

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

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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) 5000 series instructions comprising the Defense Acquisition System. Additionally, this AF Instruction (AFI) implements the policies to include the Office of Management and Budget (OMB) Circular A-11, *Preparation, Submission, and Execution of the Budget*, DoD Instruction (DoDI) 3020.41, *Operational Contract Support (OCS)*, DoDI 3200.19, *Non-Lethal Weapons (NLW) Human Effects Characterization*, DoDI 4151.19, *Serialized Item Management (SIM) for Life Cycle Management of Materiel*, DoDI 4151.20, *Depot Maintenance Core Capabilities Determination Process*, DoDI 4151.21, *Public-Private Partnerships for Product Support*, DoDI 4151.22, *Condition Based Maintenance Plus (CBM+) for Materiel Maintenance*, DoDI 4245.14, *DoD Value Engineering (VE) Program*, DoDI 5000.02, *Operation of the Defense Acquisition System*, DoDI 5000.60, *Defense Industrial Base Assessments*, DoDI 5000.66, *Operation of the Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development 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*, Department of Defense Directive (DoDD) 5000.71, *Rapid Fulfillment of Combatant Commander Urgent Operation Needs*, DoDI 5200.39, *Critical Program Information (CPI) Identification and Protection Within Research, Development, Test, and Evaluation (RDT&E)*, DoDI 5200.44, *Protection of Mission Critical*

Functions to Achieve Trusted Systems and Networks (TSN), DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*, and Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01I, *Joint Capabilities Integration and Development System*.

This AFI applies to military and civilian Air Force personnel and units, including Regular, Reserve, and Air National Guard (ANG), except where noted, as well as other individuals and organizations based on binding agreement or obligation with the Department of the Air Force (DAF). For nuclear systems or related components, ensure the appropriate nuclear regulations are applied in addition to the guidance in this AFI. In accordance with (IAW) the ILCM chain of authority specified in this AFI, mandates to the acquisition execution chain are not considered Wing-level mandates and therefore tiering, IAW AFI 33-360, Publications and Forms Management, does not apply. When tiering does apply for a wing/unit-level requirement(s), waiver authority is identified with a Tier (“Tier-0, Tier-1, Tier-2, Tier-3”) number following the compliance statement. Compliance, tiering, waivers, and tailoring are covered in **Chapter 1**.

Statutory law, Federal, or DoD directives take precedence over AFIs. If there is conflicting guidance between this AFI and any DoD series or published higher-level guidance, the DoD series or published higher-level guidance takes precedence.

This AFI may be supplemented at any level, but all supplements must be routed to Deputy Assistant Secretary (Acquisition Integration) (SAF/AQX), for review and approval prior to publication. Refer recommended changes and questions about this publication to SAF/AQXS using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through functional chain of command. This instruction requires the collection and/or maintenance of information protected by Title 5 United States Code (USC) Section 552a, *The Privacy Act of 1974*. The authorities to collect and maintain the records prescribed in the publication are Public Law (Pub. L.) 101-510, Title XII, *Defense Acquisition Workforce Improvement Act*; Title 10, Sections 1701-1764, 8013; and Executive Order 9397, as amended. The applicable System of Record Notices (SORNs), F036 AFPC Q, *Personnel Data System*, and F036 AFPC C, *Military Personnel Records System*, apply. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW AF Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the AF Records Disposition Schedule (RDS) located in the AF Records Information Management System (AFRIMS).

SUMMARY OF CHANGES

This revision incorporates management Industrial Facilities under DoDD 4275.5 and cancels AFI 63-609, *Managing Industrial Facilities*, by encompassing applicable information into **Chapter 12** of this instruction. This revision also hereby cancels AFI 63-131, *Modification Management*, by encompassing applicable information into **Chapter 9** of this instruction. This AFI includes multiple changes resulting from the release of the DoDI 5000.02, Change 2, in Feb 2017 and is restructured to align and reduce duplication with this DoDI. This rewrite also codifies AF Guidance Memorandums for AFI 63-101/20-101 on risk decisions and accelerating acquisition, respectively. A chapter for Acquisition Security was created and expands on program protection planning and cybersecurity. The implementation of information technology (IT) chapter was restructured to show compliance with Chief Information Officer (CIO) authorities. The

applicability of the AFI was also clarified to show required dependent activities. Document coordination was changed to put more responsibility with the approval authority to coordinate outside the Program Executive Officer (PEO) structure. Finally, it includes administrative changes to correct format, organizational changes, and typographical errors.

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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 to deliver and sustain warfighting capabilities. Used in partnership with the non-directive best practices and procedures in Air Force Pamphlet (AFPAM) 63-128, *Integrated Life Cycle Management*, AF personnel can efficiently implement the concepts of ILCM. ILCM governs all aspects of infrastructure, resource management, and business systems necessary for the successful acquisition of systems, subsystems, end items, and services to satisfy validated warfighter requirements. Use this instruction in conjunction with AFI 10-601, *Operational Capability Requirements Development*, AFI 99-103, *Capabilities-Based Test and Evaluation*, AFI 63-138, *Acquisition of Services*, and applicable 17-series documents to provide an integrated framework for the implementation of ILCM.

1.2. Applicability. This instruction applies to the management of all acquisition programs (e.g., weapons systems, national security systems [NSS], and defense business systems [DBS]) as denoted on the Acquisition Master List (AML), all investment-funded activities (product groups, systems, activities, services, and projects) in any phase of the lifecycle, and Legacy programs in the O&S Phase not previously on the AML. Depending upon the type of investment activity and the maturity of the program, different sections of the document apply. Activities and applicability of the document are listed below:

1.2.1. Acquisition Category (ACAT) Programs (or AML Programs). ACAT programs are defined and managed per DoDD 5000.01 and DoDI 5000.02. ACAT programs are required to follow the guidance in this AFI and are documented on the AML. AF acquisition programs begin by utilizing investment funding (i.e., Research, Development, Test and Evaluation (RDT&E) and/or procurement) to satisfy a validated need. Programs retain their ACAT designation through sustainment, until disposed of or terminated, and are categorized on the open/closed AML and the active/inactive Investment Master List (IML), depending on phase and funding type; see [Chapter 11](#) for more information. ACAT III has no funding floor and encompasses all programs not included within ACAT I, IA, and II.

1.2.1.1. ACAT and Legacy programs in the Operations and Support (O&S) Phase. Sustainment (or O&S phase) requirements, identified in DoDI 5000.02 and this publication, apply to programs or systems utilizing Operations and Maintenance (O&M) funding. Systems in the O&S phase are not required to retroactively meet information requirements identified in previous phases of the acquisition lifecycle. These systems should continue to meet the requirements needed for continued operation of the system including the following:

1.2.1.1.1. Modifications. Modifications to systems are specified in [Chapter 9](#). Permanent modifications to an operational capability may result in a new ACAT program, and the requirements of DoDI 5000.02 and this AFI apply.

1.2.1.1.2. Maintenance Activities. Maintenance activities for existing programs, that are not considered a permanent ACAT modification and do not utilize investment funding are not required to be managed as a new ACAT program. These activities

should manage the activity IAW program processes. This instruction does not apply to the following modification activities:

1.2.1.1.2.1. Replacement Interchangeable Items which do not involve the alteration of an existing asset. MIL-HDBK-61A, *Configuration Management Guidance*, an interchangeable product possesses such functional and physical attributes as to be equivalent in performance to another product of similar or identical purposes; and is capable of being exchanged with the other product without alteration of the products themselves or of adjoining products.

1.2.1.1.2.2. O&M funded actions that keep a previously established level of performance through routine, recurring work correction of product quality deficiencies or to retain/restore the functional baseline or performance specification and do not extend service life of the equipment or alter Form, Fit, Function, or Interface. Maintenance actions such as the materiel repair, overhaul, or rebuilding of parts, assemblies, or subassemblies, and the testing and reclamation of equipment to correct a deficient condition in the originally designed functionality. This includes depot-level maintenance as defined in 10 U.S.C. §2460.

1.2.1.1.2.3. Maintenance or tech refresh of commercially available office information systems and associated software.

1.2.1.1.2.4. Individual engineering changes completed as part of an existing ACAT program involving developmental items or production articles that have not been formally accepted by the government via a Department of Defense (DD) Form 250, *Materiel Inspection and Receiving Report*.

1.2.1.1.2.5. Assets that are no longer part of an active inventory, such as aircraft in long-term storage that are not part of a reutilization effort.

1.2.1.1.2.6. Modifications of facilities or other base-level infrastructure, telecommunications equipment, or property.

1.2.1.1.3. Other Activities. Sustainment (O&S phase) activities that utilize investment funding should report the funding IAW the reporting requirements of this AFI ([Chapter 11](#)) and be categorized as either an AML or AML-Exempt program.

1.2.2. Investment Activities (AML-Exempt). AML-Exempt investment activities are not considered ACAT programs and are not required to follow DoDI 5000.02 guidance related to the management of acquisition programs. All investment activities are required to report investment funding and be categorized as AML-Exempt per [Chapter 11](#). All investment activities are required to comply with Federal Acquisition Regulation (FAR) and financial management requirements as defined. Additional AML-Exempt investment activities include:

1.2.2.1. Civilian Pay (Investment-Funded), Commodity Procurements, Developmental Infrastructure Sustainment, Development of Enterprise Architectures/Certifications, and Replenishment Spares Procurements. These activities follow other applicable guidance, such as AFI 99-103 and AFI 91-202, *The US Air Force Mishap Prevention Program*.

1.2.2.2. Services. The management procedures of this AFI do not apply to Services activities managed IAW DoDI 5000.74, *Defense Acquisition of Services*, and AFI 63-138.

1.2.2.3. Studies. Studies are required to follow the reporting requirements of this AFI, in **Chapter 11**, as well as AFI 90-1603, *Air Force Studies Management and Registration*.

1.2.2.4. Technology Projects. The management procedures of this AFI do not apply to science and technology (S&T) programs, demonstrations, experiments, or projects, which are managed IAW AFI 61-101, *Management of Science and Technology*.

1.2.3. Special Access Program (SAP). IAW AFI 16-701, *Management, Administration and Oversight of Special Access Programs (SAP)*, SAPs follow separate life cycle management guidance. The Assistant Secretary of the Air Force for Acquisition, Directorate of Special Programs (SAF/AQL), in coordination with the Director, Security, Special Programs Oversight and Information Protection (SAF/AAZ), is responsible for these activities.

