms Export Control Act and DSCA 5105.38-M, *Security Assistance Management Manual (SAMM)*, DoD Financial Management Regulation 7000.14-R; AFMAN 16-101, *International Affairs and Security Assistance Management*; and DoD 5105.65-M, *Foreign Military Sales (FMS) Case Reconciliation and Closure Manual*. Implementation shall also be in accordance with the DoD 5000 acquisition series; the 99-series test AFIs; the 63-series acquisition AFIs; 14-series AFIs, and the 16-series operations support AFIs.

4.26.2. The PM responsibility for FMS programs is limited to elements/tasks contained in a government-to-government agreement and specifically implemented for execution to the PM, through the appropriate accountability reporting chain, by the assigned DoD component authority over the specific agreement.

4.27. Human Systems Integration (HSI). The PM shall employ human systems integration (HSI) to incorporate manpower, personnel, training, human factors engineering, safety, occupational health, personnel survivability, and habitability considerations to contribute to total system performance (hardware, software, and human) and the reduction of total ownership cost across the life-cycle. The PM may consult SG Occupational Medicine and Bio Engineer SMEs for current medical and environmental guidance to ensure proper risk management and inclusion in technical reviews. Refer to AFPAM 63-128 for more information.

4.28. Management of AF Training Systems. Refer to AFI 36-2251, *Management of Air Force Training Systems*, for specific requirements and responsibilities associated with the life cycle of

training systems, including aircrew mission training systems, maintenance training systems, and training services attendant to AF systems. Lead Commands may request PM participation in Training Planning Teams activities including accomplishing the Training System Requirements Analysis and the development of System Training Plans. Training systems that have been designated as stand-alone acquisition programs shall be governed in accordance with this instruction.

4.28.1. The PM shall coordinate their program plans and activities with the Training System PGM, lead commands, and HQ Air Education and Training Command (AETC) as necessary to meet training system life cycle cost, schedule, and performance requirements.

4.28.2. The PM shall include system training concepts and training system requirements in all ASs prepared for, and subsequent to, MS B. As appropriate, the PM will include training system PMs, lead and using commands, and HQ AETC during the development of system acquisition strategies, program plans, and pertinent contract documents such as System Requirements Documents.

4.28.3. The PM shall ensure training systems remain current with prime mission systems throughout the life cycle of a system in accordance with approved program documentation and funding. The PM shall ensure that all post-production system modification and upgrade programs conducted for prime mission systems also include modifications to the effected training systems.

4.28.4. The Lead Command and PM shall determine the training system fielding requirements necessary to support the fielding of prime systems and equipment. The PM shall coordinate training system product acceptance, movement, and delivery matters with the lead commands that will receive the training system(s).

4.28.5. The PM shall assist lead commands with management and reporting of training system concurrency matters.

4.28.6. The PM shall manage and execute the disposal of training devices in accordance with federal acquisition regulation and supplements, AFMAN 23-110, and AFI 23-501, *Retaining and Transferring Materiel*, as applicable. The PM will coordinate actions for the declassification and demilitarization of training devices, the removal and repatriation of system-common equipment, and the disposal of hazardous materials prior to the shipment of training devices to the Defense Logistics Agency Disposition Services or other final resting places.

4.29. End Use Certificates (EUC). The Air Force purchases foreign products to obtain products that best meet U.S. requirements, consistent with U.S. laws, regulations, and acquisition policy. Acquisitions of foreign products that meet DoD requirements also promote interoperability, standardization, and an expanded procurement base. EUCs shall be executed when the purchase of such products is in the best interest of the United States and an EUC is required by the foreign government for the purchase of foreign products. See DODD 2040.3, *End Use Certificates (EUC)*, for more details.

4.29.1. U.S. worldwide security responsibilities are extensive; recognition of these special circumstances require flexibility in international agreements in the authorized uses or transfer of purchased or co-developed articles and data. In various circumstances, international agreements have recognized U.S. “Use for Defense Purposes” of an item or data. Air Force

personnel should seek to maintain "Use for Defense Purposes" flexibility in EUCs that foreign governments require DoD to sign.

4.29.2. EUCs are divided into three categories:

4.29.2.1. Category I. Applies to acquisition items classified for security purposes by a foreign government and covered by the nonproliferation agreements to which the United States is a party (such as missile technology). This permits the item to be used by or for the U.S. Government in any part of the world and transfer by means of grant aid, International Military Education and Training (IMET) programs, FMS, and other security assistance and armaments cooperation authorities.

4.29.2.2. Category II. Applies to all other items not defined as either Category I or III.

4.29.2.3. Category III. Limits the right to use an item by or for the U.S. Government in any part of the world; or to provide the item to allies engaged together with the United States in armed conflict with a common enemy.

4.29.3. EUCs are a two part process consisting of approval of the EUC and signature of the EUC upon receipt of the product. EUCs shall be approved prior to contract award. Request to delegate signature authority shall be part of approval package. Approval and signature authorities for EUCs are as follows:

4.29.3.1. Category I and II. The SECAF, or a delegated civilian officer, appointed by the President with the advice and consent of the Senate, is the approval authority for Category I and II EUCs. This approval authority may not be further re-delegated. Following approval, signature authority can be delegated to PEO.

4.29.3.2. Category III. The SECAF or the SECAF representative must request authority from the USD(AT&L) to purchase an item with a Category III EUC. Following approval, signature authority can be delegated to PEO.

4.29.4. The PM shall maintain records of all EUCs and provide copies to USD(AT&L).

4.29.4.1. The PM should ensure compliance, for the life of the purchased item, with the transfer of use restrictions agreed to in signing an EUC.

4.29.4.2. The PM shall notify MAJCOM headquarters of the EUC approval and explain any restrictions on the use, transfer, or disposal of the item's hardware, technology, and associated technical data.

4.30. Other Acquisition Planning Requirements. The PM shall consider the planning requirements in Table 4.2. The planning requirements do not apply to all programs and should only be applied when required for the program.

Table 4.2. Other Acquisition Planning Requirements.

Name	Requirement Description	References
Replaced System Support Plan	Summarizes the plan for sustaining the replaced (existing) system during fielding and transition to the new system.	10 USC §2437; DoDI 5000.02
DoD Joint Services Weapon and Laser System Safety Review Process	Liaison with the Air Force Safety Center (AF/SEW) to ensure appropriate AF representation to conduct weapon and laser system safety reviews for joint systems being operationally deployed through the Joint Weapon Safety Review Process and Joint Laser Approval process.	DoDI 5000.69
Commercial Item Purchase	Commercial purchase determinations and guidance	FAR; DFAR; AFFARS; Part 12
Buy American Act	Applies to supplies and construction materials above the micro–purchases thresholds and restricts the purchase of supplies that are not domestic end products for use within the US.	41 USC §10a-10d; FAR Part 25; DFARS Part 225; AFFARS Part 5325
Berry Amendment & 10 USC §2533b	The Berry Amendment establishes domestic source preferences for different commodities, including textiles, specialty metals, and machine or hand tools, in DoD acquisitions above the simplified acquisition threshold. 10 USC §2533b establishes domestic source preferences for specialty metals.	10 USC. §2533a and §2533b; FAR Part 25; DFARS Part 225: AFFARS Part 5325
Lead Systems Integrator (LSI) Limitations.	No entity performing Lead System Integrator (LSI) functions in the acquisition of a major system by the Department of Defense shall have any direct financial interest in the development or construction of an individual system or element of a system of systems or is performing inherently governmental functions.	DFARS Part 209
Inherently Governmental Functions Determinations	Determination from the Installation Manpower Office identifying if there are military (active or Reserve Component) or civilian employees of the Air Force available to perform the functions and if the required services are inherently governmental, acquisition functions closely associated with inherently governmental functions, or otherwise inappropriate for performance by contractor employees.	DoDI 1100.22; FAR Subpart 7.5; DFARS Subpart 207.503(S-70); OFPP 11-01; 10 USC. §2383
Leasing	Guidance and regulations governing leasing equipment.	DFARS 207.4; *DoDFMR 7000.14-R;* OMB Circulars A-11; A-94
Scientific and Technical Information (STINFO)	STINFO must be properly marked for secondary distribution including the appropriate distribution statement, the export control warning and the proper destruction notice for destruction purposes when the data is no longer needed. Releasing offices and individuals must maintain a record of controlled STINFO releases for audit purposes.	DoDD 3200.12; DoDI 3200.14; DoDD 5230.24; DoDD 5230.25; AFPD 61-2; AFI 61-204

The Technical Cooperation Program (TTCP)	TTCP is used to acquaint participating countries with each other's technology base programs to avoid duplication and identify technologies of interest for possible collaboration.	DoDI 3100.08
Value Engineering	VE is one of the tools in the AF acquisition continuous process improvement tool kit. PMs include VE requirements on contracts as required by FAR Parts 48 and 52.	FAR Part 48 and 52; DoDI 4245.14
Green Procurement Program	EO 13514 and the SAF/IE, VCSAF, SAF/AQ Memo, *Green Procurement Program*, 2 June 2011 exempt weapon systems from the mandatory procurement preferences of the GPP. As a part of integrating ESOH into systems engineering, program offices should evaluate the inclusion of green alternatives in system design and services acquisition	E.O. 13514
Non-Lethal Weapons Development	Assess the risk of significant injury and determine the Human Effects Readiness Level, obtain appropriate legal reviews, and obtain DoD Human Effects Review Board evaluation and recommendations prior to each milestone decision.	DoDI 3200.19
Autonomy in Weapon Systems	When developing autonomous and semi-autonomous weapon systems, assess the requirements and guidelines in the directive.	DoDD 3000.09

Chapter 5

SYSTEMS ENGINEERING

5.1. Systems Engineering (SE) Overview. AF SE objectives are to provide a balanced approach in delivering a capability to war fighter and support program success through systematically increasing maturity and reducing risk over the acquisition life cycle. The AF has adopted the DAG definition of SE: "A logical sequence of activities and decisions transforming an operational need into a description of system performance parameters and a preferred system configuration." It requires optimization at the system level, using SE processes (paragraph 5.2.) throughout the lifecycle (paragraph 5.3.) to integrate user capability needs with design considerations (paragraph 5.4.) to affordably satisfy customer needs. AF PEOs and PMs, through their LSEs, shall implement SE in accordance with DoDI 5000.02 and AF-unique direction provided in this AFI. The Defense Acquisition Guidebook (DAG) establishes the DoD expectations for implementation of DoDI 5000.02 for ACAT ID and other OSD-reviewed programs. For consistency and interoperability, this chapter is aligned with DoDI 5000.02 and the DAG.

5.1.1. Systems Engineering Plan (SEP). The PM's fundamental technical planning document is the SEP. It defines methods for implementing all system requirements having technical content, technical staffing, and technical management.

5.1.1.1. This AFI delegates SEP approval authority from the SAE to the PEO for ACAT I and II programs. For ACAT III programs, the MDA is the approval authority. PEOs for ACAT I, IA, and non-delegated ACAT II programs shall coordinate SEPs with SAF/AQR prior to approval.

5.1.1.2. The PM, with the support of the LSE, shall prepare a SEP for formal approval at MS A, MS B, and MS C. The PM shall comply with standard content and format of the DoD SEP Outline. SEPs should reference organization or portfolio standard engineering process documents, if appropriate. Deviations from these referenced standard engineering processes should be documented in the SEP.

5.1.1.3. The LSE shall review the SEP annually to ensure its currency and consistency with other program documentation. The SEP should be a "living" "go to" technical planning document and the blueprint for the conduct, management, and control of the technical aspects of the government's program from concept to disposal. SE planning should be kept current throughout the acquisition lifecycle.

5.1.1.4. The PM shall ensure that the contractor systems engineering approach is aligned to the program's SEP.

5.1.2. Assurance of Operational Safety, Suitability, and Effectiveness (OSS&E). The PM is responsible for assuring the OSS&E of systems and end items. OSS&E is an outcome of properly applied engineering principles, processes, and practices as opposed to a separate discipline, process, or design consideration. Configuration management and control, deficiency reporting and response, reliability, maintainability, integrity, ESOH risk management, mishap investigation, and other engineering practices combine to assure that systems and end items remain operationally safe, suitable, and effective across the life cycle.

The PM shall include representatives of the operational, maintenance/sustainment, safety, and test and evaluation communities in this effort. In order for the PM to assure overall system OSS&E, the PM shall establish and document relationships and responsibilities with other organizations that support or interface with systems or end items managed by the PM. The PM shall monitor the fielded system by tracking and evaluating system data to ensure the preservation of OSS&E.

5.1.2.1. Operational Safety. The condition of having acceptable risk to life, health, property, and environment caused by a system or end item when employing that system or end item in an operational environment. The PM shall utilize the established system safety process to assure operational safety.

5.1.2.2. Operational Suitability. The degree to which a system or end item can be placed satisfactorily in field use, with consideration given to availability, compatibility, transportability, interoperability, reliability, maintainability, wartime use rates, full-dimension protection, operational safety, human factors, architectural and infrastructure compliance, manpower supportability, logistics supportability, natural environmental effects and impacts, and documentation and training requirements.

5.1.2.3. Operational Effectiveness. The overall degree of mission accomplishment of a system or end item used by representative personnel in the environment planned or expected (e.g., natural, electronic, threat) for operational employment, considering organization, doctrine, tactics, information assurance, force protection, survivability, vulnerability, and threat (including countermeasures; initial nuclear weapons effects; and nuclear, biological, and chemical contamination threats). The PM maintains the operational effectiveness of the system by ensuring that it continues to satisfy the documented user capability requirements.

5.1.3. Certifications. Certifications provide a formal acknowledgement by a mandatory approval authority that a system or program meets specific requirements.

5.1.3.1. The PM shall include in the SEP applicable certifications for the program and when they are required. The PM shall also include certification activities and events in the IMS. The PM shall ensure all required certifications are obtained prior to testing and operational use, and maintained for the life of the system.

5.1.3.2. DoDI 5000.02, Enclosure 4, and the DAG provide a list of statutory and regulatory requirements and certifications.

5.1.4. SE Role in Contracts. SE requirements must be included in each program contracting effort to ensure offerors provide sufficient SE resources. The primary tool for shaping a program contract is the RFP.

5.1.4.1. The LSE shall participate in the RFP development team and be responsible for all technical aspects of the RFP. The LSE shall, at a minimum, ensure that the RFP:

5.1.4.1.1. References required operational documentation and specifications;

5.1.4.1.2. Identifies appropriate design requirements (e.g. reliability and maintainability, corrosion prevention, ESOH, and security);

5.1.4.1.3. Identifies government-required technical data to be produced by the contractor;

5.1.4.1.4. Specifies testing and verification requirements;

5.1.4.1.5. Specifies all technical review and technical documentation requirements.

5.1.4.2. The *DoD Guide for Integrating Systems Engineering into Contracts* provides additional guidance on SE role in contracts.

5.1.5. System of Systems (SoS) and Family of Systems (FoS) Engineering. SE for SoS/FoS emphasizes interoperability among systems developed under different sponsorship, management, and primary acquisition processes, and often operated by other Services, Agencies, allies, and coalition partners.

5.1.5.1. The PM shall analyze the program's CONOPS and capability document to identify external dependencies and interoperability needs and ensure that they are integrated into the program's requirements decomposition, risk management, interface management, architecture, verification, validation and other processes.

5.1.5.2. M&S is an effective means for understanding complex SoS/FoS, and can provide insights into interoperability in the SoS/FoS mission context.

5.2. Systems Engineering Processes. The DAG identifies eight technical management processes and eight technical processes. Application of SE processes enables sound decision-making which increases capability maturity and reduces risk. For consistency, this AFI adopts DoD SE process terminology. The PM shall document the tailoring of SE processes in the SEP.

5.2.1. Technical Management Processes.

5.2.1.1. Technical Planning. Technical planning identifies processes, schedules, personnel/skills, facilities, and other internal and external resources necessary for the technical effort. The SEP is the program's fundamental technical planning document (see paragraph 5.1.1.), but the LSE substantially contributes to other program documentation including the IMP, IMS, WBS, TDS/AS, TEMP, LCSP, RFP, PPP, IUID plan, CPCP, and PESHE.

5.2.1.2. Decision Analysis. Decision analysis helps the PM and the LSE understand the impact that uncertainty has on decision-making, and identifies and communicates a course of action that best balances competing objectives. The LSE identifies, organizes, and executes necessary trade studies to support program technical decisions and present the resulting recommendations to the PM.

5.2.1.3. Technical Assessment. Technical assessment consists of formal technical reviews established by DoDI 5000.02, internal assessments of program technical performance against measures, and external assessments and audits. Formal technical reviews assess design progress, technical risk, and program maturity at key points in life cycle, and determine whether to proceed to next level of development. The principal formal technical reviews are the Alternative Systems Review, System Requirements Review, System Functional Review, Preliminary Design Review (PDR), Critical Design Review (CDR), System Verification Review, Functional Configuration Audit, Production Readiness Review (PRR), and Physical Configuration Audit.

5.2.1.3.1. The PM and LSE co-chair principal formal technical reviews. The PM ensures that principal formal technical reviews are event-driven and that entrance and exit criteria are established ahead of time as identified in the SEP.

5.2.1.3.2. For MDAPs, the PM shall invite independent SMEs from outside the program to attend principal formal technical reviews and shall invite cognizant DASD(SE) staff members to the CDR.

5.2.1.3.3. Technology Readiness Assessments (TRA). TRA is the primary tool to assess maturity of critical technologies. TRAs are mandatory for MDAPs at MS B (or at a subsequent milestone if there is no MS B) per DoDI 5000.02. They are not required for MAIS programs, non-MDAPs or MDAP MS C decisions, except for MDAPs entering the acquisition process at MS C. MDAs for non-ACAT I programs should require the PM to perform a TRA for a program with high technological risk. If a program is required to conduct a TRA, the PM must obtain SAF/AQR approval on behalf of SAF/AQ for each of the following: TRA Plan, final critical technology list, Draft (also known as 'Preliminary') TRA Report, and Final TRA Report. Reference USD(AT&L) Memo, *Improving Technology Readiness Assessment Effectiveness*, 11 May 2011, and *Department of Defense Technology Readiness Assessment (TRA) Guidance*.

5.2.1.3.4. For Space Acquisition Programs, the MDA shall conduct a Post-System Design Review Assessment (P-SDRA). This is normally conducted prior to the PDR and MS B.

5.2.1.4. Requirements Management. The PM implements a consistent and rigorous process for development, establishment, and control of technical requirements. The PM ensures that all requirements in the system specification are traceable to stated user capability needs.

5.2.1.5. Risk Management. The LSE ensures that technical risks are incorporated into the program's overall risk management effort as described in Chapter 3.