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

1.2.4.1. Security Cooperation FMS acquisition programs are executed IAW the Arms Export Control Act and Defense Security Cooperation Agency (DSCA) 5105.38-M, *Security Assistance Management Manual (SAMM)*, DoD Financial Management Regulation 7000.14-R, *Department of Defense Financial Management Regulation (FMR)*, and AFMAN 16-101, *International Affairs and Security Assistance Management*.

1.2.4.2. FMS programs are implemented based on the direction in the DoD 5000 acquisition series, DoD 5200 series, 99-series test AFIs, 63-series acquisition AFIs, 14-series AFIs, and 16-series operations support AFIs to afford the foreign purchaser the same benefits and protections that apply to DoD procurement. The applicability to each FMS case of tailored requirements, or application of unique requirements, from these policies is limited to what is contained in the government-to-government agreement.

1.2.4.3. The responsibility for FMS programs is limited to elements/tasks contained in a government-to-government agreement. This agreement is implemented for execution through the appropriate accountability reporting chain of the assigned DoD component authority.

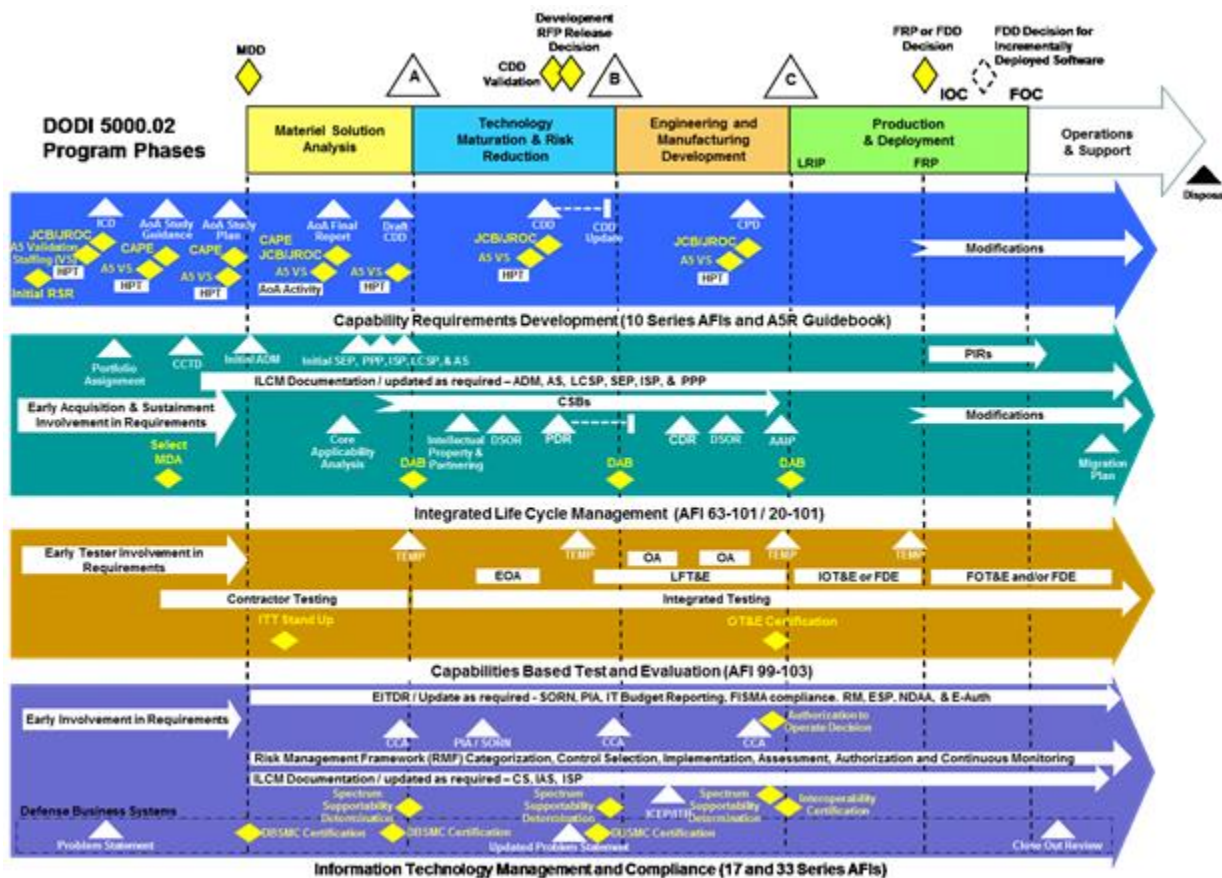
1.2.4.3.1. The government-to-government agreement established by a bilaterally signed Letter of Offer and Acceptance should specify any tailored implementation of acquisition direction for the FMS program.

1.2.4.3.2. Collaboration with the user should occur as early as possible in the program's life cycle on the feasibility of exportable and interoperable configurations and open system architectures in the system design based on an analysis of the current and future international market. This can enable more timely and efficient future FMS cases; however, changes that add requirements or costs must be approved by the user.

1.2.5. Defense Business Systems (DBS). DBS follow DoDI 5000.75, *Business Systems Requirements and Acquisition*, and AFMAN 63-144, *Defense Business System Life Cycle Management*, for the acquisition of the system. DBS programs develop requirements IAW AFMAN 33-402, Service Development and Delivery Process. DBS programs are subject to IML categorization and acquisition reporting detailed in [Chapter 11](#) of this AFI. The functional sponsor uses the PEO Portfolio Assignment Process for assignment of a DBS to the appropriate PEO.

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 (IC) necessary for system life cycle management required for acquisition of a system. This graphic is only one representation of the multiple tailorable models that should be utilized from DoDI 5000.02. Details on key acquisition and sustainment activities outlined in the framework can be found in the body of this document, other supporting documentation, or by using the AF Acquisition Process Model (APM) tool. For more information regarding requirements and test and evaluation, reference AFI 10-601 and AFI 99-103. For more information regarding IT management and compliance, refer to the applicable 17-series documents describing IT acquisition and CIO compliance requirements.

Figure 1.1. ILCM Framework.



1.4. Compliance, Tiering, Waivers, and Tailoring.

1.4.1. Compliance. Compliance "shall" and "will" statements have been reduced throughout this AFI. Consistent with AFI 33-360, "the absence of 'punitive' language in a paragraph of a publication does not mean compliance is optional, or that a military member or civilian employee cannot be disciplined for violating non-punitive requirements in a publication. All AF personnel must comply with both punitive and non-punitive mandatory guidance in publications." The AF is reducing compliance statements, or tiering them for Wing-level and below waiver authority, for all publications in order to reduce unnecessary resource tasking, funding, and/or duplicative or unnecessary inspection requirements.

1.4.2. Tiering. IAW the ILCM chain of authority specified in this AFI, mandates to the acquisition execution chain are not considered Wing-level mandates and therefore tiering, IAW AFI 33-360, does not apply. When tiering does apply for a wing/unit-level requirement(s), waiver authority is identified with a Tier ("Tier-0, Tier-1, Tier-2, Tier-3") number following the compliance statement. See AFI 33-360 for a description of the authorities associated with the tier numbers. Tiering numbers are spelled out to differentiate with Temporary Modification designations in [Chapter 9](#).

1.4.3. Waivers. A waiver is a statement to relinquish, or provide exceptions to, a specific statutory or regulatory requirement. Waivers from compliance must be based on a programmatic course of action approved by the SAE or MDA through the program's ILCM chain of authority and documented in the appropriate program documentation.

1.4.3.1. Waiver authority belongs to the publication approval authority and waivers are processed IAW AFI 33-360; for this AFI, this authority is Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) (SAF/AQ) with signature authority for waivers delegated to SAF/AQX.

1.4.3.2. Where there is a clear conflict between approved courses of action and where DoD policy/guidance does not allow for tailoring of process, regardless of ACAT level, SAF/AQ shall request waivers from the appropriate DoD office. If a waiver is required, the waiver request should be submitted to the publication Office of Primary Responsibility (OPR) for appropriate staffing and approval among Headquarters Air Force (HAF) functional authorities.

1.4.3.3. Where the course of action, as approved and documented through the ILCM chain of authority, conflicts with an Air Force Policy Directive (AFPD), the Program Manager (PM) shall submit a request for a waiver to the certifying authority for the publication, who, in turn, obtains Secretary of the Air Force (SECAF) approval for the waiver, if warranted.

1.4.3.4. Where the course of action, as approved and documented through the ILCM chain of authority, conflicts with AF Departmental directive issuances other than AFPDs, the PM shall submit a notification via memorandum to the publication OPR for action. The OPR takes appropriate action to either provide direction to comply with policy, obtain a waiver to requirements, or to initiate changes to publications to resolve the conflict IAW AFI 33-360. Resolution of conflicts between AF issuances is resolved by the appropriate HAF functional.

1.4.3.5. Waivers for SAPs are submitted through the relevant Major Commands (MAJCOM) SAP Management Office for submission to the appropriate HAF/SAF organizations for adjudication.

1.4.4. Tailoring. Tailoring recognizes that acquisition programs are not all the same. Policy permits customized reviews, processes, and decision support information to accommodate the unique characteristics of a program while still meeting the statutory and regulatory needs for decision making and oversight. Tailoring for programs is requested by the PM and approved by the MDA. Tailoring ensures a program is able to balance risks in providing the needed capability to the warfighter in the shortest practical time while ensuring affordability and supportability. This is done by using sufficient, relevant, and timely information about uncertainty to proactively make better decisions. Reference DoDI 5000.02 and AFPAM 63-128 for more information on tailoring.

1.4.4.1. Tailoring is 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). The MDA approves the tailoring strategy as part of the documentation approval.

1.4.4.2. Tailoring may be limited by statute or other guidance and should not result in a requirement being waived.

1.4.5. If the PM indicates an activity, not specified by statute or regulation, does not add value to their program, 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 ILCM chain of authority up to the MDA; however, the burden of proof lies with the proponent.

1.5. Integrated Life Cycle Management (ILCM) Chain of Authority. All AF programs require a clear and unambiguous ILCM chain of authority. The management structure should be streamlined and characterized by short, clearly defined lines of responsibility, authority, and accountability. AF life cycle management responsibility for all ACAT programs flows from the SAE to the PEO to the accountable PM. IAW DoDD 5000.01, DoDI 5000.02, and AFPD 63-1/20-1, in no case may there be more than two levels of review between the PM and the MDA. Organizational leaders that are between or support the accountable PM, PEO and/or MDA need to stay informed, but shall not hinder direct and open access from the PM to the MDA. Only those in the ILCM chain of authority exercise decision-making authority on programmatic matters.