5.2.1.6. Configuration Management (CM). CM establishes and maintains consistency of program baselines throughout the life cycle. CM is an essential element of the PM's effort to assure OSS&E. MIL-HDBK-61, *Configuration Management Guidance*, contains detailed information about CM.

5.2.1.6.1. The PM shall use CM to establish and control product attributes and technical baselines across the total system life cycle. Baselines shall be updated to reflect any modifications or changes to the product, system or end-item.

5.2.1.6.2. PM shall ensure key CM practices and responsibilities are summarized in the SEP in accordance with the DoD SEP Outline.

5.2.1.7. Data Management (DM). DM identifies, acquires, manages, maintains, and provides access to the technical data and computer software required to manage and support a system throughout its life cycle. See Chapter 6.

5.2.1.8. Interface Management (IM). The IM process ensures interface definition and compliance among the internal elements that comprise a system, as well as with other systems. The LSE ensures that all internal and external interface requirement changes are documented in accordance with the program's CM plan.

5.2.2. Technical Processes.

5.2.2.1. Stakeholder Requirements Definition. The PM and LSE work with the user to establish, assess and refine operational needs, attributes, performance parameters, and constraints that flow from and influence user described capabilities.

5.2.2.2. Requirements Analysis. The purpose of the requirements analysis process is to ensure that stakeholder requirements are analyzed, decomposed and functionally detailed across the design concept. The PM ensures that all relevant program requirements and design considerations (see paragraph 5.4.) are addressed in program specifications and baselines.

5.2.2.3. Architecture Design. The PM shall ensure that architectural descriptions conform to the requirements of the DoD Architecture Framework (DoDAF). For IT and NSS, the PM shall work with the applicable sponsor to ensure architectures are developed in accordance with CJCSI 3170.01, CJCSI 6212.01 and AFI 33-401, *Air Force Architecting*. For IT and NSS, the PM shall also ensure that the architectures are aligned with the Air Force Enterprise Architecture and DoD Business Enterprise Architecture (BEA) when applicable.

5.2.2.3.1. The PM and LSE ensures that architecture products include the program's system as well as its potential interfaces and/or impacts to external systems (i.e., the Family-of-Systems / System-of-Systems (FoS/SoS) environment). The PM develops architecture products as early as possible and maintains them throughout the life cycle.

5.2.2.3.2. The PM shall conduct architecture-based assessments of trades in the overall operational context. The PM shall ensure that each principal formal technical review includes an architecture-based assessment to confirm that the system development remains aligned to the operational requirements.

5.2.2.3.3. All architectures shall be approved in accordance with AFI 33-401, including any architecture that goes to the AFROC or JROC.

5.2.2.4. Implementation. Implementation provides the system design and creates the lowest level subsystems in the system hierarchy by increasing subsystem maturity, reducing subsystem risk, and ensuring the subsystems are ready for integration, verification, and validation.

5.2.2.5. Integration. Integration systematically assembles lower level system elements into successively higher-level subsystems, with subsystem verification at each step.

5.2.2.6. Verification. Verification confirms that the program's system satisfies system specifications. The PM shall manage verification activities, to include developmental testing, and review the results of verification throughout the life cycle.

5.2.2.7. Validation. Validation provides objective evidence that the system meets user capability needs and achieves its intended use in its intended operational environment. OT&E is a core validation process. Refer to AFI 99-103 for more information on T&E processes. The PM shall ensure the system is ready for OT&E.

5.2.2.8. Transition. Transition delivers and sustains a system for the end user.

5.2.2.8.1. The LSE works with the PSM to ensure that the LCSP includes appropriate technical information for sustainment and product support.

5.2.2.8.2. The PM shall provide Technical Orders and other maintenance and supportability technical data to the end user IAW Chapter 6.

5.2.2.8.3. The PM shall establish and maintain deficiency reporting processes appropriate to the life cycle phase and ensure that all validated deficiency reports are tracked to actual resolution of the deficiency. The LSE documents this process in the SEP no later than FRP. Refer to TO-00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, for more information.

5.2.2.8.4. The PM and LSE co-chair in-service review(s) to address deficiencies.

5.3. SE Activities in the Life Cycle. SE must be an integral part of the life cycle from development planning through system demilitarization and disposal.

5.3.1. Early SE. Early SE encompasses pre-acquisition technical planning, principally in support of MDD and Analysis of Alternatives (AoA), to ensure leadership is offered trade space for portfolio and risk management. CCTD's document the results of early SE and concept development activities and are the principal artifacts of Early SE. The *AF Early SE Guide* and the *AF CCTD Guide* provide additional information.

5.3.1.1. CCTD's prepared for an AFRB preceding MDD shall be provided to SAF/AQR 90 days prior to the AFRB. SAF/AQR shall review the CCTD and provide technical recommendations to the AFRB.

5.3.2. SE during System Development. During system development, SE uses the SE processes (paragraph 5.2.) to integrate user capability needs with design considerations (paragraph 5.4.) to affordably satisfy customer needs.

5.3.3. Sustainment SE. Beginning at IOC, sustainment SE is focused on maintaining the OSS&E of the system (see 5.1.4. and 5.2.1.4.).

5.3.4. SE in Support of Demilitarization and Disposal. See Chapter 6.

5.4. SE Design Considerations. This section identifies considerations that the PM and LSE integrate into the requirements analysis process. The LSE uses SE processes across the life cycle to accomplish trade-offs to provide balanced solutions, optimized at the system-level, that affordably satisfy desired user capabilities. This list includes the AF-unique design considerations plus the 25 DoD design considerations from the DAG.

5.4.1. Air Force-Unique Design Considerations.

5.4.1.1. Recorded Aircraft Information (RAI). All Air Force weapon systems that require airworthiness certification shall evaluate and integrate weapon system information requirements. The PM, in collaboration with data user stakeholders, shall conduct a systematic assessment of information needs (including mishap investigation, integrity programs, maintenance and operational analyses) to ensure the capture of critical information and optimization of benefit while minimizing cost. The uses of RAI include the following:

5.4.1.1.1. Military Flight Operations Quality Assurance (MFOQA). MFOQA provides insight into the operational usage of the aerial system through analysis of flight maneuvers and identification of hazard trends and facilitates risk assessment

and mitigation activities. See AFI 90-1301, *Implementing Military Flight Operations Quality Assurance*, for more information.

5.4.1.1.1.1. The PM shall provide integrated system solutions that support customer-defined MFOQA capability needs for each MDS the AF acquires or uses (including manned and unmanned).

5.4.1.1.1.2. The PM shall assist lead commands in assessing risks and determining mitigation measures when MFOQA data analyses identify new hazards.

5.4.1.1.2. Crash Survivable Recorders for Aircraft. All Air Force aircraft requiring airworthiness certification shall record crash survivable parametric and acoustic data to support mishap investigation that meets the minimum requirements listed in AFH 63-1402, *Aircraft Information Program* (will convert to AFMAN 63-134).

5.4.1.1.2.1. The responsible lead command shall obtain a waiver from the AF Vice Chief of Staff for aircraft that are not equipped with minimum required capability.

5.4.1.1.2.2. The PM shall provide cost, schedule, and technical information to support a lead command waiver request.

5.4.1.1.3. Service Use and Performance Data. The collection and monitoring of service use and performance data (including maintenance discrepancy reports, user feedback, system/component failure reports and mishap data) enables the continuous assessment of fielded system technical health against documented performance requirements and effectiveness, suitability, and risk measures.

5.4.1.1.3.1. The PM shall integrate system and end-item operational and maintenance data collection, storage, and transmission.

5.4.1.1.3.2. For aircraft, the PM shall integrate user-defined, capability-based, enhanced flight data requirements (CBM+, integrity, training, MFOQA, etc.) with the mandatory crash survivable recorder requirement when identifying an aircraft flight data parameter recording, storage, and transmission capability.

5.4.1.2. Mission Assurance for Space Programs. The PM shall ensure that Mission Assurance is an integral part of the space system development, and is integrated throughout life cycle and documented in life cycle documentation.

5.4.1.3. Product and System Integrity. For all new or modified systems, the PM shall plan and implement effective integrity programs. For all aircraft which the Air Force has airworthiness certification responsibility, the PM shall have an Aircraft Structural Integrity Program (ASIP) IAW AFI 63-1001.

5.4.1.3.1. Corrosion prevention and control (CPC) (which is the prevention and control of material degradation) is an important element of product and system integrity. The PM shall integrate CPC with program integrity efforts.

5.4.1.3.2. Each ASIP shall be developed, documented, approved, and executed according to MIL-STD-1530, *Aircraft Structural Integrity Program (ASIP).*

5.4.1.3.3. Other aircraft-related integrity efforts should be developed, documented, approved, and executed according to the following documents: MIL-STD-3024, *Propulsion System Integrity Program*; MIL-STD-1798, *Mechanical Equipment and Subsystem Integrity Program*; MIL-STD-1796, *Avionics Integrity Program*; MIL-HDBK-513, *Low Observable Integrity Program*.

5.4.1.4. Air Force Metrology and Calibration (AFMETCAL). Acquisition of systems and equipment shall include assessment of calibration and measurement requirements IAW AFI 21-113, *Air Force Metrology and Calibration Management*.

5.4.2. Accessibility. The PM shall ensure that all electronic and information technology systems comply with Section 508 of the Americans with Disabilities Act (36 CFR Part 1194), unless exempt under FAR 29.204 as a military system or NSS.

5.4.3. Affordability-SE Tradeoff Analysis.

5.4.3.1. At MS A, the PM shall establish an affordability target and it shall be treated as a KPP. This target (initially, average unit acquisition cost and average annual operating and support cost per unit) shall be the basis for pre-MS B decision-making and SE tradeoff analysis.

5.4.3.2. At MS B, the PM shall provide cost tradeoff curves or trade space around major affordability drivers (including KPPs when they are major cost drivers) to show the program has established a cost-effective design point for these affordability drivers.

5.4.4. Anti-Counterfeiting. The PM shall manage the risk of counterfeit components as a part of Program Protection Planning as described in Chapter 4.

5.4.5. Commercial-Off-the-Shelf (COTS). For COTS systems and components being contemplated for use in the program, the PM shall evaluate the risks of using those items in the intended military use environment. The PM shall apply the appropriate SE processes and design considerations to COTS systems and components in order to assure OSS&E.

5.4.6. Corrosion Prevention and Control (CPC). The AF CPC program is a part of the long-term DoD CPC strategy that supports reduction of total system ownership cost. See DoDI 5000.67, *Prevention and Mitigation of Corrosion on DOD Military Equipment and Infrastructure*, DoDI 5000.02, and the DAG for additional guidance. Further information, including the *DoD Corrosion Prevention and Control Planning Guidebook*, can be found at the CorrDefense website.

5.4.6.1. The PM shall conduct CPC planning and integrate into appropriate program documentation including the SEP and LCSP.

5.4.6.1.1. For ACAT I Programs, the PM shall summarize CPC planning in the "Design Considerations" section of the SEP at MS A and prepare a Corrosion Prevention and Control Plan (CPCP) for MS B and MS C. The CPCP shall be included in the SEP.

5.4.6.2. The PM shall evaluate CPC as a part of SE trades throughout program design and development activities.

5.4.6.3. For new starts, the PM shall obtain early AF Corrosion Control and Prevention Executive (CCPE) involvement in program corrosion planning efforts.

5.4.6.4. IAW DFARS Subpart 223.73, Minimizing the Use of Materials Containing Hexavalent Chromium, the PM shall not use hexavalent chromium in new systems (as defined in the DFARS subpart) unless the use is approved by the PEO, with the AF CCPE's coordination. Critical reasons for approving the use of hexavalent chromium include unacceptable corrosion prevention performance or life cycle sustainment impacts of available alternatives. During system modifications, follow-on procurements of legacy systems, or maintenance procedure updates, the PM shall evaluate the opportunity to cost-effectively and safely replace hexavalent chromium without adversely impacting R&M. (The *AF Life Cycle Management Center Process Guide* provides guidance on documenting and coordinating PEO approval of hexavalent chromium for new systems.)

5.4.7. Critical Safety Items (CSI). Critical Safety Items are parts whose failure could cause loss of life, permanent disability or major injury, loss of a system, or significant equipment damage. CSI should not be confused with "safety critical items" as defined in MIL-STD-882. CSI statutory requirements are contained in Public Law 108-136, sec 802 and are codified in 10 4778 U.S.C. 2319. See also DFARS 246.407, "*Nonconforming Supplies or Services*," and DFARS 246.371, "*Notification of Potential Safety Issues*."

5.4.7.1. The PM shall identify CSIs prior to CDR and identifies CSIs on bills of materials.

5.4.7.2. The PM shall obtain CSIs only from sources approved by the Engineering Support Activity (ESA). This applies only to CSIs not under the direct engineering authority of the program.

5.4.8. Diminishing Manufacturing Sources & Material Shortages (DMSMS). DMSMS is the loss, or impending loss, of manufacturers or suppliers of items, raw materials, or software. The PM integrates DMSMS into program risk management activities (see Chapter 3). Consult SD-22, *Diminishing Manufacturing Sources and Material Shortages (DMSMS) Guidebook*, for additional information.

5.4.9. Disposal and Demilitarization. See Chapter 6.

5.4.10. Environment, Safety, and Occupational Health (ESOH). The PM shall:

5.4.10.1. Eliminate hazards where possible and manage ESOH risks of hazards that cannot be eliminated.

5.4.10.2. Ensure ESOH considerations are integrated into SE using the system safety process described in MIL-STD-882.

5.4.10.3. Integrate ESOH and Human Factors Engineering.

5.4.10.4. Ensure the MS A SEP identifies the strategy for integrating ESOH considerations into SE process and relationships between ESOH effort and other SE activities, contractual requirements, and NEPA compliance requirements for TD.

5.4.10.5. Include the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) and the NEPA compliance schedule in subsequent SEPs.

5.4.10.6. Ensure the PESHE is a repository for ESOH risk data, to include hazardous materials, and environmental impact information necessary to support NEPA analysis. The PESHE will identify hazards and record initial ESOH risk assessments, risk

mitigation measures, target risk levels, and event risk acceptance decisions throughout the life of the program.

5.4.10.7. Maintain a compliance schedule for NEPA implementation requirements (32 CFR 989) across life cycle.

5.4.11. Human Factors Engineering (HFE). SE manages system development and sustainment by addressing each system as having three major components: hardware, software, and human. The PM shall integrate HFE considerations with SE throughout life cycle to balance total system performance. Refer to MIL-STD-1472, *DoD Design Criteria Standard: Human Engineering*, and MIL-STD-46855, *DoD Standard Practice for Human Engineering Requirements for Military Systems, Equipment, and Facilities*.

5.4.12. Insensitive Munitions (IM). The *DoD Acquisition Manager's Handbook for Insensitive Munitions* contains guidance and appendices for each Service's policies and review board processes. The PM for a munitions system shall ensure that applicable IM requirements are incorporated into the system design and that all required safety reviews and certifications are obtained IAW DoDI 5000.69, *DoD Joint Services Weapon and Laser System Safety Review Process*.

5.4.13. Intelligence. See Chapter 4.

5.4.14. Item Unique Identification (IUID). See Chapter 6.

5.4.15. Interoperability & Dependency (I&D).

5.4.15.1. See paragraphs 5.1.7. for SoS/FoS and 5.2.2.3. for I&D in architecting. Refer to Chapter 7 for additional information on interoperability of IT and NSS.

5.4.15.2. DoD 4120.24M, DoDI 2010.06, and AFI 60-101 provide guidance on considering applicable U.S. ratified International Standardization Agreements for system compatibility and logistics interchangeability of materiel in allied and coalition operations.

5.4.15.2.1. The PM shall address system compatibility and logistics interchangeability for allied and coalition operations (e.g., databases, fuel, transportability, ammunition, etc.) that may need to be identified and require verification to ensure a capability is interoperable in accordance with the JCIDS Manual.

5.4.15.2.2. The PM shall address future multinational operations in acquisition of all materiel intended for use by U.S. Forces. Refer to DoDI 2010.06, *Materiel Standardization and Interoperability with Allies and Coalition Partners*. For programs delivering capabilities with potential use in allied and coalition operations, the PM identifies and assesses International Standardization Agreements applicable to areas such as cross-servicing (with interchangeable fuels, lubricants, gases, and munitions), armaments, air transport and airdrop, medical evacuation, combat search and rescue, crash/fire/rescue, and geospatial/intelligence (including classification standards).

5.4.15.2.3. Following approval of the AS, the PM shall notify AF/A5 and SAF/AQ of all applicable International Standardization Agreements that are not included in a SRD or system specification to allow agreement reservations to be registered with

appropriate multinational body. Refer to AFI 60-106, *The United States Air Force International Military Standardization Program*, for further information.

5.4.16. Open Systems. An open systems approach to design development results in modular, interoperable systems that allow components to be added, modified, replaced, removed and/or supported by different vendors throughout each system's life cycle. The PM shall apply a Modular Open Systems Approach (MOSA) and Open Technology Development wherever feasible. The LSE uses the technical architecture and market research of potential technologies and sources of supply to craft an open system approach that maximizes technology reuse and system interoperability, and that reduces dependency on proprietary data and total life cycle costs.

5.4.17. Operational Energy. The LSE shall incorporate energy demand in the system trade space along with other performance issues to support informed decision-making to respond to the threshold and objective values of the Energy KPP for the program.

5.4.18. Packaging, Handling, Storage and Transportation (PHS&T). The LSE identifies PHS&T requirements based on operational capabilities and cost considerations. See DoDI 4140.01 and DoD 4140.1-R, *Supply Chain Materiel Management Regulation*, for weapon systems PHS&T.

5.4.19. Producibility, Quality & Manufacturing Readiness. This design consideration is closely linked to the TRA process, reliability and maintainability, product and system integrity, and the deficiency reporting process. Refer to MIL-HDBK-896, *Manufacturing and Quality Program*, the DAG, and the *DoD Manufacturing Readiness Level (MRL) Deskbook* for more information.

5.4.19.1. PM and LSE shall ensure that the contractor establishes a quality management system to ensure product quality, and shall consider including achievement of product quality objectives in evaluations of contractor performance. Refer to AFI 63-501, *AF Acquisition Quality Program*.

5.4.19.2. The PM shall conduct assessments of manufacturing readiness and address manufacturing readiness at principal formal technical reviews and milestone reviews.

5.4.20. Program Protection Planning. See Chapter 4 and refer to MIL-HDBK-1785, *System Security Engineering Program Management Requirements*.

5.4.21. Reliability and Maintainability (R&M) Engineering. Refer to *DoD Guide for Achieving Reliability, Availability, and Maintainability* and the *DoD Reliability, Availability, Maintainability, and Cost (RAM-C) Rationale Report Manual* for additional information. The RAM-C Report documents the rationale behind the development and balancing of sustainment requirements.

5.4.21.1. PM shall conduct an analysis of user's R&M requirements and flow them into the system specification and appropriate contractual requirements.

5.4.21.2. PM shall include a RAM-C Report in the SEP at MS A and update it to support the RFP pre-release review at MS B and MS C.

5.4.21.3. PM shall document the reliability growth strategy and reliability growth curve in the SEP.

5.4.21.4. The PM shall document the reliability growth curve and verification methods for R&M requirements in the TEMP.

5.4.21.5. The PM shall ensure Reliability Centered Maintenance Analysis (RCMA) or similar data-driven analysis processes are employed throughout the life cycle to determine proper balance of planned and unplanned maintenance, and to establish effective failure management strategies. See DoD 4151.22M, *Reliability Centered Maintenance (RCM)*, for more details.

5.4.21.5.1. The PM shall apply Condition-Based Maintenance Plus (CBM+) to improve the reliability and maintenance effectiveness of DoD systems and components. See DoDI 4151.22 for more details.

5.4.21.5.2. The PM shall include CBM+ in the selection of maintenance concepts, technologies, and processes for all new weapon systems, equipment, and materiel programs based on readiness requirements, life-cycle cost goals, and RCM-based functional analysis.

5.4.21.5.3. The PM shall implement CBM+ on existing programs where technically feasible and beneficial.

5.4.22. Software Engineering. SE manages system development and sustainment by addressing each system as having three major components: hardware, software, and human. The PM shall ensure key software focus areas are addressed throughout the life cycle. For focus areas and software best practices refer to the *USAF Weapon Systems Software Management Guidebook*. Focus areas can be tailored and incorporated as appropriate in the SEP, TDS, or AS. The PM shall ensure that software assurance and software safety principles are addressed throughout life cycle and shall apply Modular Open Systems Approach (MOSA) and Open Technology Development to software wherever feasible. Refer to the *Joint Software Systems Safety Engineering Handbook* and MIL-STD-882 for more information. PMs shall use the Cost and Software Data Reporting (CSDR) system to submit the Software Resources Data Report (SRDR). Refer to DoD 5000.04-M-1, *Cost and Software Data Reporting (CSDR) Manual*, for more information.

5.4.23. Spectrum Management. Spectrum management is the planning, coordinating, and managing of the joint use of the electromagnetic spectrum through operational, engineering, and administrative procedures. Systems using or impacting the electromagnetic spectrum must obtain spectrum certification to comply with national and international laws as well as established treaties. Reference DoDI 4650.01, *Policy and Procedures for Management and Use of the Electromagnetic Spectrum*, AFI 33-118, *Electromagnetic Spectrum Management* for additional information and definitions of spectrum management terms.

5.4.23.1. The PM shall address spectrum supportability and requirements as early as possible in the acquisition life cycle to mitigate programmatic risk but no later than MS B.

5.4.23.2. The PM shall ensure system documents (including contract deliverables) properly address characteristics required by the equipment spectrum certification process described in AFI 33-118.

5.4.23.3. The PM shall ensure electronic and electrical systems, subsystems, and equipment, including ordnance, procured for U.S. forces are mutually compatible in the operational electromagnetic environment in accordance with DoDD 3222.3_AFPD 33-5, *DoD Electromagnetic Environmental Effects (E3) Program*.

5.4.24. Standardization. Refer to DoD 4120.24-M, *Defense Standardization Program*, Chapter 3, "Standardization in the Acquisition Process." The PM shall utilize non-governmental consensus standards, if available, when identifying compliance documents in contracts.

5.4.25. Supportability. See Chapter 6.

5.4.26. System Survivability (including CBRN) & Susceptibility. Survivability requirements apply to all programs including those utilizing COTS/NDI.

5.4.26.1. PM shall address survivability requirements and performance parameters across the life cycle.

5.4.26.2. PM shall ensure survivability design, test, and analysis activities are based on CONOPS and threat assessments (including nuclear, biological, chemical, conventional, radiological, blast and fragmentation, electromagnetic, cyber, and natural environments).

5.4.26.3. PM shall implement a hardness assurance, maintenance, and surveillance program if system requires hardening to survive against nuclear, ballistic, chemical, biological, high power microwave, or laser threats. Refer to DNA-H-93-140, *Military Handbook for Hardness Assurance, Maintenance, and Surveillance (HAMS)*.

5.4.26.4. PM shall implement survivability policy and guidance found in:

5.4.26.4.1. Public Law 108-375, Section 141 *Development of Deployable Systems to Include Consideration of Force Protection in Asymmetric Threat Environment*, and Section 1053, *Survivability of Critical Systems Exposed to Chemical or Biological Contamination.*

5.4.26.4.2. 50 USC §1522, *Conduct of Chemical and Biological Defense Program (CBDP)*.

5.4.26.4.3. DoDD 3222.3, *DOD Electromagnetic Environmental Effects (E3) Program*.

5.4.26.4.4. MIL-HDBK-237, *Electromagnetic Environmental Effects and Spectrum Certification Guidance for the Acquisition Process*.

Chapter 6

PRODUCT SUPPORT REQUIREMENTS

6.1. Product Support/Sustainment Planning Overview. Product support is a continuous and collaborative set of activities that establishes and maintains readiness and the operational capability of a system, subsystem, or end-item throughout its life cycle. A product support strategy shall be built around the integrated product support elements as identified in the *DoD Product Support Manager Guidebook* to integrate the phases of a system throughout its life cycle. The product support strategy is the business and technical approach to design, acquire, and field the product support package to execute the sustainment strategy. It begins as a broad concept and evolves into a detailed implementation plan documented in the LCSP.

6.1.1. The PM retains overall responsibility for all aspects of program. The PSM reports directly to, and is accountable to, the PM for the execution of all product support requirements, to include integrity programs and corrosion prevention and control, within the PM's scope of responsibilities. The PSM develops and implements a comprehensive product support strategy for each applicable program, for more information on PSM and product support responsibilities refer to *PSM Guidebook* and *Integrated Product Support Element Guidebook*.

6.1.2. The PSM shall ensure the appropriate concepts, techniques, and analyses necessary to assure achievement of defined supportability and support requirements and objectives are applied. The PSM is responsible to the PM to ensure that integrated product support objectives are considered and introduced as early as practical with a far-reaching life cycle view concerning logistics design and supportability of the system. This activity requires integration of current product support concepts into preliminary planning to evaluate the various options for product support from the standpoint of life cycle cost and parameters to ensure balanced life cycle strategy. The PSM shall conduct periodic reviews at least every five years to assess and revalidate the product support strategy and adjust allocations and performance requirements to validated warfighter needs.

6.2. Product Support Business Model (PSBM). PSBM is a strategy for product support planning and management for the life cycle product support. The PM has substantial discretion in determining the implementation of the PSBM and develop performance-based agreements with warfighter customer(s), Product Support Integrator (PSIs), and Product Support Provider (PSPs) to meet the overall performance requirements and support validated warfighter needs. However, in all implementations of the PSBM, the PSM shall ensure that the support necessary to satisfy all of the Product Support Elements is within the scope of the agreements with one or more PSIs.

6.2.1. Product Support Integrators (PSI). The PSI is defined as an entity within the Federal Government or outside the Federal Government charged with integrating all sources of product support, both private and public, defined within the scope of a product support arrangement. The PSM may have more than one PSI supporting the Program.

6.2.2. Product Support Providers (PSP). A PSP is an entity that provides product support functions. A PSP may be an entity within the DoD, an entity within the private sector, or a partnership between such entities.

6.3. Weapon System Sustainment (WSS). WSS is a subset of Readiness and O&S funding that includes Contract Logistics Support (CLS), Depot Purchased Equipment Maintenance (DPEM), Sustaining Engineering, Technical Orders, organic maintenance, repair and overhaul. WSS does not encompass all areas of O&S; non-WSS categories include depot level reparables and consumables for organically managed aircraft and the Flying Hour Program. WSS costs should be balanced with readiness needs and addressed as part of the product support strategy.

6.4. Centralized Asset Management (CAM). CAM is the management and execution of sustainment funding by one AF process owner. AFMC is the designated AF CAM Executive Agent for CAM-associated funding and requirements determination. **NOTE:** Air National Guard, AF Reserve Command, AF Space Command, AF Weather Agency and AF Flight Standards Agency utilize CAM processes and schedules, but manage their own requirements validation and execution of funds.

6.4.1. MAJCOMs and PMs shall utilize the HQ AFMC developed CAM procedures, meet established timeframes/suspense, and support associated reviews.

6.4.1.1. MAJCOMs and PMs shall utilize the government registered system Centralized Access for Data Exchange (CAFDEx) for defining, validating, prioritizing, and publishing system sustainment requirements. Reference the *Logistics Requirements Determination Process (LRDP) Handbook* located on the CAM Community of Practice (CoP) website and TO-00-25-4 for additional information.

6.4.2. MAJCOMs and PMs shall collaborate with HQ AFMC to advocate and ensure all requirements associated with systems' support receive equitable consideration under CAM.

6.5. Performance Based Life Cycle Product Support. Performance based life cycle product support (synonymous with Performance Based Logistics (PBL)) applies to new programs, capability and sustainment modifications, and re-procurement of systems, subsystems, and commodities. Product support considerations should begin prior to MS A with early requirements determination and continue through system design, development, operational use, retirement, and disposal. The Product Support Business Model (PSBM) described in the *DoD Product Support Manager Guidebook* expands the range of product support strategies.

6.5.1. The PM shall develop and implement a comprehensive product support strategy. The objective of the product support strategy is to achieve operational readiness outcomes. Product support strategies are dependent on both organic and commercial industry support. The strategy is based upon a best value determination, evidenced through the Business Case Analysis (BCA) process, assessing the best mix of public and private capabilities, infrastructure, skills base, past performance, and proven capabilities to meet set performance objectives and 10 USC §2464 (Core) and 10 USC §2466 (50/50) requirements. Performance is to be defined in the terms of military objectives using the criteria of operational availability, operational reliability, ownership cost.

6.5.2. The PSM adjusts performance requirements and resource allocations across Product Support Integrators and Product Support Providers as needed to implement the product support strategy. The PSM is responsible for optimizing product support during the development, implementation, and subsequent revalidation of the product support strategy through twelve Integrated Product Support Elements and performance metrics to achieve operational outcomes for the system, subsystem, and components.

6.5.3. For MDAPs, the sustainment KPP establishes a set of sustainment metrics that must be reported quarterly to OSD using the Defense Acquisition Management Information Retrieval (DAMIR) system. The LCSP shall include sustainment KPP/KSA thresholds and methods for calculation.

6.6. Product Support Business Case Analysis. The PM shall perform a product support BCA to validate the product support strategy is cost effective, financially feasible, and optimizes system readiness. The product support BCA is required for ACAT I, IA, and II programs but is at the discretion of the MDA for ACAT III programs. The PM shall document the strategy decision and rationale in the LCSP. The PM shall maintain a complete history of BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts. The PM revalidates the business case prior to any change in the product support strategy or every five years, whichever occurs first. AFI 65-501, *Economic Analysis*, AFI 65-509, *Business Case Analysis*, and the *DoD Product Support Business Case Analysis Guidebook* for specific instructions on business case analysis.

6.7. Life Cycle Sustainment Plan (LCSP). The LCSP is the program's product support execution plan for ensuring the system's product support achieves and maintains the sustainment KPP/KSAs while controlling overall program ownership costs. The LCSP shall be integrated across the system life cycle into strategies, planning, implementation, development, production, fielding, support, and disposal. The LCSP streamlines, consolidates, and makes visible to leadership all product support aspects of the program.

6.7.1. The LCSP is required for all ACAT programs for MS A, B, and C, and FRP. AFMC and AFSPC may also designate other efforts requiring the development of an LCSP. The LCSP is continuously updated to reflect changes in sustainment strategy, operating environments, Post- IOC Sustainment Reviews, and at a minimum every five years.

6.7.2. ASD(L&MR) shall approve LCSPs for all ACAT ID and USD(AT&L)-designated special interest programs. The MDA is the approval authority for all other LCSPs. Concurrence from AFMC or AFSPC as the Sustainment Command can be delegated to the appropriate level.

6.7.3. The LCSP shall be developed and coordinated in accordance with the OSD approved template specified in OSD AT&L Memorandum *Document Streamlining-Life-Cycle Sustainment Plan (LCSP)*, Sep 14, 2011. Tailoring strategies shall ensure that the information and coordination requirements of the LCSP are addressed in any integrated documentation.

6.7.4. The PSM shall take measures to ensure competition or the option of competition, at both the prime and subcontract level throughout the program life cycle. To facilitate opportunities for competition, the PSM shall encourage use of open architectures to enable competition upgrades, build-to-print approaches to enable production through multiple sources, acquisition of technical data packages, acquisition of support equipment, periodic competition for sub-system upgrades, and licensing of additional suppliers. It is an evolutionary program document begun during the first entry phase of the program after the Materiel Development Decision (MDD) as the strategic planning framework for obtaining optimal sustainment at minimal life cycle cost.

6.7.5. The LCSP evolves into an execution plan for how life cycle sustainment requirements are acquired, fielded, applied, managed, assessed, measured, and reported after system fielding. By MS C, it details how the program will meet readiness targets; sustain system performance capability threshold criteria; mitigate operations and support (O&S) costs, supply chain risks, and corrosion; reduce the logistics footprint; and comply with environmental and other logistics related regulations. When the program enters the Operations and Support Phase, the LCSP is the execution plan for sustaining the system. When the Program nears the end of its life cycle, the LCSP is the execution plan for retiring, demilitarizing, and disposing of the system.

6.7.6. Major system modifications/upgrades may be added as a stand-alone annex to the LCSP. The annex will address all standard LCSP requirements for that specific modification/upgrade. Upon completion of the modification/upgrade, the basic LCSP will be updated to incorporate the changes. Each modification or upgrade will have a separate annex to the LCSP.

6.7.7. For more information on the LCSP refer to the *PSM Guidebook*, *Integrated Product Support Element Guidebook*, and AFPAM 63-128.

6.8. Depot Purchased Equipment Maintenance (DPEM). The DPEM Program provides a mechanism to collectively identify, plan, program, negotiate, and budget for depot-level maintenance services provided by organic AF depots, depots of other Services, and contract repair sources. Refer to AFI 21-102, *Depot Maintenance Management*, for detailed information on DPEM.

6.9. Depot Source of Repair (DSOR). The DSOR process is the method by which the DoD postures its depot level maintenance workloads – organic or contract. It applies to workloads for hardware, software, new acquisitions, and fielded systems whether the Government or private contractor manages the system or subsystem. For fielded systems, the process will be initiated as soon as a change in posture is considered. For more information on the DSOR process, refer to AFMCI 21-150 (when published) or AFSPCI 21-135 (when published), as applicable.

6.9.1. The PM shall initiate DSOR planning early in the life cycle and document DSOR planning in the LCSP.

6.9.2. The PM shall ensure DSOR Determinations for programs, systems, sub-systems, and end items are processed and approved through AFMC.

6.9.3. AFMC acts as the AF executive manager for DSOR.

6.9.3.1. Special access programs will complete the DSOR Determination Process using the classified process defined by AFMC.

6.9.3.2. DSOR determinations for Space/Cyber programs, systems, sub-systems and end items will be routed through AFSPC prior to submission to AFMC.

6.9.4. The DSOR Determination Process is comprised of several activities, each tied to specific events in the acquisition life cycle.

6.9.4.1. Core Applicability Analysis. The PM shall collaborate with AFMC to determine the applicability of core depot-level maintenance and repair capabilities to the program. This analysis shall be completed prior to MS A, and the results of the analysis shall also be documented in the Core Logistics Analysis Annex to the LCSP.

6.9.4.2. DSOR. The DSOR is an estimate of requirements for core depot-level maintenance and repair capabilities, the associated logistics capabilities, and the sustaining workloads necessary to support these requirements. The DSOR shall be completed by MS B, and it shall identify sources of repair for each depot level reparable at the system and sub-system level at a minimum.

6.9.4.2.1. As soon as practical after MS A, the PM shall request a DSOR from AFMC, ensuring sufficient time is available for the DSOR to be completed by MS B. The PM shall provide AFMC with all required data needed to develop the DSOR. When the DSOR is completed, the PM shall also document the DSOR in the LCSP.

6.9.4.2.2. Prior to MS-B, AFMC shall develop a DSOR, coordinate it with the other DoD components, issue a DSOR decision documenting the results of the coordinated DSOR, and provide a copy of the DSOR decision to the PM.

6.9.4.3. DSOR review at CDR +90 Days. This review is a validation and update of the MS-B DSOR for each depot level reparable at the system and sub-system level of indenture. Both AFMC and the applicable PM shall participate in the DSOR CDR+90 review.

6.9.4.3.1. The PM is responsible for validating and implementing the DSOR CDR+90 review, as well as documenting the results as part of the LCSP.

6.9.5. The DSOR decision shall be reviewed:

6.9.5.1. At MS-C and the FRP Decision.

6.9.5.2. Every five years to document continued validity of the DSOR in the DSOR Automated Management System.

6.9.5.3. As requested by AFMC or AFSPC as applicable.

6.9.6. The PM shall inform the MDA and AFMC (and AFSPC for Space systems) if programmatic changes will dictate a change in the DSOR or Depot activation plan.

6.9.7. There are five situations when a DSOR is required:

6.9.7.1. New acquisitions. A new acquisition includes any system, item, component, system, subsystem, or software that will result in a new requirement for depot-level maintenance. DSORs for new acquisitions shall be accomplished on the total anticipated inventory to be acquired. For new acquisitions, the DSOR requirements shall be initiated no later than the Technology Development Phase and in sufficient time to obtain a DSOR decision for inclusion into the AS.

6.9.7.2. New work. New work, as related to requiring a DSOR, is a change (hardware or software) to a previously postured system, sub-system, end-item, or component that will result in a change greater than 20% to the depot maintenance workload hours or cost.

6.9.7.3. Modifications installation and Follow-on Workloads. Modifications installation (as defined in AFI 63-131) and modification follow-on workloads (depot-level maintenance workloads generated as a result of a modification installation) require a DSOR to be accomplished.

6.9.7.4. Overseas Workload Program (OWLP). DSORs are required for any SOR that involves the potential for accomplishment of depot-level maintenance by a source outside of the United States. DSOR packages will be prepared and submitted in the same manner as for new acquisition packages. This is applicable even in those instances where the results of the assessments appear to be obvious.