1.5.1. The PM documents the ILCM chain of authority (also known as the programmatic or acquisition execution chain) in the AS. Ensure all programs establish clear lines of program execution authority with documentation based on the guidance below.

1.5.1.1. Milestone Decision Authority (MDA). The MDA as defined in DoDD 5000.01 is the designated individual with overall responsibility for a program. The MDA has the authority to approve entry of a program into the next phase of the life cycle process, certify milestone (MS) criteria, and is accountable for cost, schedule, and performance reporting to higher authority, including Congressional reporting. The decision authority of the MDA and delegation is defined in [Table 1.1](#). For acquisition of services, decision authority delegations are in AFI 63-138.

1.5.1.1.1. Defense Acquisition Executive (DAE). The DAE acts as the MDA IAW the guidelines specified in DoDI 5000.02 for ACAT IDs and IAM programs.

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

1.5.1.1.2.1. 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.

1.5.1.1.2.2. MDA authorities for ACAT III programs are delegated to a PEO. PEOs may delegate ACAT III MDA authorities to any appropriately qualified individual. Unless waived or specifically directed by the SAE, delegated MDAs comply with the PEO position requirements (reference DoDI 5000.66, *Operation of Defense AT&L Workforce Education, Training, and Career Development Program* and AFI 36-1301, *Management of Acquisition Key Leadership Positions [KLP]*). PEOs shall notify the SAE, the AF Director, Acquisition Career Management (DACM) (SAF/AQH), and the Implementing Command Commander of all such delegations. The SAE has the authority to rescind such delegations. Note: When the MDA is delegated, SAF/AQH will schedule the member for any required training; if unable to accomplish training requirements within the six month grace period, a waiver will be coordinated through the SAE. MDA delegation does not confer PEO authorities. MDA authority cannot be delegated to the PM or Deputy PM of the same program(s) they are being designated MDA. No further delegation is allowed.

Table 1.1. Milestone Decision Authority (MDA) Delegation.

ACAT ¹	Designation Authority	MDA
ID	DAE	DAE ²
IC	DAE	SAE
IAM	DAE	DAE
IAC	DAE	SAE
II	SAE	SAE or PEO (as delegated)
III	SAE	PEO or as delegated to an appropriately qualified individual

Notes: 1) Refer to DoDI 5000.02 *Operation of the Defense Acquisition System* for ACAT descriptions.
2) SAE unless pulled up by DAE for programs not past MS A as of 1 Oct 2016; or DAE if retained for programs which are past MS A as of 1 Oct 2016 (reference Section 825 of Pub. L. 114-92 and section 3.10.2).

1.5.1.2. Program Executive Officer (PEO). The PEO is responsible for the management of assigned portfolio and ensures 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. The PEO may identify a director of engineering to be accountable to the PEO for oversight of the portfolio's engineering functional support.

1.5.1.2.1. The PEO provides dedicated executive program management of delegated programs.

1.5.1.2.2. 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*.

1.5.1.3. 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.

1.5.1.3.1. All programs on the AML, to include ACAT programs, weapons systems identified by AFPD 10-9, automated information systems, and defense business systems, shall be assigned only one PM. The PM should be clearly identified and documented.

1.5.1.3.2. The PM is accountable for credible cost, schedule, and performance reporting and analysis to the MDA. The PM has responsibility and authority to accomplish objectives for the total life cycle of the program.

1.5.1.4. 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. The PM identifies and defines the roles and responsibilities of the following principal support functions that are critical to the successful execution of the PM's responsibilities to meet the warfighter's capability needs: the Chief Engineer (CE), the Product Support Manager (PSM), and the Chief Developmental Tester (CDT)/Test Manager (TM). Role and responsibility descriptions include specific delegations and limitations of delegations, establish clear lines of accountability, and identify requirements for cross-functional management and coordination. The PM keeps these descriptions current throughout the system life cycle. Other functional positions may be included at the PM's discretion.

1.5.1.4.1. Chief Engineer (CE). The CE is assigned as soon as possible following the assignment of the PM. Note: The AF term "Chief Engineer" is synonymous with the DoDI 5000.02 term "Lead Systems Engineer."

1.5.1.4.2. Product Support Manager (PSM). The PEO shall ensure a PSM is assigned to all ACAT I, ACAT II programs, and Weapon Systems identified by AFPD 10-9. 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 the Implementing Command and the PEO. For Joint Major Defense Acquisition Programs (MDAPs) where the PSM is not an AF position, an AF Service PSM position is established to support the MDAP

PSM. The Service PSM reports directly to the AF organization assigned responsibility for supporting the Joint Program Office. The PSM is assigned simultaneously with the PM.

1.5.1.4.3. Chief Developmental Tester (CDT)/Test Manager (TM). All MDAP and Major Automated Information System (MAIS) programs require a CDT which is designated as a Key Leadership Position (KLP) IAW USD (AT&L) policy. All other ACAT programs will identify a TM. While the TM does not need to meet the more stringent workforce qualifications of the CDT, they must be able to perform the CDT/TM responsibilities as detailed in AFI 99-103.

1.5.1.4.4. Other Program Support. Other 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, intelligence, program integration, cybersecurity, Environment, Safety, and Occupational Health (ESOH), small business (SB), program protection or security, and meteorological analysis.

1.5.2. Staff Organizations. Staffs at all levels 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. The PM is responsible for and has the authority to execute a program. Staff organizations support the PM by providing trained personnel and advice to the PM to maximize the PM's opportunity to successfully execute the program. Staff organizations provide objective inputs, such as legal or engineering inputs, to the program decision process. Staff organizations cannot exercise or imply decision-making authority on programmatic matters unless explicitly delegated by the ILCM chain of authority (e.g., industrial facilities in [Chapter 12](#)).

1.6. PEO Portfolio Assignment or Transfer.

1.6.1. PEO Portfolio Assignment. During the requirements validation process, the requirements 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 the Implementing Command, SAF/AQ shall assign the effort to a PEO and include confirmation of proposed ACAT level and the MDA.

1.6.1.1. PEO assignment should be initiated for all programs projected to be on the AML prior to conducting an acquisition life cycle decision. Acquisition life cycle decisions can be made once the candidate PEO has received the initial identification memo. If the PEO decides to proceed, there is no need to wait until the official final memo is received. Exceptions: PEO assignment is not required for modifications to current programs which are already assigned to a PEO. Urgent Capability Acquisition programs may have the acquisition authority designated outside the PEO assignment process.

1.6.1.2. 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 the Implementing Command, SAF/AQ shall assign the effort to a PEO and determine the MDA.

1.6.1.3. For technology demonstration projects that may transition into acquisition programs or deployed capability, the Sponsor may request SAF/AQ temporary assignment of a PEO to support technology demonstration transition planning. Temporary PEO assignments shall be revalidated on an annual basis and may be transitioned to a permanent assignment based on confirmation of a validated requirements document in coordination with the Implementing Command.

1.6.1.4. Send PEO Portfolio Assignment requests to SAF/AQXE (usaf.pentagon.saf-aq.mbx.saf-aqxe-workflow@mail.mil).

1.6.2. PEO Portfolio Transfer. Coordinate transfer of programs between PEO portfolios through the Implementing Command(s) for approval by SAF/AQ. The impacted organizations shall prepare a joint request providing rationale and justification for the proposed transfer.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Purpose. This chapter defines the roles and responsibilities for positions responsible for ILCM of AF weapon 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 63-138, applicable 10-series and 17-series documents, and other publications referenced in **Attachment 1**. Responsibilities of headquarters staff are located in Mission Directives (MD); the responsibilities of SAF/AQ staff are included in HAF MD 1-10, Assistant Secretary of the Air Force (Acquisition).

2.2. Service Acquisition Executive (SAE). The AF SAE is SAF/AQ. The SAE will:

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 system to system retirement and disposal. This includes research, development, engineering, test, evaluation, production, delivery, and sustainment of new systems, or modifications and support of existing systems.

2.2.2. Ensure programs, to include modification programs, are properly defined and justified in budget documentation prepared in support of the Strategy, Planning, Programming, Budgeting, and Execution process and issue Program Authorization (PA) documents for funded modification programs.

2.2.3. Execute 10 U.S.C. §2464 (Core) and 10 U.S.C. §2466 (50/50) AF enterprise assessments and planning. Ensure implementation across acquisition programs for compliance with Core and 50/50 requirements.

2.2.4. Assign PEOs to programs per DoDI 5000.02.

2.3. Senior Procurement Executive (SPE). The AF SPE is SAF/AQ. The SPE is the senior official responsible for management direction of the Service procurement system, including implementation of unique procurement policies, regulations, and standards IAW 41 U.S.C. §1702. The SPE for all non-Service DoD Components is the USD(AT&L).

2.4. Program Executive Officer (PEO). The PEO will:

2.4.1. Be responsible for total life cycle management of the assigned portfolio including assigned ACAT programs and their modifications. The PEO interacts with other PEOs with similar program content and/or contractor/business segments to identify shared concerns, opportunities for leverage, and to develop an informed position of contractor performance within the portfolio at the department, Service, PEO, and program level. The PEO will work with the Lead Command and SAF/AQ Capability Director (CD) to secure necessary funding in time to meet portfolio/program objectives.

2.4.2. Execute oversight of the assigned portfolio of programs, in some cases as the MDA, while continuously assessing and optimizing programs within their portfolio. For programs with significant programmatic issues, the PEO reviews the program for restructure or termination.

2.4.3. Maintain knowledge of prime and major subcontractor efforts within the portfolio and engage periodically with industry counterparts to ensure transparency and unity of effort in portfolio execution.

2.4.4. Notify the Implementing Command of new missions and changes to include proposed program realignments. The PEO will work with the Implementing Command to identify requirements for the Government program office to include facilities, personnel, and resources and validate infrastructure investment requirements identified by the PM.

2.4.5. Maintain cognizance of, and leverage, pertinent S&T activities and advancements to achieve program objectives per AFI 61-101.

2.5. Milestone Decision Authority (MDA). The 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 program cost, schedule, risk, and performance reporting to higher authority, including Congressional reporting.

2.5.4. Ensure that when a program enters the acquisition 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.

2.5.7. Determine if modifications will be designated as formal acquisition programs.

2.6. Program Manager (PM). The PM will:

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

2.6.2. Be responsible for program execution, support the sponsor/user with development of draft capability requirements, 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 FAR Supplement (DFARS), Air Force FAR Supplement (AFFARS), and the requirements in this publication.

2.6.4. Develop and maintain appropriate programmatic documentation IAW this AFI and DoDI 5000.02.

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, tailor, and execute the assigned program.
- 2.6.7. Ensure systems and end items meet the warfighter's capability needs.
- 2.6.8. Ensure acquisition security considerations are designed, built, tested, and continuously updated.
- 2.6.9. Ensure operational systems maintain a current Interim Authority to Test (IATT) or Authority to Operate (ATO) if applicable per AFI 17-101, *Risk Management Framework (RMF) for Air Force Information Technology (IT)*.
- 2.6.10. Identify infrastructure and supporting requirements to the appropriate MAJCOM. Coordinate Air Force Plant (AFP) expansion or construction efforts per **Chapter 12** of this AFI.
- 2.6.11. Utilize Product Groups (PG) and enterprise management of materiel to minimize the proliferation of system-unique equipment when appropriate in order to improve interoperability, decrease costs, or for operational considerations.
- 2.6.12. Identify requirements and the risk associated with unmet requirements for the Government program office to include facilities, personnel, and resources and provide them to the PEO, or designee, to work with the appropriate Implementing Command.

2.7. Product Support Manager (PSM). The 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. Additionally, the PSM ensures the program's product support strategy incorporates logistics data, mishap data, ESOH risk data, integrated product support elements, and aligns to overarching AF enterprise priorities.
- 2.7.2. Be accountable for leading program office overall integrated product support throughout the system life cycle.
- 2.7.3. Be accountable for any formal delegation of program management authority and assignment of programmatic responsibilities by the PM, per section 1.5.1.4.
- 2.7.4. Continually assess reliability and maintainability of the weapon system and its subcomponents throughout its lifecycle.

2.8. Chief Engineer (CE). The CE will:

- 2.8.1. Develop and implement a comprehensive systems engineering (SE) strategy that addresses the total life cycle of the system and documents that strategy.
- 2.8.2. Be accountable for leading program office engineering execution throughout the system life cycle IAW:
 - 2.8.2.1. **Chapter 5** , Systems Engineering.
 - 2.8.2.2. Any formal delegation of program management authority and assignment of programmatic responsibilities by the PM, per section 1.5.1.4.
 - 2.8.2.3. Any engineering/technical authorities assigned or delegated to the CE by specific certification authorities or by AF policy.

2.8.3. Serve as the overall Engineering and Technical Authority for the program office.

2.8.3.1. While CEs do not make final programmatic decisions, they do make objective engineering and technical decisions that both affect and inform programmatic decisions.

2.8.3.2. Examples of these engineering and technical decisions include, but are not limited to, the following:

2.8.3.2.1. Identify and assess program technical risks and recommend to the PM proposed mitigation measures.

2.8.3.2.2. Assess and approve engineering changes and make implementation recommendations to the PM.

2.8.3.2.3. AFPAM 63-128 provides more information on engineering and technical authority, both within a program office and in organizations providing external support to program offices.

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

2.9.1. Take program direction from the PM and coordinate the planning, management, and oversight of Developmental Test and Evaluation (DT&E) activities. See AFI 99-103 for more detailed information on CDT/TM requirements and responsibilities.

2.9.2. Maintain oversight of program contractor, government, and other program-related DT&E activities. Coordinate with the Operational Test Organization (OTO) to establish integrated testing where feasible and practicable.

2.9.3. Advise the PM on all DT&E activities including contractor testing and help PM make technically informed, objective judgements regarding DT&E results.

2.9.4. Co-chair and provide program guidance to the Integrated Test Team (ITT), a cross-functional team responsible for developing the program Test and Evaluation (T&E) strategy.

2.10. Implementing Command Commanders. Implementing Commands which include AF Materiel Command (AFMC), AF Space Command (AFSPC) and AF Global Strike Command (AFGSC) Commanders, or their designated delegate, will:

2.10.1. Provide the SAE, PEOs, and PMs support capabilities to facilitate execution of the ILCM chain of authority. This includes technical assistance, infrastructure, modeling and simulation (M&S), test capabilities, laboratory support, professional education, training and development, management tools, human resources and all other aspects of support.

2.10.2. Provide pertinent S&T activity information to PEOs about technological advancements from DoD laboratories which could be leveraged to support program objectives.

2.10.3. 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.

2.10.4. Support all domestic, international, and security cooperation (including FMS) programs in which the AF participates IAW a signed agreement.

2.10.5. Ensure timely, complete, sufficient, and accurate intelligence analysis, information, and support is provided to and integrated within the acquisition process; this includes designating an intelligence focal point (see section 4.16). 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. Integrate intelligence supportability analysis into life cycle planning, programming, and technical life cycle documentation.

2.10.6. Develop processes and procedures for accurate collection and reporting of 10 U.S.C. §2464 (Core) and 10 U.S.C. §2466 (50/50) information. Maintain depot maintenance 50/50 workload mix database and analysis products.

2.10.7. Collaborate with Lead Commands and PMs, collect, validate, and maintain current requirements, priorities and funding data by system for all elements of depot activation and report data to HAF upon request. Establish a central repository for depot activation requirements data, to include associated rationale and/or impacts.

2.10.8. Conduct development planning (DP) to support requirements and capability development activities and decisions.

2.10.9. Charter PGs and appoint PG Managers when enterprise management of materiel used to support multiple weapon systems is desired to improve interoperability and decrease costs through commonality.

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

2.10.11. Collect combat damage data with the purpose of enhancing survivability, reducing casualties and increasing operational readiness in support of Joint Air Combat Damage Reporting.

2.11. Authorizing Official (AO). The AO formally assumes responsibility for operating Information Systems (IS) and Platform IT (PIT) systems at an acceptable level of risk.

2.11.1. The AO authorizes IATT and ATO decisions for DoD IS and PIT systems under their purview IAW DoDI 8510.01, *Risk Management Framework (RMF) for DoD Information Technology*, AFI 17-101, and AFI 17-130, *Cybersecurity Program Management*.

2.11.2. DoD ISs and PIT systems will not be allowed to operate on or connect to external networks without AO approval.

2.11.3. For all AF Sensitive Compartmented Information (SCI) assets and data, Intelligence, Surveillance, and Reconnaissance (ISR) mission assets and data (regardless of classification), and guest SCI/ISR assets and data, the AO renders authorization decisions under IC Directive 503.

2.12. Operational Command, Direct Reporting Unit (DRU), and Field Operating Agency (FOA) Commanders. Operational Commands (sometimes referred to as either a “Lead Command” or “Using Command” identified by AFD 10-9) including, but not limited to, Air Combat Command (ACC), Air Mobility Command (AMC), AF Special Operations Command (AFSOC), Air Education and Training Command (AETC), AFGSC, AFSPC and FOAs Commanders, or their designated delegate will:

2.12.1. Develop and document capability based requirements and accomplish analysis to ensure needs of capability users are met. Advocate needs through the requirements process.

2.12.1.1. Collaborate with Implementing Commands to integrate long-term studies, existing and future concepts, as well as existing and planned systems into AF and DoD investment strategies.

2.12.1.2. Submit requests to the Implementing Command for materiel resources in support of DP to meet operational capability needs for prioritization of resources and to ensure visibility of all stakeholder interests.

2.12.1.3. Coordinate with the PM on opportunities to trade between capability and system cost.

2.12.2. Establish standardized procedures to review, validate, certify, prioritize, and implement modification proposals. Ensure validated modification proposals are coordinated with the appropriate PM and CE for systems engineering, program planning, testing, and cost estimation consideration. As required by the PM, Operational Commands, DRUs and FOAs provide appropriate funding to support these activities. Note: Time Compliance Technical Order (TCTO) kits are managed as prescribed by AFI 23-101, *Air Force Materiel Management*, AFMAN 23-122, AFH 23-123, *Materiel Management Handbook Volume One*, Materiel Management Reference Information, and TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

2.12.3. Identify and provide the PM planned National Environmental Policy Act (NEPA)/Executive Order (EO) 12114, Environmental Effects Abroad of Major Federal Actions analysis requirements, responsibilities and schedules for actions relating to the basing of the system.

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

2.12.5. 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.

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

2.12.7. Plan and advocate for programming and budgeting for the life cycle of the systems, to include materiel modification requirements.

2.12.8. Provide updates to the system operations concept (reference AFI 10-2801, *Force Development Concepts*, for definitions and termination of the term AF Concept of Operations [AF CONOPS]) throughout the life cycle of the program. The system operations concept will keep pace with planned modifications, so that the acquisition, logistics and test communities understand the intended use of the system, to include upgrades.

Chapter 3

AIR FORCE OPERATION OF THE DEFENSE ACQUISITION SYSTEM

3.1. Capability Based Requirements Development. The operational community is responsible for developing capability based requirements as defined in CJCSI 3170.01I, *Joint Capabilities Integration and Development System*, the JCIDS Manual, applicable 10-series publications and the *AF/A5R Requirements Development Guidebook* located on the AF Portal.

3.1.1. For ACAT I, ACAT IA, and non-delegated ACAT II programs, the SAE and the Implementing Command shall attest to the SECAF that the Capability Development Document (CDD), concurrent to the document validation staffing portion of the Air Force requirements process, endorses the following:

3.1.1.1. The CDD requirements can be clearly and unambiguously translated for evaluation in a source selection.

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

3.1.2. For delegated ACAT II programs and below, Implementing Commands shall attest that the capability requirements as described in all Capability Production Documents (CPDs) and delegated ACAT II and below CDDs are feasible. Complete the attestation concurrent with document validation staffing through the Air Force requirements process.

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

3.2.1. MS A Determination. The MDA (without the authority to delegate) for an MDAP, along with the SECAF and CSAF, or their designee(s), shall assess the programs concurrence with cost, schedule, technical feasibility, and performance trade-offs made, and sign a determination memorandum prior to MS A approval. The MDA completes the determination using a memorandum for record that addresses the requirements in 10 U.S.C. §2366a(b).

3.2.2. MS B Certification. The MDA (without the authority to delegate) for an MDAP, along with the SECAF and CSAF, or their designee(s), shall assess the program's concurrence with cost, schedule, technical feasibility, and performance trade-offs made, and sign a certification memorandum prior to MS B approval. In the certification memorandum, the MDA must ensure the determination requirements in 10 U.S.C. §2366b(a) have been addressed. If the program is initiated later than MS B, the MDA prepares a similar certification memorandum and submits it to the Congressional defense committees with the first Selected Acquisition Report (SAR) submitted after completion of the certification.