6.9.7.5. Workload Shifts. Permanent change in the officially designated SOR or source of modification can only be accomplished through a DSOR process when such change involves an organic depot. A DSOR is required for a workload shift when there is a proposed change in the Source of Repair (SOR) that results in one of the following types of SOR shifts: from assigned organic depot to another organic depot; from assigned organic depot to a contract; or from contract SOR to an organic depot. Changes from one contract repair source to another or consolidating several contract workloads does not require a DSOR.

6.9.8. There is no waiver to the DSOR for depot-level maintenance workloads meeting the criteria above; however, there are certain categories of workloads which may be excluded from DSOR requirements. DSOR submissions should identify depot maintenance workloads which meet identified exclusion criteria. Categories of workloads meeting the exclusion criteria include:

6.9.8.1. Workloads generated by Industrial Plant Equipment located exclusively within the depot maintenance complex and funded through the industrial fund.

6.9.8.2. Modifications that are to be performed in conjunction with scheduled depot maintenance at the assigned SOR.

6.9.8.3. Modifications to components that do not change the form, fit, function, or integration of the component modified and do not change the basic part number, only the version (dash number change), as long as the SOR of the end-item does not change.

6.9.8.4. Foreign Military Sales (FMS) programs.

6.9.8.5. United States Special Operations Command (USSOCOM) workloads which are Major Force Program (MFP)-11 funded.

6.9.8.6. Automated data processing equipment workloads that are not for national security systems (including payroll, finance, logistics, and personnel management applications).

6.9.8.7. Department of Energy special design military spares. (Examples include but are not limited to nuclear weapon trainers, nuclear weapons test and evaluation or handling equipment, and use control equipment.)

6.9.8.8. Medical Equipment. Management and sustainment for medical materiel for peacetime and wartime support is established under the Air Force Medical Support Agency as prescribed in AFI 41-201, *Managing Clinical Engineering Programs*. Examples of medical equipment exclusions include field intravenous fluid reconstitution and deployable oxygen systems.

6.9.8.9. TPS software when the cost, capability, and hours are included in the DSOR for its associated hardware (unit under test).

6.9.9. Depot Activation. Depot activation, planning and budgeting should begin as early as practicable in the acquisition cycle. Investments shall be limited to long lead time items such as technical data rights and special equipment, and shall not include Military Construction until a DSOR has been completed. Prior to MS B, the PM shall have an initial plan for depot activation that includes requirements, funding, and operational rationale. The initial plan will evolve into the formal Depot Maintenance Activation Plan and shall be continually updated until the depot is activated. Data shall be kept current and reported until all depot activation requirements are achieved.

6.10. Contractor Logistics Support. The PM will consider Contractor Logistics Support (CLS) applications as part of the Life Cycle Sustainment Plan. Specific funding guidance cannot cover all contracts or situations; therefore, the PM, with assistance from and advice of the Financial Management organization, must review each proposed contractual action as described in AFI 65-601V1.

6.10.1. Interim Contract Support (ICS) is a temporary support method for an initial period of the operation of the system, equipment, or end-item. This strategy is utilized for controlling capital investment costs while design stability is being achieved and complex product support elements are being developed.

6.10.1.1. If ICS is planned, the PM shall ensure the AS and LCSP include a plan for transition from ICS to organic or CLS or a combination of contract and organic support and identify the beginning and ending dates of the ICS. ICS does not negate the PM's responsibility to achieve an organic, CLS or a Public Private Partnership capability as early as practicable or the requirement for testing and evaluation and/or demonstrating the adequacy of a system, equipment, or end-item.

6.10.1.2. The lead command and using commands will plan and advocate for programming and budgeting for ICS cost and associated requirements for the sustainment of systems.

6.10.2. CLS and other support requirements shall be programmed for and executed using the types of funds and funding level approved by the lead command and/or AF Centralized Asset Management (CAM) Executive Agent, AFMC. The PM shall provide the lead command and/or AF CAM Executive Agent applicable copies of obligation documents and expense reports as agreed to or as stipulated by the AF CAM Executive Agent. **NOTE**: Air National Guard, AF Reserve Command, AF Space Command, AF Weather Agency and AF Flight Standards Agency utilize CAM processes and schedules, but manage their own requirements validation and execution of funds. Reference AFI 65-601, Vol 1 for more information.

6.10.2.1. The lead command and using commands will plan and advocate for programming and budgeting for their portions of the CLS costs and any associated CLS requirements for the sustainment of systems.

6.10.3. CLS contracts will be written based on characteristics for performance based logistics. The PM shall establish flexible performance and funding ranges commensurate with targets developed in conjunction with the lead command, industry partners, and other relevant agencies across the acquisition, logistics, and user communities. These contracts will link contract incentives to performance outcomes while allowing the Air Force to make

sound, enterprise-wide, capabilities-based resource decisions when deciding where to accept risk.

6.10.3.1. CLS contracts shall be crafted to identify ranges of outcome performance with thresholds and objectives and the target price (cost to the user) for each level of capability to the extent practical. The contract shall reflect normal operations and delineate any constraints or boundary conditions. CLS contracts shall be flexible enough to address a range of support requirements to accommodate changes in operational tempo (OPTEMPO) or execution year funding including surge or contingency requirements to the extent that they can be defined. The PM shall document the thresholds, objectives, and target price in the LCSP.

6.10.3.2. The PM, in collaboration with stakeholders, shall identify needed CLS requirements and make provisions within regulation in the RFP, Statement of Work (SOW), and contracts to ensure visibility of direct contractor costs for each type of support material and service that is being provided.

6.10.3.2.1. The PM shall implement contract data requirements for tracking and reporting of total program cost and breakout of depot-level maintenance contractor and organic (50/50) costs.

6.10.3.2.2. The PM shall report all contract logistics support costs by AFCAIG element in accordance with AFI 65-601, Vol. 1.

6.10.4. The PM shall coordinate and obtain MAJCOM agreement on unit, base, or MAJCOM support requirements and ensure the agreed-to support requirements are included in the CLS contract. Reference AFI 25-201, *Support Agreement Procedures*, for additional information.

6.10.5. The PM shall obtain the Air Force Metrology and Calibration (AFMETCAL) PGM approval prior to contracting for commercial calibration services or when deviating from currently established calibration support plans IAW AFI 21-113.

6.10.6. The PM shall review the requirements in DoDI 3020.41, Operational Contract Support (OCS) when making logistics sustainability decisions regarding contract support in contingency operations outside the United States.

6.10.7. CLS for commercial derivative/hybrid aircraft shall adhere to Federal Aviation Administration (FAA) maintenance standards, directives, and bulletins to the maximum extent practical for commercial derivative aircraft, IAW respective manufacturer's maintenance manuals, military technical manuals, approved maintenance concept, and the maintenance contract. For further information, see AFI 21-101, *Aircraft and Equipment Maintenance Management* and AFPD 62-6, *USAF Airworthiness*. OSS&E product baseline shall be preserved. Support for Air Traffic Control and Landing Systems (ATCALS) shall adhere to the requirements of AFI 13-204V3, *Airfield Operations Procedures and Programs*.

6.11. Public-Private Partnerships. Public-Private Partnerships are a logistics sustainment philosophy involving a cooperative agreement between DoD and private sector entities. The purpose of public-private partnerships is to leverage the optimal capabilities of both the public and private sectors in order to enhance depot support to the warfighter.

6.11.1. The PM shall identify potential public-private partnerships as early as possible in the acquisition life cycle. New systems that are establishing their support concept shall require consideration of public-private partnerships in the RFP for the EMD Phase. Fielded systems changing their depot maintenance support shall proactively consider use of the organic depots as part of a public-private partnerships strategy. Public-private partnerships strategies shall be included in life cycle planning and presented as part of acquisition and product support strategies.

6.11.2. A BCA shall be prepared prior to approval of specific workload under public-private partnerships which at a minimum shall include the analysis of cost/benefits, 50/50, and Core workload requirements.

6.11.3. The PM shall capture cost data for all factors of production related to public-private partnerships (e.g., direct labor, overhead, materiel, G&A). The cost data shall be quantifiable and measurable utilizing generally accepted accounting practices.

6.11.4. The PM in collaboration with the Enterprise Repair Manager (ERM), candidate depots, lead and using commands, and other stakeholders will develop a depot maintenance strategy that addresses both the requirement to conduct organic repair and to pursue a public-private partnerships approach where feasible.

6.11.5. There are three types of public-private partnerships: direct sales agreement (DSA), work share arrangement, and leases.

6.11.5.1. In a DSA dollars flow from the Government buying activity directly to the contractor. The contractor in turn funds the depot by funds transfer to the Department of Treasury for the goods/services supplied by the depot. Those funds received for work performed in support of public-private partnerships are credited to the depot's Working Capital Fund rather than getting deposited into a general US fund account. The contractor may also supply materiel to the depots in support of the public-private partnerships.

6.11.5.2. A work share is a partnership where the buying activity determines the best mix of work that capitalizes on each partner's capabilities. The workload is then shared between the contractor and the organic repair entity. The contractor is funded through a contract, and the organic depot is funded through a project order. The partnering arrangement between the organic repair entity and contractor focuses on the roles and responsibilities of each partner, and both jointly work to accomplish the overall requirement.

6.11.5.3. Leases allow private industry access to facilities/equipment located at a Center of Industrial and Technical Excellence (CITE). Facilities or equipment located at a CITE may be made available to private industry to perform maintenance or produce goods, as long as it does not preclude the CITE from performing its mission. The goal is to make those Government owned facilities more efficient and ensure that a workforce with the necessary manufacturing and maintenance skills are available to meet the needs of the armed forces.

6.11.6. The PM shall include the basis for selecting a DSA partnership arrangement in the LCSP. The PM will use BCA evaluations of DSA arrangements and associated pass through cost to support decisions related to the continued benefit of contract pass through cost.

6.12. Data and Data Rights. The PM shall assess long term data and data rights requirements and corresponding acquisition strategies prior to initiating a RFP to acquire systems, subsystems, or end-items to ensure they provide for rights, access, or delivery of data that the Government requires for systems sustainment and to maintain competition throughout the life cycle. The PM shall address the data rights strategy including the rationale for acquisition and\or non-acquisition of data and data rights at milestones, ASPs, and reviews and shall document the strategy in the Technical Data Rights Strategy and associated data planning documents. The Technical Data Rights Strategy is integrated within the AS and is required for all ACAT programs. Source selections shall consider Government rights to data and include pricing options that correspond to the data and data rights recommended as part of the data strategy. The burden of proof that data is proprietary lies with the contractor. If not acquiring technical data, computer software licenses, or associated intellectual property rights necessary for organic support, a summary of the business case analysis justifying that decision must be approved by the MDA. The PM shall obtain legal counsel when addressing Data Rights or Intellectual Property issues.

6.12.1. The PM shall ensure the program data rights strategy, including the performance work statement (PWS) or SOW for development, production, deployment, and sustainment (for all applicable phases) includes appropriate data rights requirements, access, and necessary deliverables, or options for data and equipment deliverables required to support:

6.12.1.1. Organic source of repair and/or supply decisions.

6.12.1.2. Government Core depot maintenance capability requirements.

6.12.1.3. Expeditionary logistics footprint requirements.

6.12.1.4. Engineering data requirements needed for such activities as OSS&E assurance, integrity programs, sustaining engineering, reliability management, and configuration management.

6.12.1.5. Technical orders (TOs).

6.12.1.6. Reprocurement/modification/upgrade.

6.12.1.7. Demilitarization/Disposal.

6.12.1.8. Open architecture.

6.12.1.9. Information assurance strategies.

6.12.1.10. Technology refreshment or enhancement.

6.12.1.11. Training and training program information.

6.12.1.12. Spare parts procurement

6.12.1.13. Testing and Evaluation

6.12.1.14. Intelligence Mission Data production

6.12.1.15. Contractor Logistics Support

6.12.2. For specific guidance and regulations concerning minimum government specific license rights, technical data, and computer software follow the regulations and guidance

found in DFARS 227.71 and 227.72. (For more information, reference 10 USC §2302, 2304, 2305, 2320, and 2321), and the Product Data Acquisition (PDAQ) web site.

6.12.3. Computer Software/Firmware. Computer software/firmware means computer programs, source code, source code listings, object code listings, design details, algorithms, UML use case, and processes, flow charts/sequence diagram, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation (considered technical data).

6.12.3.1. PMs shall ensure that computer software is acquired as executable code and source code unless documented and approved by MDA. When the contractor is unwilling to provide source code as a deliverable, the PM shall consider software escrow arrangements using mutually agreed to third-party escrow agents.

6.12.3.2. Software Transition Plan. The PM shall provide the PCO with the software plan provisions for inclusion into the RFP, which identify the hardware, software and other resources needed for life cycle support of deliverable software and describes the developer's plans for transitioning deliverable items necessary for software sustainment to the Air Force.

6.12.3.3. The Technical Data Rights Strategy must address the potential for changes in computer software sustainment over the life cycle of the system or subsystem. RFPs and contracts should contain deferred ordering provisions, when a firm requirement for a particular computer software item(s) has not been established prior to contract award but there is a potential need, e.g., organic sustainment, for the data.

6.13. Technical Orders (TO). Air Force TOs provide clear and concise instructions for safe and reliable operation, inspection and maintenance of centrally acquired and managed AF systems and commodities. The PM shall ensure that fielded TOs are technically accurate and up-to-date. Military and government civilian personnel operating and/or maintaining fielded systems, subsystems, or end items (hardware and/or software) shall utilize and comply with applicable Government-verified TOs. The terms "Technical Manual (TM)" and "manual" are used interchangeably with the terms "Technical Order" and "TO".

6.13.1. The PM shall ensure TOs and Preliminary TOs (PTO) are developed and verified IAW DoD 5010.12-M, *Procedures for the Acquisition and Management of Technical Data*, TO 00-5-1, *AF Technical Order System*, and TO 00-5-3, *AF Technical Order Life Cycle Management*. Compliance with TOs is mandatory, except as explained in TO 00-5-1. Military personnel, who do not comply, including members of the Air Force Reserve Command on active duty and Air National Guard in Federal status, face punishment under Article 92 of the Uniform Code of Military Justice. The PM shall:

6.13.1.1. Ensure Time Compliance Technical Orders are issued and verified IAW TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

6.13.1.2. Develop TOs IAW approved Government Technical Manual Specifications and Standards (TMSS) listed in the Technical Manual Contract Requirements document, TM-86-01. This includes the development of linear-structured, electronic TMs (ETM) and database-structured, interactive electronic TMs (IETM).

6.13.1.3. Provide TO management for the life cycle of assigned system/commodity TOs and manages TO changes IAW TOs 00-5-1 and 00-5-3 within the timelines specified in the TOs and AFI 11-215, *USAF Flight Manuals Program (FMP).*

6.13.1.4. Provide inputs to the Comprehensive Air Force Technical Order Plan for assigned system/commodity.

6.13.1.5. Maintain currency of TO index, configuration, distribution, warehouse inventory information, and content data, etc. for assigned system/commodity in the Air Force Standard TO Management System.

6.13.1.6. Ensure IETMS are developed IAW with MIL-DTL-S1000D and current business rules listed in TM 86-01.

6.13.1.7. Acquire existing COTS manuals instead of developing new TOs if there is no degradation of OSS&E. COTS manuals shall be assigned USAF TO numbers and managed in the USAF TO system. When acquiring COTS manuals, request Government Purpose Rights at a minimum.

6.13.1.8. Acquire and manage flight manuals when required IAW AFI 11-215 and TO 00-5-3.

6.13.1.9. Review available manuals from other DOD components to determine adequacy and application to particular programs. Joint-use technical manuals shall be integrated into the TO system, assigned TO numbers, indexed, distributed, stored, reprinted and rescinded in the same manner as any other Air Force TO (AFJI 21-301, *Inter-servicing of Technical Manuals and Related Technology*).

6.13.2. The PM shall provide verified TOs for fielded AF systems (hardware or software) that are operated and maintained by military or government civilian personnel, unless exceptions are listed in TO 00-5-1.

6.13.3. In the absence of verified TOs for fielded AF systems that are operated and maintained by military or government civilian personnel, the PM can authorize the use of Original Equipment Manufacturer (OEM) repair manuals until technical orders can be developed.

6.13.4. TO procedures to be used with nuclear weapons shall be nuclear safety certified in accordance with AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, and AFI 63-125, *Nuclear Certification Program*.

6.13.5. The PM shall provide TOs or other suitable technical data that identify procedures for system disassembly, demilitarization and disposal. Where procedures already exist (e.g. 309th Aerospace Maintenance and Regeneration Group workbooks and procedures for existing aircraft), the PM shall review and verify those procedures. Demilitarization and disposal procedures should identify DEMIL-coded parts and HAZMAT locations, and include special tools and equipment, personnel qualifications, and ESOH requirements.

6.13.6. TOs must address equipment and special tools substitutions and restrictions. Substitutions and restrictions of equipment and tools used with nuclear weapons shall not be made without the approval of the AF Nuclear Weapons Center (AFNWC).

6.13.7. TOs may contain classified information only up to and including Secret-Restricted Data. Data is classified, IAW guidelines found in AFI 31-401, *Information Security Program Management and respective Security Classification Guides*.

6.13.8. Unverified flight manual data shall not be placed on an aircraft for operational use.

6.13.9. Unclassified TOs shall be marked, controlled and distributed in accordance with AFI 61-204, *Dissemination of Scientific and Technical Information*.

6.13.10. AFMC is designated the executive agent for the AF TO System. To ensure the integration of the various system activities, AFMC shall assign an AF TO System Director who shall:

6.13.10.1. Represent the AF for TO technical and management issues with DoD, other Government agencies, industry, and other AF activities.

6.13.10.2. Develop processes and procedures for implementation, management, and execution of the AF Technical Order System.

6.13.10.3. Develop requirements for the operation, modernization, and maintenance of the AF Standard TO Management System and for the integration of the system with other AF management systems.

6.13.11. Flight manuals are a type of TO and direction for managing and using flight manuals is in AFI 11-215.

6.13.12. Existing COTS operating instructions, part breakdown handbooks, and repair manuals shall be acquired instead of developing new TOs if no degradation in OSS&E will result. COTS manuals shall be assigned unique TO numbers and managed within the Standard TO Management System unless covered by the exclusions identified in TO 00-5-1.

6.13.13. The Joint Computer-Aided Acquisition and Logistics Support (JCALS), and Enhanced Technical Information Management System (ETIMS) shall be used in accordance with TO 00-5-1 and TO 00-5-3.

6.14. Serialized Item Management (SIM). The purpose of SIM is to improve the AF's capability to manage materiel through the generation, collection, and analysis of data on individual assets in order to enhance asset visibility and financial accountability and to improve system life cycle management. SIM is enabled through Item Unique Identification (IUID), automatic identification technology (AIT), and automated information systems (AIS). IUID is the assignment and marking of individual assets with a standardized, machine-readable, two-dimensional marking containing a globally unique and unambiguous item identifier. AIT is the technology used to scan the marking at points within the supply chain to identify discrete transactions of an asset as well as transmit the data collected from these transactions to AIS. AIS store and process the data so it can be used to make informed decisions concerning the management of the asset or the system. Reference DoDD 8320.03, *Unique Identification (UID) Standards for a Net-Centric Department of Defense*, DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*, *DoD Guide to Uniquely Identifying Items*, and DoDI 4151.19, *Serialized Item Management (SIM) for Materiel Maintenance*, for additional guidance.

6.14.1. The PM shall require unique identification for assets meeting the criteria described in DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property* and this AFI.

6.14.2. The PM shall document the SIM strategy in the TDS/AS and ISP.

6.14.2.1. The PM shall identify in the ISP any system operational needs for data to conduct SIM in order for Unique Item Identifiers (UIIs) to be used as the key field to associate data on tangible personal property assets.

6.15. Item Unique Identification (IUID) Planning. The PM, with support from the PSM, shall plan for and implement IUID using the template and guidance in AFPAM 63-128 and in collaboration with the AFMC AIT PMO. IUID requirements shall be integrated into planning for development of engineering, manufacturing, maintenance technical data; configuration management; and integrated product support as prescribed in DFARS, DoDI 5000.02, and DoDI 8320.04.

6.15.1. The IUID Implementation Plan is approved by the PEO for ACAT I and II programs. For ACAT III programs, the MDA is the approval authority.

6.15.2. The PM begins IUID implementation planning after the program has been formally established. The PM includes the approved IUID Implementation Plan as a link or an attachment in the Systems Engineering Plan (SEP) for design consideration.

6.15.3. Individual IUID Implementation Plans are not required for sustainment activities marking installed legacy assets. Sustainment Work Center/Cost Center supervisors shall incorporate planning, programming, budgeting, and execution of IUID requirements for legacy assets into day-to-day workload planning and scheduling based on planned workflows, technical documentation and specifications. This includes registration in the DoD IUID registry.

6.15.4. Special Interest IUID requirements:

6.15.4.1. Nuclear Weapons-Related Materiel (NWRM). All individual NWRM items are accounted for and managed by serial number. This will include the assignment of a Unique item Identifier. Consistent with engineering analysis, individual NWRM items in the DoD Supply System will be marked with a machine readable Unique Item Identifier or assigned a virtual Unique Item Identifier.

6.15.4.2. Government Furnished Property. The PM will identify all required Government Furnished Property addressed in the Systems Engineering plan and other program documentation. The PM working with the PCO will ensure the clause at DFARS 252.211-7007 is included in all new contracts involving assets for which the government has Title (owned by the AF) and is in the possession of contractors. The overarching guidance for Government Furnished Property management is contained in FAR Part 45 and DoDI 8320.04. The contract also specifies the requirements for property accountability in the Accountable Property System of Record as described in DoDI 5000.64.

6.15.4.3. Tooling. The PM will ensure MDAP Unique tooling associated with the production of hardware for an MDAP is stored and preserved through the end of the service life of the related system per 48 Code of Federal Regulations Section 207.106 (S-

73). Unique tooling designated for preservation will be considered DoD serially managed and must meet the requirements of IUID as directed in DoDI 8320.04.

6.15.5. The PM shall identify in the ISP any system operational data required for Unique Item Identifiers (UIIs) to be used as the key field to associate data on tangible personal property assets.

6.15.6. The PM shall ensure information on marked items is included in the DoD IUID Registry.

6.15.7. Program planning for AIT infrastructure requirements and/or AIS enhancements to include IUID should occur only if the program is responsible for the management and/or maintenance of AIT and/or AIS.

6.16. Industrial Base Constraints. All programs shall identify and manage industrial base constraints throughout all phases of the life cycle, from requirements definition to disposal. Industrial base constraints include, but are not limited to, critical raw materials, sources of strategic materials, counterfeit parts, DMSMS, manufacturing technologies and capabilities, the supply chain, parts obsolescence, depot capacity, and industrial workforce.

6.16.1. The PM shall address industrial base constraints in the AS. This should address mitigation to ensure that the system(s) can be supported during its life cycle. Open systems design, including Modular Open Systems Approach (MOSA), can help mitigate/handling the risks associated with technology obsolescence and diminishing manufacturing capabilities by avoiding being locked into proprietary technology or by relying on a single source over the life of a system. Incremental development also should be considered to alleviate obsolescence concerns.

6.16.2. The PM shall ensure that product support efforts include an active DMSMS process to anticipate occurrences and take appropriate actions. The Services and Defense Logistics Agency (DLA) can assist the PM in addressing DMSMS. For further information on DMSMS or Government Industry Data Exchange Program (GIDEP), reference the DMSMS Knowledge Sharing Portal for the DoD DMSMS Guidebook, SAF/AQ - Policy Homepage for DoD PBL guide, and DoD 4140.1-R.

6.16.3. The PM shall follow the procedures of DoDI 5000.60, *Defense Industrial Capabilities Assessments*, when proposing the use of government funds for the preservation of an industrial capability.

6.17. Support Equipment/Automated Test Systems (SE/ATS). Application of standardized Support Equipment/Automatic Test Systems (SE/ATS) is preferred to provide efficiency and reduce cost. The PM shall minimize the proliferation of system-unique equipment at all levels while ensuring the maintenance and deployment requirements of existing and developing systems are met.

6.17.1. The PM shall acquire SE/ATS which is, to the maximum extent possible, common and interoperable with other Services and across multiple systems and munitions. System unique SE/ATS shall be developed or procured only as a last alternative, after coordination with the SE/ATS PGM and consideration of SE/ATS that is already in the USAF or DoD inventory.

6.17.2. The PM shall:

6.17.2.1. Select SE/ATS based on cost benefit analysis over the system life cycle, reliability, CBM+ compliance, standardization, and field hardness, size, mobility, and environmental needs.

6.17.2.2. Coordinate SE/ATS development, procurement, and modification requirements with the SE/ATS PGMs, who will ensure that DoD processes for SE and ATS selection are followed. The SE/ATS PGMs will provide any applicable SE/ATS-specific contract data requirements for incorporation when PMs are authorized to procure unique/peculiar SE/ATS.

6.17.2.3. Submit waivers to the SE/ATS PGM and obtain approval prior to acquiring SE/ATS that are not standard DoD solutions. In the event of waiver disputes, the PEO will resolve prior to procurement.

6.17.2.4. Endeavor to design systems, subsystems, and end-items to minimize new SE/ATS development while still optimizing the life cycle users' operational capabilities and product support requirements.

6.17.2.5. Utilize support equipment recommendation data (SERD) and coordinate the SERD with the SE/ATS and Air Force Metrology and Calibration Program (AFMETCAL) PGMs. Coordinate with AFMETCAL on all calibration requirements, including those involving Public Private Partnerships.

6.17.2.6. Obtain SE/ATS PGM SERD approval prior to procurement of system unique SE/ATS. In the event of SERD disputes, the PEO will resolve prior to procurement.

6.17.2.7. Document requirements for new SE/ATS, replacement SE/ATS, or modifications to existing SE/ATS and coordinate as identified in AFI 10-601. Reference AFPAM 63-128 for SE/ATS requirements guidelines.

6.18. Provisioning. The PM of new systems, subsystems, modifications to existing systems, or sustainment activities for existing weapons systems shall determine and acquire as applicable the range and quantity of support items necessary to operate and maintain an end-item of materiel for an initial period of service in time to meet the operational need date. The PM shall ensure that the logistics business processes implemented within their applicable programs are aligned with provisioning guidance. Readiness-Based Sparing techniques shall be used in performance based weapons system product support arrangements. Reference DoD 4140.1-R, AFPD 23-1, *Materiel Management Policy and Procedures*, MIL-PRF-49506 *Logistics Management Information (LMI)*, and the *AF Initial Provisioning Performance Specification* for more information.

6.19. Divestiture Planning. Program divestiture planning is the process used to layout the rate at which the system will be drawn down, document decisions on whether to store them for future spares requirements, send to Defense Logistics Agency Disposition Services, or to demilitarize. The planned divestiture shall be shared with the PSM, ERM, and Supply Chain Manager (SCM). The SCM will ensure this information is put into the AF computation system to ensure accurate repair and buy forecasts. Divestiture planning begins when the lead command identifies diminished mission requirements for a system due to retirement, lower mission requirements, or mission changes to a particular platform. The PM/PSM shall ensure appropriate funding to execute drawdown plan is in place, update program documentation to include TOs and PDMs, and ensure requirements changes are updated.

6.20. Demilitarization, Disposal, Reclamation, and Migration. Migration planning shall be an integral part of system life cycle planning as an element in the inventory management of AF assets. Demilitarization, reclamation, and disposal guidance is contained in DoD 4160.28-M, *Defense Demilitarization*, and AFMAN 23-110, Volume 6. For air and space programs also refer to AFPD 16-4, *Accounting for Units, Installations and Aerospace Vehicles* and AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. For Nuclear Weapon Related Materiel refer to AFI 20-110, *Nuclear Weapons-Related Materiel Management*.

6.20.1. Demilitarization Plans. DEMIL planning early in the development of a system is important to reduce the risks of inadvertent release of military property. DEMIL requirements for items such as prototypes and tooling, end items, and each NSN must be documented, as well as how to procedures for demilitarizing the items. DoD 4160.28-M provides guidance for programmatic and procedural plans. DEMIL plans shall be documented when prototypes are delivered. The PM shall ensure demilitarization and disposal of end items are addressed in the program budget.

6.20.1.1. Demilitarization (DEMIL) Code Determination/Procedures and Execution of DEMIL Plans. Demilitarization code determination must be performed as soon as material designs are documented.

6.20.1.2. Programmatic Plans shall include the process (e.g. technical orders, Configuration Control Board, etc) to ensure program changes such as technology insertion, block upgrades, and approved engineering changes are captured and included in the procedural plan..

6.20.1.3. For aircraft programs, the PM shall develop a migration plan addressing reclamation and disposal for each mission design series (MDS), to include peculiar end items associated with the MDS. For system not designated as MDS, the plan shall address migration to the system or end item level as appropriate.

6.20.1.4. The PM documents an assessment of when the initial AFI 16-402 Migration Plan is due. The migration plan shall then be documented and periodically reviewed. Generally, this would be when retirements of the system are scheduled in the Future Years Defense Program (FYDP).

6.20.2. PMs shall ensure demilitarization, disposal, reclamation support requirements are identified in accordance with applicable directives NLT MS C. Funding must be forecasted well enough in advance to support execution of these activities throughout each weapon system's life cycle.

6.20.3. All PMs shall dispose of IT Hardware Assets IAW AFI 33-112, *Information Technology Hardware Asset Management and Software Assets* and AFI 33-114, *Software Management*.

6.21. Logistics Assessment (LA). LAs shall be conducted for all programs prior to each required milestone or decision point and documented in the LCSP. For ACAT I programs at the MS B, C, and FRP decisions, the certification should be provided to the Deputy Assistant Secretary of Defense for Materiel Readiness (DASD(MR)) at least 30 days prior to the milestone or decision point. ACAT II and III programs shall document as part of the LCSP and present the

results to the MDA at each milestone. Refer to *DoD Logistics Assessment Guidebook* for criteria and process recommendations on completing the LA.

6.22. Sustainment Reporting and Reviews.

6.22.1. Sustainment Baseline/Sustainment Quad Chart. All programs shall develop a Sustainment Quad Chart as defined in the OSD Product Support Manager Guidebook. The initial Sustainment Quad Chart shall be developed at MS B and be reported at each subsequent milestone, the production decision, and at other reviews when directed.

6.22.2. Post-Initial Operational Capability (Post–IOC) Sustainment Reviews. Post IOC sustainment reviews shall be conducted on programs, and immediately preceded by a program's Logistics Assessment (LA). The results of the LA are briefed at this sustainment review.

6.22.2.1. The PSM shall ensure program life cycle cost estimate and the LCSP are updated and briefed as part of this review.

6.22.2.2. Post-IOC sustainment reviews shall occur not later than five years after formal IOC date. Thereafter, once every five years or when precipitated by performance problems, changes in requirements, design, or the Product Support Strategy.

6.22.2.3. These reviews at a minimum shall address:

6.22.2.3.1. PSI performance

6.22.2.3.2. Incorporated product improvements

6.22.2.3.3. Configuration control

6.22.2.3.4. Modifications to product support arrangements based on changes in requirements, design or the Product Support Strategy.

6.22.2.3.5. Plans for conducting product support BCAs

6.22.2.3.6. Revalidation or re-accomplishment of product support BCAs

6.22.2.3.7. Affordability and cost control of current product support strategy

6.22.2.4. For more information on Post-IOC Sustainment Reviews, refer to the *DoD Logistics Assessment Guidebook*.

6.23. Sustainment Metrics. The PM shall ensure sustainment metrics are collected, reported, and analyzed to measure program life cycle sustainment outcomes that satisfy the sustainment KPP/Key System Attributes (KSAs) defined by the user in accordance with the JCIDS Manual. Sustainment metric calculation information can be found in AFPAM 63-128.

6.23.1. Materiel availability shall measure the percentage of the total inventory of a weapon system's operational capability (ready for tasking) based on materiel condition for performing an assigned mission at a given time. Materiel availability information can be found in AFPAM 63-128.

6.23.2. Materiel reliability shall measure the probability that the system will perform without failure over a specific interval. Materiel reliability information can be found in AFPAM 63-128.

6.23.3. TOC shall measure total costs as identified in the OSD Cost Analysis Improvement Group's (CAIG) Operating and Support (O&S) Cost Estimating Structure. TOC will be measured in accordance with *OSD CAIG Operating and Support Cost-Estimating Guide*.

6.23.4. MDT measures the average elapsed time between losing Mission Capability status and restoring the system to at least Partial Mission Capability status. MDT information can be found in AFPAM 63-128.

6.24. Depot Maintenance / Sustainment Cost Reporting (50/50). The concept of depot-level maintenance applies to work performed by both government and contractor personnel. It includes all types of contracts (CLS, ICS, requirements contracts) and partnership arrangements (Workshare Agreements, Direct Sales Agreements, and contract work excluded under the terms of 10 USC §2474), regardless of the source and type of funding and where the work is performed.

6.24.1. The PM shall support HQ AFMC IAW AFMC developed procedures by:

6.24.1.1. Tracking obligated depot maintenance funds for programs, regardless of the source of funds, for the purpose of reporting these obligations to AFMC.

6.24.1.2. Documenting rationale and methodology for tracking obligated depot maintenance funds.

6.24.1.3. Ensuring contracts for depot level maintenance include requirements to document and report funding.

6.24.2. To ensure compliance with 10 USC §2464(Core) and §2466 (50/50), the PM shall reflect the Air Force Core and 50/50 requirements in programmatic strategy and product sourcing documents throughout the program life cycle.

6.24.3. The first time a system or other item of military equipment is determined to be a commercial item as defined in 10 USC §2464(c) and the waiver detailed in 10 USC §2464(b) is sought, the PM shall include in the determination, at a minimum:

6.24.3.1. The estimated percentage of parts commonality of the item version that is sold or leased in the commercial marketplace and the Government's version of the item.

6.24.3.2. The value of unique support, test equipment, and tools that is necessary to support the military requirements if the item were maintained by the Government.

6.24.3.3. A comparison of the estimated life cycle product support costs that would be incurred by the Government if the item were maintained by the private sector with the estimated life cycle product support costs that would be incurred by the Government if the item were maintained by the Government.

Chapter 7

INFORMATION TECHNOLOGY REQUIREMENTS

7.1. Networks and Information Integration Requirements Overview. The PM shall ensure Information Technology (IT) system development adheres to mandated IT standards outlined in the Defense Information Technology Standards Registry (DISR), AF unique standards in the Information Technology Reference Model (i-TRM), DoDD 4630.05, DoDI 4630.8, DoDI 8510.01, *Department of Defense Information Assurance Certification and Accreditation Process (DIACAP)*, AFPD 33-2, *Information Assurance (IA) Program*, AFI 33-401, *Air Force Architecting*, AFI 33-141, *Information Technology Portfolio Management and IT Investment*, AFI 33-200, *Information Assurance (IA) Management*, and AFI 33-210, *Air Force Certification and Accreditation (C&A) Program (AFCAP)*. The PM shall ensure IT and National Security Systems (NSS) comply with the interoperability and supportability requirements found in Committee on National Security Systems Policy 11, *National Policy Governing the Acquisition of Information Assurance (IA) and IA Enabled IT Products* and CJCSI 6212.01. PMs shall also ensure technical and security compliance with all relevant DISA Security Technical Implementation Guides (STIG). PMs shall ensure IT capabilities to include systems, applications, and products are compliant with applicable AF and DoD criteria related to security, interoperability, supportability, sustainability and usability and receive a certification based upon the assessment of risk to ensure they are net worthy prior to connecting to the network.

7.2. Clinger-Cohen Act (CCA) Compliance. CCA compliance and reporting applies to the acquisition, management, operation, and closure of all Air Force Information Technology (IT) investments, as well as to all programs that acquire IT. This includes NSS, space and non-space systems, IT systems acquisition programs, defense business systems, infrastructure, and intelligence systems.

7.2.1. AF programs containing IT, regardless of ACAT or tier, must be confirmed for Clinger-Cohen Act compliance prior to all milestones and major contract awards.

7.2.1.1. All ACAT I (ACAT IAM and ACAT IAC) MAIS and ACAT I (ACAT ID and ACAT IC) MDAP must be confirmed for CCA compliance at milestone reviews and major contract awards by the AF CIO.

7.2.1.2. All ACAT II and ACAT III including Tier 1, 2, and 3 business systems programs must be confirmed for CCA compliance at milestone reviews and major contract awards by the AF CIO.

7.2.1.3. Tier 4 business systems are reviewed for CCA compliance by the MAJCOM or functional levels.

7.2.1.4. Tier 5 business systems in sustainment require registry in Enterprise IT Data Repository (EITDR) to meet the compliance requirement.

7.2.2. The PM shall initiate a CCA compliance and certification package at program initiation or the earliest point possible for all IT.

7.2.2.1. ACAT I, ACAT II, and selected ACAT III programs require the completion of a CCA Compliance Report. The completed CCA package will be forwarded to the AF CIO to confirm compliance back to the MDA.