3.3. Air Force Review Boards (AFRB) and Acquisition Strategy Panels (ASP). AFRBs and ASPs are integral to a deliberative process that supports AF leadership in making informed MS decisions and in performing their acquisition execution responsibilities.

3.3.1. AF Review Boards (AFRB).

3.3.1.1. AFRBs are forums chaired by the SAE, or as delegated, for conducting major decision reviews (in- or out-of-cycle).

3.3.1.2. For ACAT ID and ACAT IAMs, AFRBs are used to develop the AF corporate consensus prior to an Office of the 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.

3.3.1.3. The AFRB process is mandatory 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. AFRB templates and more information can be found at the AF Portal at the "SAF/AQXE - Execution/Oversight" page in the Secretariat/AFRB section.

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

3.3.2. Acquisition Strategy Panel (ASP).

3.3.2.1. The ASP supports the MDA. ASPs are forums that evaluate proposed acquisition strategies to ensure all 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 (for ACAT I programs the SAE is the Chair), and is the sole authority to approve members of the panel.

3.3.2.2. The PM shall ensure an ASP is held for all ACAT programs that are presenting a new strategy or a significant revision to an approved strategy.

3.3.2.3. Information concerning ASPs, such as the current draft template for briefings, can be found at the AF Portal at the "SAF/AQXE - Execution/Oversight" page in the Secretariat/ASP section. Additionally, similar information pertaining to non-SAE chaired ASPs can be found by contacting the Field ACEs.

3.4. Configuration Steering Board (CSB). The CSB reviews all requirements changes and any significant technical configuration changes that may result in cost and schedule impacts to the program. Changes are only approved after funds are identified and schedule impacts mitigated. The CSB also provides the PM the opportunity to propose changes, with supporting rationale addressing operational implications which may be necessary to achieve affordability or that will result in a more cost effective product. For more information reference Section 814 of Pub. L. 110-417 and DoDI 5000.02.

3.4.1. At a minimum, CSBs are conducted annually for all ACAT I and IA programs in development starting at MS A.

3.4.1.1. Annual CSB reviews may be conducted together with the annual PEO Portfolio Reviews and Program Management Reviews.

3.4.1.2. An event based, out-of-cycle CSB is conducted when a proposed change to program requirements would result in significant technical configuration changes that potentially result in cost (estimated greater than \$100 million) and schedule impacts

(estimated delay of over six months) to the program or to address a Critical Intelligence Parameter (CIP) breach.

3.4.1.3. Mandatory participants for the ACAT I and IA CSB include: SAF/AQ (Chair), OSD AT&L (Rep), CSAF Rep (A4L), Lead Command Requirements (e.g., ACC/A5/8/9), AF/A5R, Joint Staff, SAF/FMB, SAF/AQ Mil Deputy, and the PEO for the program.

3.4.1.4. Additional CSB attendees may include: SAF/AQX, SAF/AQC, SAF/AQR, SAF/AQI, SAF/AQP, SAF/AQL, SAF/AQQ, SAF/AQS, AFMC/CC/CV/CA, AFSPC/CC/CV/CA, SAF/GCQ, AF/A8P, SAF/FMC, SAF/CIO A6, SAF/SB, SAF/AQD, AF/A2, AF/A4, AF/TE, AFOTEC, and/or Director, Operational Test and Evaluation (DOT&E).

3.4.1.5. CSB guidance and briefing templates are located at the Acquisition functional page on the AF Portal at the "SAF/AQXE - Execution/ Oversight" page in the Secretariat section.

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

3.4.2.1. 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 Lead Command, HAF, and the ILCM chain of authority.

3.4.2.2. Considering a program change or termination recommendation if a CIP breach makes the program ineffective for its intended operational environment or by not approving changes unless funds are identified and schedule impacts mitigated.

3.4.2.3. Providing the PM the opportunity to propose changes, with supporting rationale addressing operational implications which may be necessary to achieve affordability or that will result in a more cost effective product.

3.5. Science & Technology (S&T). Science and technological advancements and breakthroughs play a crucial role in providing warfighters with superior operational systems. Examples of programs and processes to demonstrate, mature, and transition technologies include: technology demonstrations, experiments, operational exercises, war games, M&S, DoD and AF research efforts within the DoD laboratories, and commercial sources. For additional information on S&T activities refer to AFI 61-101.

3.5.1. PEOs provide to the AF Technology Executive Officer (TEO) with identified portfolio needs and associated or recommended technology solutions addressing those needs.

3.5.2. PEOs can use Capability Collaboration Teams (CCT), established by Core Function Leads (CFL) and comprised of Subject Matter Experts (SME) from MAJCOMs/CFLs, Centers and PEOs, and the TEO to work collaboratively to fully understand MAJCOM/CFL-documented capability needs that may require a materiel solution and determine if S&T is required for any associated technology needs.

3.5.3. PMs and CEs participate in CCTs and DP efforts to identify potential materiel solutions derived from MAJCOM-documented capability needs and associated technology

enablers for those solutions to formulate and recommend technology development and maturation activities that address those needs.

3.5.4. During transition from an S&T effort to an acquisition program, the PM should coordinate with the S&T project lead to capture information developed during the S&T effort. Evaluation results may lead to developing an operational capability requirements document to transition mature and affordable technologies for new programs or modifications to existing programs. S&T efforts transitioning to an acquisition program and entering the defense acquisition system should be sufficiently mature enough to meet the phase-specific requirements.

3.5.5. PMs and CEs consider the use of Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) when practicable. See AFI 61-102, *Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs*, for more information.

3.6. Development Planning (DP). The DP process supports SECAF and CSAF strategic decisions that guide the Air Force toward mission success with available funds and acceptable risk. DP encompasses the engineering analysis, supportability and technical planning activities that provide the foundation for informed investment decisions on the fundamental path a materiel development follows to meet operational needs effectively and affordably and facilitates integrated capability development. Early planning, analysis, and systems engineering activities provide linkages among operational needs, system performance requirements, human systems integration, technology needs and opportunities, and potential life cycle costs. It establishes a technical foundation for materiel development and should provide the analytic basis for life cycle cost and capability trades to inform requirements development and oversight activities supporting acquisition MSs, decision points, and phases. Conducting DP should result in requirements that are informed fiscally and technologically through market research; concepts that are mature, testable, and fiscally/technically feasible; and areas for S&T investment are identified to reduce technology risks.

3.7. Materiel Development Decision (MDD). All potential programs proceed through a MDD review when entering the acquisition life cycle framework. The MDD review is the formal entry into the acquisition process. Conduct ACAT I, IA and II MDD reviews using the appropriate DAB, ITAB, or AFRB process; use PEO-tailored AFRB processes for ACAT III programs. The MDD review ensures that a complete analysis/assessment of alternatives and their non-materiel implications is being or has been conducted. An MDA decision to begin Materiel Solution Analysis DOES NOT mean that a new acquisition program has been initiated. For additional information, see DoDI 5000.02.

3.7.1. The MDA chairs and approves all MDD decisions.

3.7.2. At a minimum, conducting a MDD is dependent upon a Joint Requirements Oversight Council (JROC), Air Force requirements process approved requirements document, or an approved AF Form 1067, *Modification Proposal*, for modifications.

3.7.3. The Director of Cost Assessment and Program Evaluation (DCAPE), AF/A5R, or Lead Command presents the Analysis of Alternatives (AoA) Study Guidance and AoA Study Plan or alternative analysis/supporting analysis guidance for MDA approval. The AoA

should be based on market research giving consideration to maximum practicable SB utilization.

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

3.8. Coordination of Requirements Document Used in Conjunction with Request for Proposals (RFP). All acquisition programs will coordinate the requirements document used with an RFP with the requiring Lead Command prior to the release of the final RFP. For ACAT III programs only, the PEO and Lead Command Commander can waive this requirement. The level of coordination is 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:

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

3.8.2. ACAT II – PEO to Vice Commander, Lead Command

3.8.3. ACAT III – PM to Director of Requirements, Lead Command

3.8.4. The PM coordinates capability requirements documents to the Lead Command and supporting documentation to aid requirements traceability to the RFP. 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.

3.8.5. Use a Systems Requirements Document (SRD) whenever warfighter/user capabilities and/or requirements are translated into acquisition requirements for a new contract in support of a system/sub-system specification. For existing contracts, use the guidance in MIL-HDBK-520, Systems Requirements Document Guidance, whenever warfighter/user capabilities and/or requirements are translated into acquisition requirements. For additional information on preparation of an SRD refer to MIL-HDBK-520. Guidance instructions in MIL-HDBK-520 are tailorable as needed.

3.8.6. Changes to the requirements documents that would change the scope of a non-FMS undefinitized contract action (UCA), and that will delay definitization, shall be approved by the SAE and the Head of the Contracting Activity (HCA).

3.9. Development RFP Release Decision. To meet the intent and requirements of the Development RFP Release Decision, ACAT ID and IAM programs do not have a separate AFRB and ASP for programs where OSD is the MDA. The AF conducts a combined ASP/AFRB with no further review prior to the MDA holding the review. The PM ensures provisions for small business utilization are considered in the RFP and source selection criteria as practicable. More information and a Draft RFP template can be found on the AF Portal at the "SAF/AQXE - Execution/ Oversight" page in the Secretariat/AFRB section. Other than the AS, planning documentation may be in approved draft format, per [Chapter 4](#), for this review.

3.10. Request for Reclassification of Acquisition Programs Categorization. For reclassification of an ACAT I or IA program to a lower ACAT, the SAE submits requests to USD(AT&L). The request identifies the reasons for the reduction in ACAT level.

3.10.1. The PM shall notify the PEO and the SAE when it is necessary to raise the ACAT category to a higher-level ACAT category. This notification is made immediately upon determining that the program meets the requirements of the higher category as defined in DoDI 5000.02.

3.10.2. If the program qualifies as an ACAT I program, the program is assumed to be an ACAT IC until USD(AT&L) requests the program become an ACAT ID per Section 825 of Pub. L. 114–92.

3.11. Program Work Breakdown Structure (WBS). The PM develops and tailors a Program WBS. Detailed guidance on the work breakdown structures for defense materiel items is located in MIL-STD-881C, Work Breakdown Structure for Defense Materiel Items.

3.12. Integrated Master Plans (IMP) and Integrated Master Schedules (IMS). Refer to DoDI 5000.02 and the DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide for additional information.

3.13. Performance Measurement Baseline (PMB) Analysis. The PM shall perform cost, schedule, and risk analysis of the contractor's PMB to assure continuing progress and program applicability. The PMB should contain sufficient detail, account for all scope, and reflect accurate schedules. The PMB is reviewed to assess implementation of the contractor's earned value system via the Integrated Baseline Review (IBR) process.

3.14. Earned Value Management (EVM)/EVM System (EVMS). 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.

3.14.1. PMs will employ EVM/EVMS per DFARS subpart 234.2 and DoDI 5000.02.

3.14.1.1. Waiving EVM/EVMS requires SAE and Implementing Command Senior Contracting Official (SCO) approval per AFFARS 5301.4 and DoDI 5000.02. Coordinate requests for tailoring/waiving EVM/EVMS requirements for MDAPs with SAF/AQX who, in turn, coordinates with the Performance Assessments and Root Cause Analyses (PARCA) EVM Division. SAE waivers should be obtained prior to implementing DFARS deviations.

3.14.1.2. Include EVM applicability with reference to authorizing documents (regulations, policies, instructions), waivers, and business case/cost benefit analysis (if applicable) in the program AS documents submitted to the MDA.

3.14.2. Where EVMS is required, the PM/PEO ensures that:

3.14.2.1. The solicitation and contract contains the appropriate DFARS clauses IAW DFARS 234.203 for 252.234-7002 (EVM) and DFARS clause 252.234-7001 for 252.242-7005 (Contractor Business Systems).

- 3.14.2.2. The WBS is prepared based on MIL-STD-881C.
 - 3.14.2.3. The IMP is prepared based on the latest version of the DoD IMP/IMS Preparation and Use Guide.
 - 3.14.2.4. EVM is reported IAW DoDI 5000.02.
 - 3.14.2.5. Integrated Baseline Reviews (IBRs) are conducted IAW DoDI 5000.02 and DFARS clause 252.234-7002. For additional information, see the Air Force Integrated Baseline Review (IBR) Process Guide.
- 3.14.3. EVM integrates the cost, schedule, and technical requirements of the program and links them with the project's risk management process. The PM performs the following EVM analysis and reporting (reference DoDI 5000.02):
- 3.14.3.1. Validate compliance of Integrated Program Management Report (IPMR) (or Contract Performance Report on older contracts) and Contract Funds Status Report (CFSR), which include reconciliation between the IPMR 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 is IAW EVM-CR requirements.
 - 3.14.3.2. EVM performance analysis (cost/schedule variance, indices, schedule margins, critical/near critical path, risks, PMB integrity, etc.) to ensure continuing progress and program applicability. Based on this analysis, the PM develops a risk based independent Estimate at Completion (EAC).
 - 3.14.3.3. Prior month level-one EVM data along with the PM's independent EAC for each contract is reported in Acquisition Data Systems for inclusion in the Monthly Acquisition Report (MAR). See [Chapter 11](#) for more information.
- 3.14.4. EVM Requirements for Over Target Baselines (OTB)/Over Target Schedules (OTS).
- 3.14.4.1. 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.
 - 3.14.4.2. The PM shall ensure SAF/AQ is notified through the MAR of any OTB/OTS prior to implementation and upon completion.
 - 3.14.4.3. 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) is reported in Format 1 during the OTB/OTS.
 - 3.14.4.4. Programs implementing an OTB/OTS will conduct a subsequent Integrated Baseline Review (IBR) on the revised baseline.
- 3.14.5. Single Point Adjustment (SPA). SPA, sometimes referred to as re-baselining, refers to eliminating cumulative performance variances (setting cost and/or schedule variances to zero). SPAs are not performed solely to improve contract performance metrics. Therefore SPAs which set cost variances to zero are not permitted without the execution of an OTB formal reprogramming action or PEO authorization with coordination by SAF/AQX.

3.15. Affordability Analysis. All ACAT programs require an Affordability Analysis. See DoDI 5000.02, Enclosure 8 for additional information.

3.15.1. ACAT I and IA. Affordability constraints (goals and caps) are documented in an Enterprise Affordability Assessment (EAA) determined by comparing life cycle cost estimates against future AF resource allocations. These constraints are then used as a basis for conducting AF portfolio affordability analyses. For ACAT I and IA programs, AF/A8X is responsible for producing EAAs as well as AF portfolio affordability analyses. PMs request Affordability Assessments or updated Affordability Assessments from SAF/AQX throughout the program as required by the MDA. SAF/AQX coordinates with AF/A8X to conduct the assessment.

3.15.2. ACAT II and III. The analysis completed as part of the PPBE and strategic planning processes, required to be completed annually, can meet the requirement for an affordability analysis across the Future Years Defense Program (FYDP). The analysis should ensure program planning is consistent with the requiring Lead Command's or functional sponsor's current portfolio plans and strategies, includes approved CSB changes, and addresses resource implications beyond the FYDP.

3.15.3. National Guard and Reserve Equipment Account (NGREA) Funded. A PM executing, and MDAs reviewing, FYDP plus 5 year roadmaps for AFRC, ANG, and NGREA funded programs should consider that there is a risk that the plan will need to be updated, perhaps significantly, each year due to the annual fluctuations in Congressional NGREA appropriations.

3.16. Post Implementation Review (PIR). PIRs will be executed IAW DoDI 5000.02. For more information, refer to AFMAN 17-1402, *Air Force Clinger-Cohen Act (CCA) Compliance Guide*.

3.17. Independent Reviews. The PEO and Implementing Command/CCs, with SAF/AQ coordination, may conduct independent reviews (e.g., Weapon System Enterprise Reviews [WSER] or Acquisition and Sustainment Reviews [ASR]) of programs and other acquisition activities to gain insight to improve the acquisition and sustainment of weapons systems. These reviews include recommendations with the intent to identify and address systematic problems in process, training, or organization. Independent reviews can also include Independent Program Assessments whenever directed by the MDA. For best practices and schedule recommendations refer to AFPAM 63-128.

3.18. Legal Reviews. The PM shall ensure that reviews for legality are accomplished for weapons and cyber capabilities IAW AFI 51-402, *Legal Reviews of Weapons and Cyber Capabilities*, for all applicable acquisition and modification programs.

3.19. 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. SAF/AQC, on behalf of SAF/AQ, acts as the AF Department liaison for terminations per DFARS 249.7001 and Procedures, Guidance and Information (PGI) 249.70, *Special Termination Requirements*.

3.19.1. The PM shall notify the HCA and SAF/AQC of all ACAT program terminations upon the termination decision. The PM also notifies SAF/SB if termination involves small

businesses. The HCA or SAF/AQC shall notify OSD when applicable and coordinate with SAF/FMBL and SAF/LL to make Congressional notifications prior to termination actions.

3.19.2. 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.

3.19.3. For the termination plan templates, reference AFPAM 63-128.

Chapter 4

PROGRAM ACTIVITIES

4.1. Program Integration. It is a responsibility of all PMs to demonstrate and document how they integrate cost, schedule and performance information into program decisions. Successful program integration requires involvement of each functional expert within the program office to provide informed guidance and recommendations.

4.2. Program Documentation. The PM is responsible for completing all applicable program documentation as outlined by statute and policy.

4.2.1. Document Content. All new AF programs and existing programs requiring OSD oversight ensure documentation is prepared consistent with OSD approved outlines. For other programs, the MDA determines how to capture the information requirements covered by the OSD outlines. Regardless of the format used to document the results, the PM is responsible for ensuring that the content of the plans meets all applicable statutory and regulatory requirements.

4.2.2. Document Approval Authority. Document approval authority is detailed in **Table 4.1** for ACAT IC, IAC, II, and III programs. ACAT ID and ACAT IAM programs follow OSD guidelines concerning approval authority. **Table 4.1** details the organizations required to approve the document per statute and regulation, not coordination of the document.

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

4.2.2.2. If draft documentation is required for a review, the document should be approved at the level below the approval authority. For example, if the SAE is the approval authority, then the document should be approved by the PEO prior to the review.

4.2.3. Document Coordination. The PM is responsible for coordination within the PEO chain. Once the PEO approves the document it should be sent directly to the Approval Authority of the document per **Table 4.1**. Prior to PEO approval, the PM should also coordinate with any outside organization that will directly support the implementation of the plan. Once the document is approved by the PEO, it is the responsibility of the Approval Authority to coordinate the document with any other HAF, MAJCOM, or other organization required for the Approval Authority signature. The Approval Authority should consolidate comments from the organizations required for their approval, determine if the document is ready for signature, concur or non-concur, and present a consolidated view to the PM and PEO. The only exception is for OSD approved documentation which should be coordinated IAW OSD direction.

4.2.3.1. Offices need to expedite coordination within the time specified by the MDA/PEO/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. The PM, reviewing office, and staff should use automated tools, as available, to streamline coordination and approval.

4.2.3.2. Coordinate documentation approved or requested by the DAE through the SAE.

4.2.4. Document Storage. The PM ensures program documentation is maintained and made available electronically, as applicable. Acquisition documentation for all Legacy and ACAT I/IA, II, and III programs will be retained through the life of the system in a central repository. The recommended central repository is the Acquisition Information Repository (AIR). AIR also meets all requirements for official electronic records management.

Table 4.1. Document Approval Authority.

	Governance	ACAT IC/AC						ACAT II				ACAT III					
		AF/TE	AFMC or AFSPC	SAF/FM	SPONSOR	CIO	PEO	MDA	AFMC or AFSPC	SPONSOR	CIO	PEO	MDA	AFMC or AFSPC	SPONSOR	CIO	PEO
Acquisition Plan	Regulatory					AS				AS							AS
Acquisition Strategy	Regulatory					AS				AS							AS
Acquisition Program Baseline (APB)	Stat./Reg.					AS				AS							AS
Acquisition Decision Memo (ADM)	Regulatory					AS				AS							AS
- Exit Criteria	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		AS
Corrosion Prevention Control Plan	Regulatory					AS			AS	AS							AS
Cybersecurity Strategy	Statutory					AS			AS	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		AS
Life Cycle Sustainment Plan (LCSP) - (see section 7.7.4)	Regulatory		A				A	A			AS	AS	A				AS
Life Cycle Mission Data Plan	Regulatory					AS				AS							AS
Material Fielding Plan	AF Reg					AS				AS							AS
Post PDR Report Assessment	Regulatory					AS				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 Protection Plan	Regulatory					AS				AS		AS					AS
Spectrum Supportability Determination	Regulatory					AS			AS						AS		AS
Frequency Allocation Application (DD 1494) - (Approved by the NTIA per DoDI 5000.02)	Statutory																
Systems Engineering Plan (SEP)	Regulatory						AS					AS					AS
Test and Evaluation Master Plan (TEMP)	Regulatory	A					AS					AS					AS
Validated On-line Life-cycle Threat (VOLT) Report - (Validated by the DIA per DoDI 5000.02)	Regulatory																
AF MDA MDAPS ONLY																	
2366a Written Determination	Statutory						AS										
2366b Certification and Determination	Statutory						AS										
Beyond LRIP Approval	Statutory						AS										
DoD Component Cost Position	Regulatory																AS
Independent Cost Estimate	Statutory				AS												
Full Funding Certification Memorandum	Regulatory				AS												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.																	