7.2.2.2. ACAT III defense business or financial systems require the completion of a CCA Compliance Table that identifies how the system complies with the 11 compliance elements (See DoDI 5000.02). AF CIO, through the SAF/A6PP staff, will notify the program when it is CCA compliant.

7.2.3. For more information or guidance, refer to AFMAN 33-407, *Air Force Clinger-Cohen Act (CCA) Compliance Guide*, go to the Clinger-Cohen Act Compliance Confirmation/Approval CoP, or send an inquiry to the SAF/A6P Clinger-Cohen Workflow email box.

7.3. Information Technology Systems Registration and Support of AF IT Portfolio Management Process. EITDR is the AF's officially designated IT data repository used to collect IT system information at the AF level for both internal compliance and reporting to DoD and OSD.

7.3.1. The PM shall register all IT and NSS in EITDR as early as possible but no later than MS A. The PM shall ensure that EITDR is maintained with current and accurate data which is consistent with other program documentation. SAP program are not authorized in EITDR. Contact SAF/AAZ for registration.

7.3.1.1. EITDR supports processes including: IT system registration, Clinger-Cohen Act, AF IT Budget and Capital Investment Reporting (CIR), DBS certification, Federal Information Security Management Act (FISMA) compliance, E-Authentication, Internet Protocol v.6 compliance, Privacy Impact Assessment (PIA), System of Records Notices (SORN), Social Security Number (SSN) reduction in records and forms, Enterprise Sequence Plan, and Records Management (scheduling of records in IT systems for disposition).

7.4. Internet Protocol Version 6 (IPv6). Internet Protocol (IP) is the "language" and set of rules computers use to communicate over the Internet. IPv6 is the standard that enables the DoD to support a greater networking capacity. All Global Information Grid (GIG) IP based network assets are required to be IP version 6 (IPv6) capable (in addition to maintaining interoperability with IP version 4 (IPv4) systems/capabilities).

7.4.1. The PM shall ensure that all GIG IP based network assets being developed, procured, or acquired are IPv6 compliant.

7.4.2. The PM shall initiate efforts to transition IPv4 systems and applications to support IPv6 and determine the IPv6 impact. The PM shall conduct an analysis to determine cost and schedule impacts necessary to modify the system. The PM shall include IPv6 requirements in program acquisition and technology refresh budget and POM submissions.

7.4.3. AF guidance on IPv6 process information is available at the AF IPv6 Transition Plan and IPv6 Process Guidance in the AF IPv6 Transition Site. Additional guidance is available at the DoD Information Technology Standards Registry (DISR) on-line website.

7.5. Interoperability of IT and NSS. The PM shall ensure IT and NSS comply with the interoperability and supportability requirements found in Committee on National Security Systems Policy 11, CJCSI 6212.01, DoDI 4630.8, and DoDI 4630.09, *Wireless Communications Waveform Development and Management.*

7.6. Net-Ready Key Performance Parameter (NR-KPP). CJCSI 3170.01 requires all CDDs and CPDs for IT & NSS systems to include NR-KPP performance measures/metrics and include interoperability and supportability requirements as detailed in CJCSI 6212.01.

7.6.1. Inclusion of the NR-KPP is mandatory for all acquisition IT and NSS programs for systems used to enter, process, store, display, or exchange information, regardless of classification or sensitivity and regardless of acquisition category. The only exception is for those IT or NSS systems that do not communicate with external systems. Non-acquisition programs must also comply in accordance with DoDD 4630.05, DoDI 4630.8, and AFPD 33-4. Documentation of the NR KPP attributes and the Interoperability and Supportability (I&S) elements (defined in CJCSI 6212.01, DoDD 4630.05 and DoDI 4630.8) are required for NR-KPP and I&S certifications.

7.6.2. As part of the I&S certification, the programs shall implement data sharing within the GIG which includes making the data elements visible, accessible, and understandable to potential users. These data assets will be tagged, discoverable, searchable and retrievable using DOD-wide capabilities. Further information on how to develop and document the NR-KPP can be found in the following references:

7.6.2.1. For General Information on the NR-KPP – CJCSI 6212.01.

7.6.2.2. For JCIDS requirements – CJCSI 3170.01 and CJCSI 6212.01.

7.6.3. For ISP requirements – DoDD 4630.05, DoDI 4630.8, CJCSI 6212.01 and the AF Information Support Plan Community of Practice.

7.7. Information Assurance (IA). IA is a risk management activity that refers to the measures that protect and defend information and information systems by ensuring their availability, integrity, confidentiality, authentication, and non-repudiation. AFPD 33-2, *Information Assurance (IA) Program*, AFI 33-200, *Information Assurance (IA) Management*, and AFI 33-210, *Air Force Certification and Accreditation (C&A) Program (AFCAP)* establish the AF IA program framework.

7.7.1. PM shall ensure an IA strategy is documented and IA requirements are implemented at all phases of the life cycle. The IA strategy shall be included as an appendix to the PPP. The IA strategy is approved by the CIO and is required for Milestone Reviews. The IA strategy applies to all IT including NSS per DoDI 5000.02. Refer to DoDI 8580.1 for submission and review process information.

7.7.2. Additional information is located on the AF Information Assurance CoP.

7.8. Certification and Accreditation. Certification and accreditation is a process that ensures that systems and major applications adhere to formal and established security requirements. Certification and accreditation is required by the Federal Information Security Management Act (FISMA) of 2002. The PM shall ensure each system is certified and accredited in accordance with DoDI 8500.2, *Information Assurance Implementation*, DoDI 8510.01, *DoD Information Assurance Certification and Accreditation Process (DIACAP)*, AFPD 33-2, *Information Assurance (IA) Program* and AFI 33-210, *Air Force Certification and Accreditation (C&A) Program (AFCAP)*.

7.8.1. The PM shall ensure that the system is certified and accredited before fielding of the system and that all IA requirements have been fulfilled.

7.8.2. The PM shall ensure the system plan of action and milestones are documented and tracked, annual security testing (contingency plan and security controls) is completed and documented, reviews are conducted and documented, and recertification and reaccreditation is completed in order to maintain the IA posture of the system. IA posture changes resulting from activities such as configuration changes shall be assessed and negative impacts will be identified to the appropriate Certifying Authority and Designated Accrediting Authority (DAA).

7.9. Joint Tactical Radio System (JTRS) Waivers/Notifications. OSD policy requires all Services to minimize non-Joint Tactical Radio System (JTRS) purchases and develop migration strategies for existing radios. The PM shall contact the Air Force Command and Control Integration Center (AFC2IC) for further information on JTRS waivers.

7.10. AF IT Standards Waiver Process. When an AF organization identifies a need for a new or emerging standard to be added to the DISR, or to update a version of or retire an existing DISR standard, the DISR change request (CR) process must be followed, whether the CR is for a joint mandated standard or for an AF-unique standard. For ACAT programs, this must be done prior to MS B, or an IT standards waiver must be obtained.

7.10.1. The PM shall request a waiver to use an IT standard not approved for use in the DISR or when a decision is made not to use a DoD-mandated IT standard. Waivers must also be requested for use of a standard listed in DISR as emerging or retired. Requests for waivers will be submitted IAW AFI 33-401. SAF/CIO A6 is the AF IT Standards Waiver Approval Authority. Additional information can be found on the DISR website at disa.mil.

7.11. AF Automated Computer Program Identification Number System (ACPINS). When developing new Computer Software Configuration Items (CSCIs) for AF Weapons Systems and Automatic Test Equipment, the ACPINS will be considered for use in numbering each CSCI and related documentation and in ordering and tracking software.

7.12. Privacy. The PM shall ensure information assurance controls are implemented that protect privacy act and personally identifiable information. The PM will ensure PIAs, SORNs, and SSN reduction in records and forms are conducted, documented, and coordinated in accordance with DoD 5400.11-R, *DoD Privacy Program* and AFI 33-332, *Air Force Privacy Program.*

7.13. Cyberspace Infrastructure Planning System (CIPS). The PM shall ensure applicable use of and updates to the CIPS. CIPS is the AF enterprise-wide communications and information equipment, systems and infrastructure planning tool. CIPS includes downward directed enterprise solutions and MAJCOM, base, and in-theatre planning. Additional information can be found at the CIPS CoP.

7.14. Section 508. Section 508 of the Rehabilitation Act of 1973, as amended, was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The PM shall include as appropriate Section 508 requirements specified in AFI 33-393, *Electronic and Information Technology Accessible to Individuals with Disabilities, Section 508*.

7.14.1. The PM shall include as appropriate Section 508 exceptions including undue burden in the management of Department of the Air Force systems. These exemptions exist for different reasons and may be invoked at different stages of the procurement or development

life cycle. These exceptions also include military security or other areas of national defense security systems.

7.15. Records Management. The Federal Records Act, Section 207(e) of the E-Government Act of 2002, Bulletin 2010-02 from the National Archives and Records Administration (NARA), DoDD 5015.2, DoDI 5000.02, and AFMAN 33-363 mandate the scheduling of electronic information systems in Federal Agencies to manage and facilitate access to agency information in order to support and accelerate decision making and ensure accountability.

7.15.1. IT investments that contain electronic records (e-records) or record data shall have a NARA-approved schedule that provides for the disposition of the e-records when agency business need for the records ceases, i.e., destruction of temporary records and transfer to the National Archives of the United States of permanent records. The PM shall ensure IT system investments with e-records are scheduled in accordance with AFMAN 33-363, *Management of Records*.

7.15.2. Additional information may be found on the AF Records Management CoP and in AFPAM 63-128.

7.16. IT Budget Reporting. The AF is responsible for reporting the IT Budget as required by the DoD Appropriation House Report 4546, Title III, Section 351; the National Defense Authorization Act, Sec 332 § 2222 (h) Budget Information, OMB Circular A-11, Exhibits 53 and 300; and the DoD Financial Management Regulation 7000.14-R, Volume 2B, Budget Formulation and Presentation, Chapter 18, Information Technology.

7.16.1. The PM shall support the input of IT Budget Reporting requirements for all IT program resources and information IAW Congressional, OMB, OSD, and Air Force guidance. The PM shall report (e.g. FYDP positions, program description, funding change description, etc.) applicable IT in the designated AF IT data repository, EITDR, and SNaP-IT for CIRs also referred to as Exhibit 300s. The dollars amounts entered must be approved budget positions, not funding requirements.

7.17. Management of Defense Business Systems (DBS). The PM shall follow the policies and processes described in BCL for the management of DBS programs. The BCL model is the acquisition and requirements process for DBS, and assigns responsibilities and provides procedures for the successful development, testing, fielding, and sustainment of DBSs. This model is a guideline and is not intended to preclude tailoring, consistent with statute and sound business practice.

7.17.1. DBS Requirements. Activities performed and documentation required in the Business Capability Definition (BCD) Phase of the BCL guidance shall be used in lieu of JCIDS. The Problem Statement replaces the JCIDS documentation. The BCD phase is led by the functional sponsor. Refer to AFI 10-601 for DBS requirements process and documentation.

7.17.1.1. The Functional Sponsor shall present the approved requirements document with the AoA Study Guidance and Plan to the MDA for MDD. Results of the MDD are documented in an ADM by the MDA.

7.17.2. DBS Acquisition. Major Automated Information Systems (MAIS) Defense Business System programs will follow BCL guidance. If a DBS below the MAIS threshold is

designated as special interest by either the USD(AT&L) or the Deputy Chief Management Officer (DCMO), it shall be subject to OSD oversight. Programs below MAIS thresholds shall follow BCL guidance and guidance in this document. The SAE shall designate the MDA for DBS that do not meet the MAIS threshold.

7.17.2.1. The MDA shall be responsible for making DBS life cycle management decisions including all acquisition and sustainment execution decisions. The MDA shall not approve program changes unless the program increment is fully funded and schedule impacts mitigated. The MDA is responsible for approving the Business Case. The Business Case replaces the Acquisition Strategy in the BCL policy. The MDA shall tailor the regulatory information requirements and life cycle processes and procedures in the BCL model to achieve cost, schedule, and performance goals, as appropriate.

7.17.2.1.1. All DBS programs under MAIS thresholds and over $10 Million in total modernization cost shall be managed under the appropriate Air Force PEO unless otherwise directed. The PEO shall act as MDA authority for DBS over $10 Million and below MAIS thresholds. Functional Sponsor shall contact the appropriate PEO for assistance. IRB/SWG shall advise the MDA as appropriate.

7.17.2.1.2. All DBS programs under $10 Million in total modernization cost may be managed by a HAF and HAF DRU CIOs or IT Functional Portfolio Managers acting as the MDA authority. HAF and HAF DRU CIOs or IT Functional Portfolio Managers shall inform SAF/AQ of the programs for which they are assuming MDA responsibility. Programs under $10 Million in total modernization are required to follow the BCL model and follow all applicable laws, regulations, and policy. Programs using investment funding are required to be on the AML and report in SMART.

7.17.2.1.2.1. HAF and HAF DRU CIOs or IT Functional Portfolio Managers acting as the MDA and PM authority over DBS are highly encouraged to meet the acquisition workforce requirements in this document. MDA and PM credentials are required to be listed in SMART.

7.17.2.1.2.2. DBS programs managed by HAF and HAF DRU CIOs or IT Functional Portfolio Managers are subject to the reporting and review guidelines in this document. The SAE shall review and adjust the program based upon program execution.

7.17.2.1.2.3. Directions for HAF and HAF DRU CIOs or IT Functional Portfolio Managers informing SAF/AQ of MDA and PM responsibility is included in AFPAM 63-128.

7.17.2.2. MAIS programs are required to conduct an Enterprise Risk Assessment Methodology (ERAM) per BCL guidance. MAIS programs below the threshold are not required to conduct an ERAM assessment, but are required to conduct a Component Level Equivalent as appropriate. MAIS programs below the threshold programs shall follow the risk management guidance in this document. The MDA will determine the extent of the risk management assessment based upon program conditions.

7.17.3. DoD Defense Business Council (DBC) Certification. DBC certification is required for any defense business system investment costing in excess of $1 million in total DoD

funds over the FYDP, regardless of type of funding or whether any development or modernization is planned. Obligating DoD funds for a defense business system modernization over $1M that has not been approved by the DBC is a violation of 31 U.S.C. § 1341(a)(l) (the Anti-Deficiency Act). Any modernization to a National Security System does not require certification. For additional information refer to DTM 08-020, Investment Review Board (IRB) Roles and Responsibilities, DoD IT Defense Business Systems Investment Review Process Guidance, or AFI 33-141, *Air Force Information Technology Portfolio Management and IT Investment Review*.

7.17.3.1. To obtain DBC certification systems must be:

7.17.3.1.1. In compliance with the DoD Business Enterprise Architecture (BEA) and BPR efforts must have been sufficiently undertaken to ensure that;

7.17.3.1.1.1. The business process supported by the Defense business system is (or will be) as streamlined and efficient as practicable; and

7.17.3.1.1.2. The need to tailor commercial-off-the-shelf systems to meet unique requirements or incorporate unique interfaces has been eliminated or reduced to the maximum extent practicable;

7.17.3.1.2. Necessary to achieve a critical national security capability or address a critical requirement in an area such as safety or security; or

7.17.3.1.3. Necessary to prevent a significant adverse effect on a project that is needed to achieve an essential capability, taking into consideration the alternative solutions for preventing that adverse effect.

7.17.3.2. The DBC chair is the final approval authority for all defense business system certification requests. The Chair shall document decisions in an Investment Decision Memorandum to affected PMs through the DoD Component Pre-Certification Authorities. DBC Chair approval shall occur before the first milestone review of an acquisition program. The PM shall include a copy of the DBC approved Investment Decision Memorandum with the documentation provided to the MDA. A DBC certification approval does not constitute authority to execute an acquisition program

7.17.4. DBS Acquisition Reporting. All DBS efforts using investment funds are subject to acquisition reporting that is detailed in Chapter 10 of this AFI.

7.17.4.1. DBS efforts using investment funds, regardless of amount, will be listed on the AML.

7.17.4.2. DBS efforts on the AML shall initiate and maintain program data within the SMART acquisition management system. DBS efforts that are managed within AFMC and SMC are also required to use Comprehensive Cost and Requirement (CCaR). Additionally, DBS efforts with more than $30M in RDT&E (3600) or $50M in procurement over the life of the effort are required to submit a Monthly Acquisition Report (MAR) via the SMART system.

7.17.5. DBS Sustainment Reporting. DBS efforts that have reached Full Deployment Decision (or equivalent milestone) are not required to submit a MAR. If DBS sustainment efforts use investment funding that exceeds the MAR reporting thresholds then the efforts will adhere to the reporting requirements in Chapter 10 of this AFI.

Chapter 8

ACQUISITION OF SERVICES

8.1. Purpose. This chapter defines the framework and expectations for acquiring and ensuring delivery of promised performance of contracted services. As used herein, "Services Designated Officials" has the same meaning as "Decision Authority" in DoDI 5000.02 Enclosure 9, dated December 8, 2008, referred to hereafter as USD (AT&L) Acquisition of Services Policy. Related references include Title 10 United States Code §2330, §2330a, and §2463; FAR Part 37, *Service Contracting*; DFARS Part 237, *Service Contracting*; DoDI 1100.22, *Policy and Procedures for Determining Workforce Mix*; AFFARS Part 5337, *Service Contracting*; AFI 38-203, *Commercial Activities Program*; and SECAF memorandum of 9 March 2006, *Contractor Support Approval Policy Memo 06A-002*. AFI 63-138 (when published) must be used in conjunction with this document for implementation guidance on Air Force Acquisition of Services.

8.2. Acquisition of Services Objectives. Acquisitions of services shall support and enhance the warfighting capabilities of the Air Force and the Unified Commands. All acquisition of services shall comply with applicable statutes, regulations, policies, and other requirements.

8.3. Acquisition of Services Responsibilities. The Senior Official is the Assistant Secretary of the Air Force for Acquisition (SAF/AQ), who serves as SAE. The SAE establishes life cycle management structures to ensure effective implementation of this policy. The SAE delegates these responsibilities to Services Designated Officials as defined in AFI 63-138 (when published).

8.4. Services Requirements Approval. New and recurring requirements shall be submitted to the appropriate approval authority specified in AFI 63-138 (when published).

8.5. Services Acquisition Review and Approval. The Services Designated Official is responsible for acquisitions based on the services categories and thresholds described in AFI 63-138 (when published).