4.3. Acquisition Strategy (AS). The AS is the overall life cycle strategy for the system. The PM develops 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.

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

4.3.2. The PM ensures the AS is documented in sufficient detail to ensure that it meets the information requirements of the OSD approved AS outline or as tailored by the MDA.

4.3.3. At the discretion of the MDA, the AS for a modification may be an annex to the existing and approved system AS. Complete the annex IAW all AS requirements.

4.3.4. 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 (e.g., change in contract type, change in quantities) in the approved strategies or APB.

4.3.5. Existing programs that do not currently have an AS shall transition to an AS when the program enters a new MS.

4.3.6. For AF programs whose MDA authority has been delegated to the SAE and below and that have an approved Life Cycle Management Plan (LCMP) prior to March 2013, the MDA may approve the continued use of the LCMP for the life of the program. The PM ensures that the LCMP meets the information and coordination requirements of the existing requirements of the AS and Life Cycle Sustainment Plan (LCSP) outlines. Programs are not required to have a standalone AS and LCSP with an approved LCMP meeting the conditions of this paragraph.

4.4. Acquisition Program Baseline (APB). The PM ensures 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 U.S.C. §2433 and 10 U.S.C. §2435.

4.4.1. The original APB is prepared prior to the program entering Engineering and Manufacturing Development (EMD) or program initiation, whichever occurs later. Review the APB at each subsequent MS decision and full rate production to determine if updates/changes are necessary. Update the APB at significant or critical Nunn-McCurdy cost breaches or at MAIS Critical Changes. The APB is approved by the MDA.

4.4.2. ACAT II and III programs are required to establish an APB. All approved APBs will be stored in the central repository, per section 4.2.4. See [Chapter 11](#) of this AFI or AFPAM 63-128 for additional information.

4.5. Program Management Agreement (PMA). The PMA establishes a means to communicate issues, common program processes, and vector resources to ensure they are achievable and measurable and should be used as a basis for annual performance planning.

4.5.1. PMAs are required for ACAT I and IA PMs IAW DoDI 5000.02, and are encouraged for ACAT II and III PMs.

4.5.2. The PMA is established between the PM and the PM's immediate supervisor within 6 months of assignment of the PM and kept current throughout the life of the program. The PMA covers the period of the PMs tenure agreement or assignment. The PMA should be

updated at major decision points or as needed based on the condition of the requirements and changes in the program.

4.5.3. PMA format will be at the PEO discretion, however the PMA must include/address certain mandatory elements including the PMs obligation to object to the addition of new program requirements not approved by the CSB and the responsibility to recommend reduced requirements to the CSB, reference DoDI 5000.02 for additional information. It must be consistent with MS B parameters unless approved by the CSB.

4.6. Risk-Based Program Management and Decision Making. PMs for all programs, including commercial-off-the-shelf (COTS) and non-developmental item (NDI) programs, identify, analyze, track and mitigate risks addressed during program reviews.

4.6.1. The PM prepares a risk management plan (RMP) that documents the program's use of standard risk management processes (reference AFPAM 63-128 and the *Department of Defense Risk, Issue, and Opportunity Management Guide for Defense Acquisition Programs*). Among other content, the RMP addresses how the program is performing and integrating the following: risk-based source selection, cost, schedule, technical, product support, information technology, T&E, operational, threat, acquisition security, ESOH, and Human Systems Integration (HSI) risk management. The RMP for space programs addresses risk-based performance for space debris mitigation assessments and documentation for space and launch systems per AFI 91-217, *Space Safety and Mishap Prevention Program*. The RMP also describes the responsibilities of any cross-functional risk management Integration Product Team (IPT) or equivalent. The RMP can be incorporated into the AS or other appropriate planning document. Link the RMP to the risk management activities in other planning documents and continually update the risk management process and its implementation throughout the system's life cycle.

4.6.1.1. The PM shall use the likelihood criteria, consequence criteria, and 5x5 risk matrix provided in [Attachment 3](#) to evaluate, document, and present cost, schedule, performance, and other program risks. These likelihood and consequence criteria support risk comparability across programs. However, if the PM determines that the criteria are not appropriate for assessing and managing a particular program's risks, the PM may tailor the criteria, if approved by the MDA IAW the tailoring guidance in [Chapter 1](#). Reference AFPAM 63-128 for more information.

4.6.1.2. The PM will prepare risk handling/mitigation plans for all identified 5x5 risk matrix high, moderate, and selected low 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.

4.6.1.3. The PM presents risk information as a part of all program, technical, and MS decision reviews or to support other decision points. On the risk matrix, the PM plots, and is prepared to discuss, each of the program's identified high and moderate risks and their corresponding handling/mitigation plans. The PM includes all High and Serious ESOH risks identified using MIL-STD-882E, the DoD Standard Practice for System Safety, plotted on the standard 5x5 matrix using the translation matrix in [Attachment 3](#). The PM coordinates cybersecurity risk information with the AO prior to decision reviews. The PM presents any AO non-concur as a risk at the decision review.

4.6.2. Risk-based Source Selection. The source selection approach, as part of the AS, is developed to select the right contractor to reduce risk over the life cycle of the program and get the best business deal for the Air Force. This includes identifying the strengths, weaknesses, domain experience, process capability, development capacity, and past performance for all contractor team members. 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.

4.6.3. Cost Risk Management. The PM has responsibility for cost risk management and may adjust program decisions based on potential cost variation, cost uncertainties, or market research. Identify uncertainty feeding the overall programs' costs from the risks and risk handling/mitigation activities associated with prediction of future costs based on current knowledge of technical, schedule and market research. Uncertainty in this case is program 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 Economic*, and AFI 65-508, *Cost Analysis Guidance and Procedures*.

4.6.4. Schedule Risk Management. The PM has execution responsibility for schedule risk management and should utilize appropriate tools to develop, guide, and manage associated risks. Schedule risk includes schedule uncertainty due to manufacturing, contracting and subcontracting, testing, government rules/impediments, uncertainty in work, unrealistic schedules, natural causes, and complexity. All programs 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. Reference the Air Force Acquisition Excellence & Change Office (SAF/AQXC) Schedule Risk Assessment (SRA) Process for more information.

4.6.5. Technical Risk Management. The CE, in support of the PM, has execution responsibility for technical risk management, and utilizes systems engineering throughout the life cycle to manage program technical risks. Technical risk management includes risk based prototype planning and development. Technical risk management considers design, manufacturing, technology maturity, Intelligence Mission Data (IMD), cybersecurity risks, integration, interoperability and supportability, testing risks, and threats to mission critical functionality and critical program information.

4.6.5.1. The CE, in support of the PM, should identify and track risks associated with achieving the appropriate Technology Readiness Levels (TRLs) of all critical technologies. (Note: TRL values are indicators of technical maturity and not risk since they are unrelated to consequence of occurrence). See the *DoD Technology Readiness Assessment (TRA) Guidance* for information on TRLs.

4.6.5.2. The CE ensures that relevant engineering information and recommendations, including underlying assumptions and risks, are made available to the PM and senior leaders in the ILCM chain of authority IAW DoDI 3200.20, *Scientific and Engineering Integrity*.

4.6.5.3. ESOH Risk Management. The PM shall use MIL-STD-882E methodology to manage ESOH risks as part of SE process in all developmental and sustaining

engineering activities. The PM shall document in the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) the required ESOH risk data. PESHEs are not required for software programs with no hardware component, however if the PM determines software that supports hardware can create or impact ESOH risks then those risks will be documented in a PESHE. ESOH risks must be formally accepted prior to exposing people, equipment, or the environment to known system-related ESOH hazards at any point in the system's life cycle. The ESOH risk acceptance authorities are the SAE for High risks, PEO-level for Serious risks, and the PM for Medium and Low risks. These authorities cannot be delegated. The requirement to have a current risk acceptance applies throughout the life of the system. This may require multiple risk acceptances for a given hazard. Program risk acceptance packages and tracking are only necessary for those risks that are inside the design/specification/requirement envelope. Those outside the envelope are handled by using the user's/operator's risk management process. Formal ESOH risks acceptance includes:

4.6.5.3.1. The Lead Command, as the User Representative, shall be part of the ESOH risk acceptance process throughout the life cycle providing input to all risk acceptance decisions, and shall provide formal concurrence before a Serious or High risk can be accepted.

4.6.5.3.2. Formal High risk acceptance packages shall be coordinated with the Lead Command commander and AF Chief of Safety (AF/SE) before the SAE can accept the risk.

4.6.5.3.3. The PM shall ensure each formal 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.

4.6.5.3.4. 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).

4.6.5.3.5. The risk assessments that support High risk acceptance packages must conform to the guidance in MIL-STD-882E and use the suggested risk assessment layout in AFI 91-202. Additionally, refer to AFI 91-217 for space systems.

4.6.5.3.6. For fielded systems, the PM shall notify the SAE, the system Lead Command and affected Using Command Commanders of any previously unknown High risk within 24 hours of becoming reasonably confident that the risk level is High.

4.6.5.3.6.1. This initial notification initiates the formal risk acceptance process and constitutes an interim High risk acceptance for a time period specified by the PM in the notification and does not have to comply with sections 4.6.5.3.1. through 4.6.5.3.5.

4.6.5.3.6.2. Subsequent interim High risk acceptance notifications are required if

a specified time period expires before the PM is ready to submit a formal risk acceptance package IAW sections 4.6.5.3.1. through 4.6.5.3.5.

4.6.5.3.6.3. If at any point in this process either the Lead Command Commander is unwilling to concur with a High risk acceptance or the SAE is unwilling to accept the High risk, the fielded system must be removed from service. However, if the Lead or Using Command Commanders determine that their mission will not allow removal from service, a MAJCOM commander can decide to accept the High risk in order to continue to operate some or all of the systems within their command.

4.6.5.3.7. The AF Airworthiness System is one source of High risk identification for aircraft systems during fielding. If the AF Technical Airworthiness Authority (TAA) issues an airworthiness advisory about a potential High risk or rescinds a military type certificate or flight release for an aircraft system, the AF Airworthiness Authority shall notify the aircraft system's PM and Lead/Using Command(s), and the SAE within 24 hours. The PM then assumes the lead for managing this as a High risk IAW the procedures in this section.