Chapter 9

ACQUISITION WORKFORCE MANAGEMENT AND PROFESSIONAL DEVELOPMENT

9.1. Purpose. The purpose of this chapter is to identify acquisition workforce management and professional development requirements and responsibilities. The 1990 Defense Acquisition Workforce Improvement Act (DAWIA), Chapter 87, Title 10, United States Code (U.S.C.)/ P.L. 101-510, codified at 10 USC 1701-1764, provides specific minimum qualification standards of those personnel performing functions integral to the acquisition process and defines Critical Acquisition Positions (CAPs). The law requires DoD to formalize career paths for personnel who wish to pursue careers in acquisition to develop a skilled, professional workforce. This chapter defines the Air Force's implementation of this law as required by DoDD 5000.52 and DoDI 5000.66.

9.2. Acquisition Workforce. For the purposes of this publication, the acquisition workforce is defined as those individuals assigned to positions having predominantly acquisition functions as defined by DoDD 5000.01, DoDI 5000.02, and DoDD 5000.52. These positions shall be designated by acquisition coding in the manpower and personnel systems of record.

9.3. Responsibilities and Authorities. The Assistant Secretary of the Air Force for Acquisition, SAF/AQ, establishes policy and provides Service oversight for acquisition workforce management and professional development, and in accordance with DoDD 5000.52, is responsible for implementing the Defense Acquisition, Technology and Logistics (AT&L) Workforce Education, Training and Career Development Program in the AF on behalf of the Secretary of the Air Force (SECAF).

9.3.1. AF Director, Acquisition Career Management (DACM). The DACM is designated by SAF/AQ with authority to assist the Service Acquisition Executive (SAE) with oversight and execution of acquisition workforce responsibilities. Responsibilities of the DACM shall include:

9.3.1.1. Developing, implementing, and overseeing policies and procedures for the AF Acquisition Professional Development Program (APDP).

9.3.1.2. Representing the AF as point of contact with Defense Acquisition University (DAU) and other DoD Components for matters relating to the AT&L Workforce Education, Training, and Career Development Program.

9.3.1.3. Managing training matters associated with DAWIA implementation, including DAU course quotas.

9.3.1.4. Managing the Air Force share of the Defense Acquisition Workforce Development Fund.

9.3.1.5. Establishing programs as required to provide career development opportunities for the acquisition workforce in accordance with DAWIA, associated regulations, and AF acquisition workforce human capital strategic planning objectives.

9.3.1.6. Establishing and maintaining acquisition career management information systems for training, waivers, continuous learning, certification, and acquisition personnel records review as needed to execute acquisition workforce responsibilities.

9.3.2. Functional Managers. HAF Functional Managers, appointed IAW AFI 36-2640, shall advise the DACM on acquisition workforce management issues and assist in execution of acquisition workforce responsibilities in respective acquisition functions. HAF Functional Managers and their appointed Career Field Manager (CFM) are responsible for ensuring, in coordination with the DACM, that AF requirements for acquisition certification (education, training, experience, and the career pyramid) standards are identified to OUSD (AT&L). HAF Functional Managers shall appoint an APDP Functional Manager, as applicable, to manage APDP responsibilities for AF members in acquisition functional areas.

9.3.3. MAJCOM Commanders. MAJCOMs are responsible for designating military and civilian acquisition positions within their respective organization. MAJCOMs will ensure that acquisition positions are properly coded within the appropriate personnel and manpower data systems, and will review these positions periodically to ensure compliance with APDP coding policy. MAJCOMS will provide a single MAJCOM APDP point of contact to SAF/AQH, and will appoint qualified Functional APDP Managers and APDP representatives within their organizations, as required. For more information, see detailed APDP guidance in the acquisition functional area of the AF Portal.

9.3.4. Supervisors of Individuals Assigned to Acquisition Positions. Supervisors are responsible for notifying personnel in their organization whose positions are designated as acquisition positions about their APDP responsibilities to include the functional category and level of required certification, and if appropriate, tenure and statutory requirements. Supervisors shall assist acquisition workforce members in developing and executing Individual Development Plans (IDP) to accomplish APDP requirements including statutory and / or assignment-specific training / education, certification, tenure, and professional currency / continuous learning standards.

9.3.5. Individuals Assigned to Acquisition Positions. Individuals assigned to acquisition-coded positions shall meet all APDP requirements including statutory and / or assignment-specific training/education, certification, tenure, and professional currency / continuous learning standards.

9.4. Acquisition Workforce Management. SAF/AQ shall establish strategic objectives to develop and maintain a professional acquisition workforce with the numbers and mix of people with the right education, training, skills and experience to execute effective and successful AF acquisition processes and programs.

9.4.1. Human Capital Strategic Planning (HCSP). The DACM office, in coordination with Functional Managers, shall develop, review, and coordinate HCSP for the acquisition workforce, in harmony with AF and OSD workforce strategic plans, to guide acquisition workforce accession, succession, force development and force shaping planning.

9.4.2. Review of Performance Appraisals.

9.4.2.1. Military Performance Evaluations. In accordance with AFI 36-2406, an opportunity shall be provided for review and inclusion of any comments on any appraisal of the performance of a person serving in an acquisition position by a person serving in

an acquisition position in the same acquisition career field. For more information see detailed APDP guidance in the acquisition functional area of the AF Portal.

9.4.2.2. Acquisition Civilian (non-contracting) Evaluations. Civilians occupying acquisition coded positions outside of the contracting career field may request, but are not required to have an acquisition functional review of their performance appraisal. This special acquisition functional review is in addition to the normal review processes.

9.4.2.3. Contracting Career Field Evaluations. First level evaluation of individuals on contracting coded positions shall be performed within the contracting career chain. The only exception will be the performance evaluation of the senior official in charge of contracting for the organization, when this official is not the primary PCO for the organization. AFFARS 5302.101 defines senior officials in charge of contracting for the organization as MAJCOM/DRU Senior Contracting Officials, Senior Center Contracting Officials, and operational contracting squadron commanders.

9.5. AF Acquisition Professional Development Program (APDP). The APDP shall be designed and managed to facilitate the development and maintenance of a professional acquisition workforce. Refer to the Career/APDP section in the acquisition functional area of the AF Portal for detailed information and implementing instructions (hereafter referred to as "detailed APDP guidance.")

9.5.1. Designating Acquisition Positions. If the duties of a position (regardless of series) are predominantly acquisition functions as defined by DoDD 5000.01, DoDI 5000.02, and DoDD 5000.52, then the position falls under the requirements of this AFI and must be coded as an acquisition position in accordance with detailed APDP guidance. In addition to Active Duty (AD) and permanent civilians, Active Guard and Reserve (AGR) and civilian overhires shall be designated as acquisition positions. Non-AGR military guard and reserve positions may not be coded as acquisition positions.

9.5.1.1. APDP position coding shall relate functional coding to the civilian occupational (OCC) series or the military AF Specialty Code (AFSC) as outlined in detailed APDP guidance.

9.5.1.2. APDP position coding shall identify required certification levels based on authorized position grade / rank / pay band as defined in detailed APDP guidance.

9.5.1.3. Developmental Positions, as defined in detailed APDP guidance, shall be coded Level II and may not be coded as CAP. Before designating a position as Developmental, organizations must receive approval from the DACM / Deputy DACM.

9.5.1.4. All civilian 1101 positions with predominantly (>50%) acquisition management duties shall be coded Program Management.

9.5.1.5. All 63XX positions are considered acquisition positions and shall be coded in accordance with detailed APDP guidance.

9.5.1.6. All civilian 1102 and all military 64XX and 6C0X1 positions are considered acquisition positions and shall be coded Contracting.

9.5.1.7. All civilian 1103 positions are considered acquisition positions and shall be coded Industrial Property Management.

9.5.1.8. All civilian 1105 positions are considered acquisition positions and shall be coded Purchasing.

9.5.2. In accordance with DoDI 5000.66 certain senior level acquisition-coded positions shall be designated as CAPs based on the criticality of the position to an acquisition program. Personnel assigned to CAPs provide needed acquisition experience as well as stability and accountability to a program. Positions that must be CAPs include:

9.5.2.1. General Schedule (GS)-15 (or equivalent), O-6, and higher grade acquisition-coded positions.

9.5.2.2. Senior Materiel Leader positions of acquisition organizations directly responsible for ACAT I, IA, and II programs shall be coded Program Management Level III and shall require completion of the training statutorily required for ACAT I, IA, and II program managers.

9.5.2.3. The following positions that are a subset of GS-14 (or equivalent), and O-5 acquisition-coded positions:

9.5.2.3.1. All acquisition-coded Materiel Leader positions.

9.5.2.3.2. Civilian GS-14 (or equivalent) and acquisition coded positions that have direct responsibility and accountability on an acquisition program or on an effort or function directly supporting a program, and have duties and responsibilities that require a three-year tenure for program stability. For more information see detailed APDP guidance.

9.5.2.3.3. Military O-5 positions that have direct responsibility and accountability on an acquisition program or on an effort or function directly supporting a program, and have duties and responsibilities that require a three year tenure for program stability. This includes all acquisition-coded positions that must be filled by officers graded at the O-5 level or above, such as O-5 material leader positions that are filled by a board process, or program office O-5 positions that must be filled at the O-5 level. O-5 positions that are routinely filled by an officer of lower rank do not require CAP designation.

9.5.2.4. Further examples of positions that should be coded CAP can be found in the detailed APDP guidance.

9.5.2.5. O-4 / GS-13 (or equivalent) / or lower grade positions will not be coded as CAPs.

9.5.2.6. All CAPs must be coded Level III.

9.5.2.7. Individuals assigned to CAPs shall be Acquisition Corps members (refer to paragraph 9.5.6) and shall meet AF eligibility standards as outlined in detailed APDP guidance.

9.5.2.8. Individuals assigned to CAP positions incur a three-year tenure.

9.5.2.8.1. Civilians: DD Form 2888 will be used to document the CAP tenure agreement. Individuals must sign DD Form 2888 (Block 6a) to capture tenure agreement and document in DCPDS. Approving Official on DD Form 2888 (Block 6c) is the hiring official.

9.5.2.8.2. Military: Assignment Availability Code (AAC) 59 will be updated for the required tenure outlined in AFI 36-2110; therefore a DD Form 2888 is not required.

9.5.3. Key Leadership Positions (KLPs). A subset of CAPs that require SAE oversight of position qualification requirements and tenure will be designated KLPs. KLPs are determined and designated by the SAE. Further guidance on KLPs is outlined in AFI 36-1301 and detailed APDP guidance.

9.5.3.1. Civilian: DD Form 2889 will be used to document the KLP tenure agreement. Individuals must sign DD Form 2889 (Block 6a) to capture tenure agreement and document in DCPDS. Approving Official signature on DD Form 2889 is not required unless the tenure period is other than the default criteria established by the SAE.

9.5.3.2. Military: Assignment Availability Code (AAC) 59 will be updated for the required tenure as outlined in AFI 36-2110, and an AF Form 63 Active Duty Service Commitment Acknowledgement is required to cover the tenure period (AFI 36-2107, Table 1-1), DD Form 2889 not required.

9.5.3.2.1. Assignment Availability Code (AAC) 59 and Active Duty Service Commitment (ADSC) will be removed when a military member is no longer serving in a KLP position and prior to the expiration of the updated tenure period with an SAE approved waiver.

9.5.4. Certification. Individuals assigned to acquisition positions are required to meet position certification requirements in accordance with DoDI 5000.66. The Air Force follows DoD certification standards without modification. The DACM uses an online certification tool to execute the certification process. Acquisition workforce members will request certification via the online certification system found on the Career/APDP section in the acquisition functional area of the AF Portal. For implementing instructions and POCs, refer to the detailed APDP guidance.

9.5.4.1. Criteria for Manual Certification. Under exceptional circumstances, certifications may be processed manually rather than using the online certification tool. As delegated by the DACM, Certifying Officials serve as the AF approval authority for issuing acquisition professional certification credentials manually in accordance with DoD policy. Certifying Officials are accountable for ensuring current functional area education, training, and experience standards are met for certification. The DACM shall issue criteria for Certifying Officials. Refer to the detailed APDP guidance for further information.

9.5.4.1.1. Delegation of manual Certification Authority. The DACM may delegate certification authority for Level I, II and III Certification to the following (where Certifying Official criteria are met):

9.5.4.1.1.1. HAF Functional Managers.

9.5.4.1.1.2. MAJCOM Headquarters.

9.5.4.1.1.3. Others as identified in detailed APDP guidance.

9.5.4.1.2. As delegated by the DACM, certification authority will remain with the HAF Functional Manager for AF personnel assigned to DRUs, FOAs, Unified Commands, DoD Agencies, and other Components.

9.5.4.1.3. As delegated by the DACM, HAF Functional Managers shall be the Certifying Official for GO and SES members who meet functional category acquisition certification requirements. This authority may not be re-delegated.

9.5.4.2. The DACM may delegate authority to adjudicate acquisition experience and / or approve acquisition course fulfillment for purpose of documentation in the system of record to support certification. Refer to detailed APDP guidance for further information.

9.5.5. Professional Currency.

9.5.5.1. Individuals assigned to acquisition-coded positions shall maintain professional currency in their acquisition functional area by meeting mandatory DoD and AF Continuous Learning (CL) standards and recording CL accomplishments in Acq Now CL. Responsibility falls upon the individual and their supervisor to ensure their CL aligns with their IDP and meeting professional currency is measured in performance feedback. Individuals on acquisition-coded positions who fail to meet the professional currency requirement are considered non-current. For details on execution of CL, refer to the detailed APDP guidance.

9.5.5.2. Officers who are not CL current as of the Materiel Leader board date are ineligible. Civilians who have not achieved the CL standard within a two month period after becoming non-current will not be eligible for acquisition Civilian Strategic Leader Program positions. In addition, individuals must be CL current to compete for special acquisition career development programs or AF acquisition awards unless a waiver is granted. For details, refer to the detailed APDP guidance.

9.5.5.3. Learning is a job responsibility. Online and resident courses required for APDP certification and CL may be accomplished during dedicated duty time either during the normal duty day in the workplace, or through such means as organization approved alternate work schedules, or tele-commuting, subject to supervisor approval. Individuals should not be expected to accomplish required training during off-duty hours.

9.5.6. Defense Acquisition Corps. The Acquisition Corps is intended to be a pool of highly qualified members of the Acquisition Workforce from which CAPs are filled.

9.5.6.1. The Acquisition Corps is comprised of those persons who have met the grade, education, training, and experience standards prescribed by DAWIA and implementing regulations, and who have been granted admission to the Acquisition Corps by the DACM. Criteria for entrance into the Acquisition Corps are provided in the detailed APDP guidance.

9.5.6.2. New entrants to the Acquisition Corps must meet all Acquisition Corps requirements and be a Lt Col (select), GS-14 (or equivalent), or above.

9.5.6.3. Acquisition professionals shall demonstrate appropriate professional and / or military standards as well as professional development in order to qualify for and remain in the Acquisition Corps. Examples: any military member having an Unfavorable Information File (UIF) or failing to continue professional development commensurate with rank, will not be considered for, or shall be disqualified and removed from, the Acquisition Corps.

9.5.6.4. Members of the Acquisition Corps are expected to have recent acquisition experience and retainability. Members will be removed from the Acquisition Corps if they have not served in an acquisition coded position within the last seven years. In addition, Acquisition Corps members who have an approved retirement or date of separation and who are not currently serving in an acquisition position will be removed from the Acquisition Corps.

9.5.7. Waivers. DAWIA and DoD policy permit waivers for position qualification requirements or tenure requirements on a case-by-case basis when in the best interests of the Air Force. Waiver requests, coordination, and approval / disapproval must be processed via the AT&L Workforce Waiver Tool. Refer to detailed APDP guidance for further information.

9.5.7.1. A position requirements waiver does not confer certification or obviate the acquisition related requirements of the position.

9.5.7.2. Membership in the Acquisition Corps cannot be granted via a waiver.

9.5.7.3. The SAE (or designated representative) must approve waivers from the approved tenure commitment for KLPs.

9.5.7.4. Delegation of Waiver Approval Authority.

9.5.7.4.1. The DACM office will receive KLP waiver requests from the field and coordinate Service Acquisition Executive disposition.

9.5.7.4.2. Authority for Senior Contracting Official position requirements waivers is delegated to the Deputy Assistant Secretary (Contracting) (SAF/AQC). This authority may not be re-delegated.

9.5.7.4.3. The DACM or Deputy DACM grants waivers for position and tenure requirements for all non-KLP CAPs.

9.5.7.4.4. The DACM may delegate waiver authority for non-CAP position requirements. Refer to detailed APDP guidance for further information.

9.5.7.4.5. The PEO or Deputy PEO is given authority to waive the requirement for a new tenure agreement when an individual is reassigned from a non-KLP CAP within the PEO portfolio to another non-KLP CAP within the same PEO portfolio. This authority does not obviate the requirement for a tenure waiver for reassignment when a tenure agreement is in effect.

Chapter 10

REPORTING

10.1. Reporting Requirements. All investment activities are required to comply with the reporting guidelines in this chapter and should review the requirements of this AFI and assess the applicability. Programs designated as an AML program must comply with all acquisition requirements.

10.2. Investment Fund Reporting. All efforts with Air Force Research, Development, Test and Evaluation (RDT&E) 3600 (Budget Activity (BA)1 thru BA7) and Procurement (3010, 3011, and 3020) investment funds are required to use the Comprehensive Cost and Requirement (CCaR) system to manage and execute program funds. The CCaR system will update System Metric and Reporting Tool (SMART) and Executive CCaR on a monthly basis.

10.2.1. For 3080 investment funds, acquisition/PEO organizations shall use the CCaR system to manage and execute program funds unless a waiver is granted from SAF/AQX.

10.2.2. The program or activity that has the funds included in the program baseline reports the funds. Any funds outside of the baseline are reported by the activity with the direct budget authority. Obligation and expenditure status shall be reviewed and published monthly to Executive CCaR to align with the Monthly Acquisition Report (MAR) schedule in Section 10.5.

10.2.3. CCaR use will continue as long as funding is available for execution.

10.3. Budget Transparency. Beginning in FY14, all MDAP and MAIS programs shall have separate accounting information to include Program Element (PE) and/or Budget Program Accounting Codes (BPAC) and Modification Number (if applicable).

10.4. SMART Reporting. AML program data shall be entered and maintained in SMART. SMART is the authoritative source for the AML.

10.4.1. All activities required to be listed on the AML are also required to enter basic program data into SMART. The PM shall enter data at initial entry onto the AML and update prior to every major program milestone and/or following any significant program change. The PM shall review and update at least twice per year prior to the 1st of March and October and upon request from SAF/AQX. The minimal data entry into SMART will consist of the following:

10.4.1.1. Name and attributes (acronym, full name, type, acquisition phase, ACAT, MDA, base year (for funding) as reflected in the President's Budget documentation, joint program (specify lead component), and cognizant SAF/AQ Capability Directorate or HAF organization). The PE, BPAC, and modification number shall be included in the program description. The nomenclature used to describe a program on the AML, in SMART and in each Information Technology (IT) and accounting system (e.g. CCAR, ABIDES, IDECS, AFM, CRIS, etc.) shall be consistent. The name of each activity shall begin with the numeric system designation, as applicable. For example, a program name shall start with "E-3" not "AWACS." Program names will include the applicable system or end item of equipment. For example, "B-52 LCM".

10.4.1.2. Key Personnel (at a minimum PEO, Program Manager, Product Support Manager, Program Element Monitor, LSE, and the SMART POC).

10.4.1.3. Background (short description of effort).

10.4.1.4. Schedule module.

10.4.1.4.1. Pre Milestone B or technology project effort, list key schedule events required by the Approving or Managing Authority.

10.4.1.4.2. Post Milestone B effort, as applicable, list: MDD, MS-A, PDR, MS-B, CDR, MS-C, FRP, RAA/FDD, IOC, FD, FOC and any other Acquisition Program Baseline (APB) events.

10.4.1.5. Performance (minimally Key Performance Parameters and any other APB parameters).

10.4.1.6. Contract Data (as applicable, list contract(s) name, number, contractor, location). Contract data (contractor, business segment and identification of prime contractor) will be selected from an authoritative list managed by SAF/AQXL.

10.4.1.7. Cost. RESERVED

10.5. MAR Reporting. MARs are required for AML programs with funding greater than $30 million in RDT&E (3600) or $50 million in procurement (30XX) over the life of the program. MAR reporting is not required for AML programs with then-year funding less than $30 million in RDT&E (3600) or $50 million in procurement (30XX) over the life of the program except as directed by SAF/AQX. MARs are required for joint programs where the AF is the lead service; for joint programs where the AF is not the lead service; the MAR can be waived by SAF/AQX.

10.5.1. For pre-MS A AML programs, MARs are required quarterly. Initiate reporting the fiscal year prior to funding first received. MAR submissions are only required to address Program Assessment and top issues in preparation for program initiation.

10.5.2. For post-MS A AML programs, MARs are required monthly. Initiate reporting the first quarter following SAF/FM authorization to spend funds.

10.5.3. ACAT I and II program MARs will consist of all charts referenced in the sub-paragraphs below. ACAT III program MARs will consist of all charts below with the exception of the Program Schedule and One Year Critical Path Schedule. Charts include:

10.5.3.1. Program Assessment and Top Issues (should be no more than 10).

10.5.3.2. APB Data: Cost, Schedule, and Technical Performance.

10.5.3.3. Funding Execution Data.

10.5.3.4. Contract Information.

10.5.3.5. Additional Assessments.

10.5.3.6. Program Schedule.

10.5.3.7. Unconstrained 1537.

10.5.4. The PEO or equivalent decision authority will review and approve each MAR in their portfolio by the 8th working day of each month.

10.5.5. Programs may only terminate MAR reporting with the approval of SAF/AQX. Programs can submit a request for termination of MAR reporting through SAF/AQX when 90 percent of items are delivered or 90 percent of the investment funds (RDT&E and Procurement) funding is expended. SAF/AQX may also terminate MAR reporting when a program has been cancelled.

10.6. QRC Reporting. All Joint Urgent Operational Need (JUON), Joint Emergent Operational Need (JEON), and Top-down directed QRC efforts will provide a MAR regardless of dollar value. Reference AFI 63-114 for QRC process and requirements.

10.7. DoD and Congressional Reporting. ACAT designated programs shall follow the DOD 5000 series for DOD and Congressional reporting requirements.

Chapter 11

POLICY COORDINATION, REVIEW, AND WAIVERS

11.1. Integrated Life Cycle Management Publication Coordination. Major Command (MAJCOM) Commanders are requested to convene a high performance team (HPT)-based process for the review and coordination of official ILCM Air Force departmental publications (e.g., AFPDs, AFIs, AFMANs, and AFPAMS). These publications are the authoritative voice of the Headquarters Air Force (HAF) and document how ILCM requirements established by law, the President, the Secretary of Defense (SECDEF), and the SECAF are to be fulfilled.

11.1.1. The HPT shall consist of the appropriate subject matter expertise relevant to the content of the publication under review. The purpose of the HPT is to facilitate AFI 33-360, *Publications and Forms Management*, technical/functional staffing in order to develop a timely, adjudicated, consolidated and integrated position on behalf of the MAJCOM Commander. Additionally, the HPT will review the publication with regards to higher authority (e.g., public law, statute, DoD issuances), HAF senior leadership direction, and the ability to implement a standardized process across the MAJCOM. The HPT will provide recommendations and supporting rationale for all comments to increase the quality of the ILCM publication.

11.1.2. MAJCOM Commanders will assign a lead office responsible for staffing, identification of relevant subject matter experts and process owners to support the HPT, and act as the single point of contact between the MAJCOM and the HAF publication OPR. MAJCOM Commanders can designate a lower-level office to provide the response and sign off on the coordination form, but are responsible for ensuring the correct offices within their organization review the publication.

11.2. Waivers. Waivers from guidance must be based on a programmatic course of action approved by the SAE or MDA through the program's governance chain of authority and documented in the appropriate program documentation. If a waiver is required, the waiver request should be submitted to the publication OPR for appropriate staffing and approval among HAF functional authorities.

11.3. Changes. Refer recommended changes and questions about this publication to SAF/AQXA using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the functional chain of command.

Charles R. Davis
Lieutenant General, USAF
Military Deputy, Office of the Assistant
Secretary of the Air Force (Acquisition)

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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TO 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information (Emergency Services)*

Prescribed Forms.

No forms are prescribed by this publication.

Adopted Forms.

DD Form 1415-1, *Reprogramming Action Form*

DD Form 250, *Material Inspection and Receiving Report*

DD Form 2888, *Critical Acquisition Position Service Agreement*

DD Form 2889, *Critical Acquisition Position Service Agreement Key Leadership Position*

AF Form 847, *Recommendation for Change of Publication*.

Abbreviations and Acronyms

ACAT—Acquisition Category

ACE—Acquisition Center of Excellence

ACPINS—Automated Computer Program Identification Number System

ACWP—Actual Cost Work Performed

ADM—Acquisition Decision Memorandum

AETC—Air Education and Training Command

AF—(U.S.) Air Force

AF/A2—Deputy Chief of Staff, Intelligence, Surveillance and Reconnaissance

AF/A3/5—Deputy Chief of Staff, Operations, Plans and Requirements

AF/A4/7—Deputy Chief of Staff, Logistics, Installations, and Mission Support

AF/A8—HQ AF, Strategic Plans and Programs

AF/SE—Air Force Chief of Safety

AF/TE—Directorate of Air Force Test and Evaluation

AF—NNSA—Air Force-National Nuclear Security Administration

AFC2IC—Air Force Command & Control Integration Center

AFCAP—Air Force Certification and Accreditation Program

AFCESA—Air Force Civil Engineer Support Agency

AFDD—Air Force Doctrine Document

AFFARS—Air Force Federal Acquisition Regulation Supplement

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMETCAL—Air Force Metrology and Calibration

AFOTEC—Air Force Operational Test and Evaluation Center

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFRB—Air Force Review Board

AFRC—Air Force Reserve Command

AFRL—Air Force Research Laboratory

AFROC—Air Force Requirements Oversight Council

AFSC—Air Force Specialty Code

AFSPC—Air Force Space Command

AIS—Automated Information Systems

AIT—Automatic Identification Technology

ANG—Air National Guard

AoA—Analysis of Alternatives

AML—Acquisition Master List

APB—Acquisition Program Baseline

APDP—Acquisition Professional Development Program

AS—Acquisition Strategy

ASIP—Aircraft Structural Integrity Program

ASP—Acquisition Strategy Panel

AT—Anti-Tamper

AT&L—Acquisition, Technology and Logistics

ATCALS—Air Traffic Control and Landing Systems

ATE—Automatic Test Equipment

BCA—Business Case Analysis

BCL—Business Capability Lifecycle

BEA—Business Enterprise Architecture

CAIG—Cost Analysis Improvement Group

CAM—Centralized Asset Management

CAP—Critical Acquisition Position

CARD—Cost Analysis Requirements Description

CBDP—Chemical Biological Defense Program

CBM+—Condition Based Maintenance Plus

CC—Commander

CCA—Clinger-Cohen Act

CCaR—Comprehensive Cost and Requirement System

CCPE—Corrosion Control Program Executive

CCTD—Concept Characterization and Technical Description

CD—Capability Director

CDD—Capability Development Document

CDR—Critical Design Review

CDRL—Contract Data Requirements List

CDT—Chief Developmental Tester

CFO—Chief Financial Officer

CFSR—Contract Funds Status Report

CI—Counterintelligence

CIO—Chief Information Officer

CIR—Capital Investment Report

CIPS—Cyberspace Infrastructure Planning System

CITE—Center(s) of Industrial and Technical Excellence

CJCSI—Chairman of the Joint Chiefs of Staff Instruction

CL—Continuous Learning

CLIN—Contract Line Item Number

CLS—Contractor Logistics Support

CoP—Community of Practice

COTS—Commercial Off-the-Shelf

CPCP—Corrosion Prevention and Control Plan

CPD—Capability Production Document

CPI—Critical Program Information

CR—Change Request

CSAF—Chief of Staff of the Air Force

CSB—Configuration Steering Board

CSCI—Computer Software Configuration Items

CV—Vice Commander

DASD(DT&E)—Deputy Assistant Secretary of Defense for Developmental Test and Evaluation

DAA—Designated Accrediting Authority

DAB—Defense Acquisition Board

DACM—Director, Acquisition Career Management

DAE—Defense Acquisition Executive

DAF—Department of the Air Force

DAG—Defense Acquisition Guidebook

DAU—Defense Acquisition University

DAWIA—Defense Acquisition Workforce Improvement Act

DBS—Defense Business System

DBC—Defense Business Council

DCAPE—Director of Cost Assessment and Program Evaluation

DCMA—Defense Contract Management Agency

DFARS—Defense Federal Acquisition Regulation Supplement

DIP—DIACAP Implementation Plan

DISR—DoD (Department of Defense) Information Technology Standards Registry

DLA—Defense Logistics Agency

DMI—Depot Maintenance Interservice

DMSMS—Diminishing Manufacturing Sources/Material Shortages

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DOT&E—Director, Operational Test and Evaluation

DOTMLPF—Doctrine, Organization, Training, Material, Leadership and Education, Personnel, and Facilities

DP—Development Planning

DRU—Direct Reporting Unit

DSA—Direct Sales Agreement

DSOR—Depot Source of Repair

DT&E—Developmental Test and Evaluation

EAC—Estimate at Completion

EIAP—Environment Impact Analysis Process

EITDR—Enterprise Information Technology Data Repository

EMD—Engineering and Manufacturing Development

EO—Executive Order

EOA—Early Operational Assessment

ESOH—Environment, Safety and Occupational Health

EUC—End Use Certificate

EVM—Earned Value Management

EVM—CR—Earned Value Management - Central Repository

EVMS—Earned Value Management System

F3I—Form, Fit, Function, and Interface

FAA—Federal Aviation Administration

FAR—Federal Acquisition Regulation

FDDR—Full Deployment Decision Review

FDE—Force Development Evaluation

FISMA—Federal Information Security Management Act of 2002

FMR—Financial Management Regulation

FMS—Foreign Military Sales

FOA—Field Operating Agency

FOC—Full Operational Capability

FoS—Family of Systems

FOT&E—Follow-on Operational Test and Evaluation

FOUO—For Official Use Only

FRPDR—Full Rate Production Decision Review

FRP—Full Rate Production

FRRB—Functional Requirements Review Board

FY—Fiscal Year

FYDP—Future Years Defense Program

G&A—General and Administrative (Expense)

GIDEP—Government Industry Data Exchange Program

GIG—Global Information Grid

HAF—Headquarters Air Force

HAMS—Hardness Assurance, Maintenance, and Surveillance

HCA—Head of Contracting Activity (or Agency)

HCSP—Human Capital Strategic Plan

HPT—High Performance Team

HQ—Headquarters

HSI—Human Systems Integration

IA—Information Assurance

IAW—In Accordance With

IBR—Integrated Baseline Review

ICD—Initial Capabilities Document

ICS—Interim Contractor Support

ILCM—Integrated Life Cycle Management

IMP—Integrated Master Plan

IMS—Integrated Master Schedule

IOC—Initial Operational Capability

IOT&E—Initial Operational Test and Evaluation

IPA—Independent Program Assessment

IPMR—Independent Program Management Report

IPT—Integrated Product Teams

IRB—Investment Review Board

IS—Information System

ISA—International Standardization Agreement

ISP—Information Support Plan

ISR—Intelligence, Surveillance, and Reconnaissance

IT—Information Technology

ITT—Integrated Test Team

ITAB—Information Technology Acquisition Board

ITT—Integrated Test Team

IUID—Item Unique Identification

JCIDS—Joint Capability Integration and Development System

JCTD—Joint Capability Technology Demonstration

JP—Joint Publication

JRAC—Joint Rapid Acquisition Cell

JROC—Joint Requirements Oversight Council

JS—Joint Staff

JTRS—Joint Tactical Radio System

JUON—Joint Urgent Operational Need

KLP—Key Leadership Position

KPP—Key Performance Parameter

KSA—Key System Attributes

LCMP—Life Cycle Management Plan

LCSP—Life Cycle Sustainment Plan

LMDP—Life Cycle Mission Data Plan

LFT&E—Live Fire Test and Evaluation

LRIP—Low Rate Initial Production

LSE—Lead Systems Engineer

LVC—Live, Virtual, and Constructive

M&S—Modeling and Simulation

MAIS—Major Automated Information System

MAJCOM—Major Command

MAR—Monthly Acquisition Report

MD—Mission Directive

MDA—Milestone Decision Authority

MDAP—Major Defense Acquisition Program

MDD—Materiel Development Decision

MDS—Mission Design Series

MDT—Mean Down Time

MEV—Military Equipment Valuation

MFOQA—Military Flight Operations Quality Assurance

MFP—Materiel Fielding Plan

MIL—PRF—Military Performance (Specification)

MIL—STD—Military Standard

MOSA—Modular Open Systems Approach

MS—Milestone

NDAA—National Defense Authorization Act

NDI—Non-Developmental Item

NEPA—National Environmental Policy Act

NR—KPP—Net Ready Key-Performance Parameter

NSN—National Stock Number

NSS—National Security System

NWRM—Nuclear Weapons Related Materiel

O&S—Operation and Support

OFP—Operational Flight Program

OMB—Office of Management and Budget

OPR—Office of Primary Responsibility

ORM—Operational Risk Management

OSD—Office of the Secretary of Defense

OSS&E—Operational Safety, Suitability, and Effectiveness

OT&E—Operational Test and Evaluation

OTB—Over Target Baseline

OTD—Open Technology Development

OTS—Over Target Schedule

OUSD—Office of the Under Secretary of Defense

PBL—Performance-Based Logistics

PCO—Procuring Contracting Officer

PEM—Program Element Monitor

PEO—Program Executive Officer

PESHE—Programmatic Environment, Safety, and Occupational Health Evaluation

PGM—Product Group Manager

PIA—Privacy Impact Assessment

PIR—Post-Implementation Review

PL—Public Law

PM—Program Manager

PMA—Program Management Agreement

PMB—Performance Measurement Baseline

POC—Point of Contact

POM—Program Objectives Memorandum

PPBE—Planning, Programming, Budgeting, and Execution

PPP—Program Protection Plan

PSI—Product Support Integrator

PSM—Product Support Manager

PSMP—Product Support Management Plan

PSP—Product Support Provider

PTO—Preliminary Technical Order

PWS—Performance Work Statement

QRC—Quick Reaction Capability

R&M—Reliability and Maintainability

RAI—Recorded Aircraft Information

RAM—C— Reliability, Availability, Maintainability, and Cost

RDS—Records Disposition Schedule

RDT&E—Research, Development, Test, and Evaluation

REMIS—Reliability and Maintainability Information System

RFP—Request for Proposal

RMP—Risk Management Plan

S&T—Science and Technology

SAE—Service Acquisition Executive

SAF—Secretary of the Air Force

SAF/AQ—Assistant Secretary of the Air Force (Acquisition)

SAF/CIO A6—Chief of Warfighting Integration and Chief Information Officer (CIO)

SAF/FM—Assistant Secretary of the Air Force (Financial Management)

SAF/GC—General Counsel of the Air Force

SAF/IE—Assistant Secretary of the Air Force (Installations, Environment, and Logistics)

SAF/IG—Inspector General of the Air Force

SAF/LL—Assistant Secretary of the Air Force (Legislative Affairs)

SAP—Special Access Program

SBIR—Small Business Innovation Research

SCM—Supply Chain Manager

SCO—Senior Contracting Official

SE—Systems Engineering

SE/ATS—Support Equipment/Automatic Test System

SECAF—Secretary of the Air Force

SECDEF—Secretary of Defense

SEP—Systems Engineering Plan

SERD—Support Equipment Recommendation Data

SES—Senior Executive Service

SIM—Serialized Item Management

SLIN—Sub-Line Item Number

SMART—System Metric and Reporting Tool

SOCOM—Special Operations Command

SOR—Source of Repair

SORA—Source of Repair Assignment

SORN—System of Record Notice

SoS—System of Systems

SOW—Statement of Work

SPA—Single Point Adjustment

SPE—Senior Procurement Executive

SRD—Systems Requirements Document

SSN—Social Security Number

STINFO—Scientific and Technical Information

STP—System Training Plan

T&E—Test and Evaluation

TDS—Technology Development Strategy

TEMP—Test and Evaluation Master Plan

TM—Technical Manual

TMSS—Technical Manual Specifications and Standards

TNMCM—Total Not Mission Capable - Maintenance

TNMCS—Total Not Mission Capable - Supply

TO—Technical Order

TOC—Total Ownership Cost

TRA—Technology Readiness Assessment

TRL—Technology Readiness Level

TSP—Transition Support Plan

TTCP—The Technology Cooperation Program

UID—Unique Identification

UIF—Unfavorable Information File

UII—Unique Item Identifier

UON—Urgent Operational Need

U.S.—United States

USAF—United States Air Force

USC—United States Code

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

V&V—Verification and Validation

WBS—Work Breakdown Structure

WRAP—Warfighter Rapid Acquisition Process

WSIG—Weapon System Integrity Guide

Terms

Refer to AFPAM 63—128 for a list of Acquisition Terms with Definitions