4.6.5.3.8. For High risks on fielded aircraft systems that may result in loss of life or equipment, the PM may recommend grounding (as defined in AFI 11-401) as risk avoidance at the initial High risk notification or at any time during the risk assessment process.

4.6.5.3.8.1. If any High risk notification contains a grounding recommendation, the SAE shall, within 24 hours of issuance of the High risk notification, confirm the interim risk acceptance or, if the SAE is unwilling to accept the technical risk, recommend grounding to the Lead/Using Command(s).

4.6.5.3.8.2. Lead and Using Command commanders are the sole authorities for approving grounding of their portion of an AF fleet (IAW AFI 11-401). A Lead or Using Command commander's disagreement with a SAE's grounding recommendation results in the Lead or Using Command commander's formal acceptance of the risk associated with continuing to operate the aircraft system with the High risk.

4.6.6. Product Support Risk Management. The PM, with support from the PSM, has execution responsibility for product support risk management and utilizes applicable logistics assessment tools throughout the life cycle of the program to manage product support risks. See [Chapter 7](#) for required product support and logistics assessments.

4.6.7. Information Technology Risk Management. The Risk Management Framework (RMF) for DoD IT defines the process in which all DoD IT (to include all systems that receive, process, store, display, or transmit DoD information) meets the requirements found in the Federal Information Security Management Act (FISMA).

4.6.7.1. DoD IT includes DoD IS, PIT, IT services, and IT products. This includes IT supporting research, development, test and evaluation (T&E), and DoD-controlled IT operated by a contractor or other entity on behalf of the DoD.

4.6.7.2. The PM ensures all systems with IT implement risk management procedures aligned with DoD RMF throughout all phases of the life cycle IAW DoDI 8500.01, *Cybersecurity*, DoDI 8510.01, AFPD 17-1, *Information Dominance Governance and Management*, and AFI 17-101.

4.6.7.3. The PM coordinates RMF results with the AO throughout all phases of the life cycle.

4.6.7.4. The PM provides required cybersecurity documentation to the AO and obtains authorization from the AO before the system under development is operated and/or connected to any external network.

4.6.7.5. For all AF SCI assets and data, ISR mission assets and data (regardless of classification), and Guest SCI/ISR assets and data, RMF is implemented under IC Directive 503.

4.6.8. T&E Risk Management. The PM has execution responsibility for T&E risk management, and utilizes both system engineering and T&E processes throughout the life cycle to manage program T&E risks. T&E risk management considers 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.

4.6.9. Risk Management for Operations and Maintenance. The PM assists the system operators and maintainers in the application of risk management by providing the assessment of hazards and potential handling/mitigation measures. Refer to AFI 90-802, *Risk Management*, for more information.

4.6.10. Threat Risk Management. The PM consolidates threat assessments and projections, including CIPs, related to the operational environment throughout the lifecycle of the program IAW AFI 14-111, *Intelligence Support to the Acquisition Life Cycle*, and JCIDS. The PM evaluates impacts using programmatic risk management processes in order to include threats into program risk decisions.

4.6.11. Acquisition Security Risk Management. The PM ensures acquisition security risks are included in the design, build, testing, and life cycle of the program. Acquisition security risk assessments consider the system's intended operational environment when determining vulnerabilities emanating from, and provided to, systems with which the system interfaces (system of systems).

4.6.12. HSI Risk Management. The PM ensures that risks associated with the HSI domains (human factors engineering, personnel, habitability, manpower, training, safety and occupational health, and force protection and survivability) are addressed throughout the life cycle.

4.7. Intellectual Property (IP) Strategy. The PM shall assess long term IP 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 addresses the IP strategy including the rationale for acquisition and/or non-acquisition of IP at MSs, ASPs, and reviews and documents the strategy in the IP Strategy and associated data planning documents. Source selections consider Government rights to data and include pricing

options that correspond to the IP rights recommended as part of the IP strategy. The burden of proof that data is proprietary lies with the contractor. If not acquiring technical data, computer software licenses, or associated IP rights necessary for organic support, a summary of the business case analysis justifying that decision is approved by the MDA. The PM obtains legal counsel when addressing IP issues. The PM reviews the government requirement for IP throughout the life cycle of the system.

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

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

4.7.1.2. Government Core depot maintenance capability requirements.

4.7.1.3. Expeditionary logistics footprint requirements.

4.7.1.4. Engineering data requirements needed for such activities as integrity programs, sustaining engineering, reliability management, and configuration management.

4.7.1.5. TOs.

4.7.1.6. Re-procurement/modification/upgrade.

4.7.1.7. Demilitarization/Disposal.

4.7.1.8. Modular open systems approach (MOSA).

4.7.1.9. Cybersecurity strategies.

4.7.1.10. Technology refreshment or enhancement.

4.7.1.11. Training and training program information.

4.7.1.12. Spare parts procurement.

4.7.1.13. Testing and Evaluation.

4.7.1.14. IMD production.

4.7.1.15. Contractor Logistics Support.

4.7.1.16. Supply Chain Management.

4.7.1.17. Depot Level Repairable and consumables procurement.

4.7.1.18. Support Equipment procurement and maintenance.

4.7.1.19. Special Tools/Tooling.

4.7.1.20. Diminishing Manufacturing Sources & Material Shortages (DMSMS).

4.7.2. For specific guidance and regulations concerning minimum government specific license rights, technical data, and computer software follow the regulations and guidance found in DFARS Subpart 227.71 and 227.72. For more information reference 10 U.S.C. §2320 and §2321.

4.7.3. Computer Software/Firmware. Computer software is any set of instructions that directs a computer to perform specific tasks or operations. As such, software includes computer programs, source code, source code listings, databases, metadata, stubs, drivers, object code listings, libraries, executable image files, test data and automated tests, electronic documentation, design details, algorithms, UML use cases and processes, compilers, programming languages, flow charts/sequence diagram, formulae, and related material that would enable the software system to be modified, executed/run, tested, reproduced, loaded, cloned/recreated, recompiled, and maintained. Firmware is a specific type of computer software that provides control, monitoring, and manipulation of system devices such as computer peripherals and mobile devices, and is stored in non-volatile memory such as ROM, EPROM, and flash memory.

4.7.3.1. The PM ensures 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 considers software escrow arrangements using mutually agreed to third-party escrow agents.

4.7.3.2. Software Transition Plan. The PM provides 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 requires the developer's plans for transitioning deliverable items necessary for software sustainment to the AF.

4.7.3.3. The IP Strategy addresses 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.

4.7.4. Life Cycle Management of Digital Product Design Data. The PM generates digital product design data and/or requires delivery of contractor-generated digital product design data as part of the program's IP strategy. The PM shall:

4.7.4.1. Utilize MIL-STD-31000, *Technical Data Packages and Product Data Specification* (Air Force Drawing 9579776) to structure contract requirements for deliverable product design data.

4.7.4.2. Provide digital product design data, during O&S, to a DoD standardized product data management system (e.g. the Joint Engineering Data Management Information and Control System) for common government storage, maintenance, access, and control. If a prime contractor central repository is used instead of a government maintained and controlled facility, appropriate data access and retrieval rights for government personnel must be ensured through specified inclusion in the contract.

4.7.4.3. Maintain updated digital product design data in the standardized system throughout O&S.

4.7.4.4. Document in the IP Strategy the rationale for deviations (if any) from the above technical data requirements.

4.8. Test Planning. The PM establishes an ITT after MDD, develops and documents test planning and the level of test support required for the life cycle of the system, and conducts readiness reviews IAW AFI 99-103 and AFMAN 63-119, *Certification of Readiness for Dedicated Operational Test and Evaluation*. The PM should 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.

4.8.1. Test and Evaluation Master Plan (TEMP). The PM, working through the Integrated Test Team, prepares a TEMP prior to MS A for applicable programs IAW AFI 99-103. The ITT forwards the final draft TEMP to the PM for approval and assists with subsequent coordination to all required organizations below the Air Staff level.

4.8.1.1. The SAE will coordinate on all TEMPs for all ACAT I, IA, and programs on the DOT&E oversight list and/or on the DASD(DT&E) engagement list and/or the USD(AT&L) special interest program list and forward to DOT&E for review and signature and Deputy Assistant Secretary of Defense for DT&E for review and comment prior to USD(AT&L) for approval. Once coordination is completed, the PEO will forward the TEMP to AF/TE and SAF/AQ for AF approval.

4.8.1.2. The MDA is the approval authority for delegated ACAT II and ACAT III programs not on OSD T&E Oversight.

4.8.2. Live Fire Test and Evaluation (LFT&E). SAE shall recommend candidate systems to DOT&E for compliance with LFT&E legislation. PMs with a "covered system," as defined in 10 USC § 2366(e), will contact OSD/DOT&E's Live Fire T&E office to determine live-fire applicability. SAE approves agreed-upon LFT&E programs and allocate operational AF resources required to accomplish LFT&E plans. Additionally, the SAE forwards required LFT&E documentation and waivers (if appropriate) to OSD/DOT&E, which then go to USD(AT&L) for approval.

4.8.3. T&E Considerations. The PM ensures that DT&E and Operational Test and Evaluation (OT&E) considerations are addressed throughout the life cycle. PMs, with the CDT/TM, establish a structured strategy for T&E and a process to provide early feedback to the requirements and acquisition processes. The PM implements the dedicated OT review process as described in AFMAN 63-119 and briefs the MDA who will certify system readiness for IOT&E. Refer to AFI 10-601 and AFI 99-103 for more information.

4.9. Modeling and Simulation (M&S). The PM plans and resources for the appropriate application of M&S capabilities early and throughout the life cycle. Refer to DoDI 5000.02, AFI 16-1001, *Verification, Validation and Accreditation (VV&A)*, and AFI 16-1005, *Modeling & Simulation Management* for more information.

4.9.1. Ensure models, simulations, and associated data supporting acquisition processes, products, and decisions meet the appropriate verification and validation requirements and are accredited for their intended use (reference AFI 16-1001). 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, the PM should leverage existing LVC assets.

4.9.2. The PM works with Lead/Using Command, operational requirements advocate(s), developmental and operational testers, the IC, the S&T 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.

4.9.2.1. The PM documents the M&S strategy in the appropriate program documentation dependent upon the usage of M&S. The PM ensures M&S capabilities support LVC-Operational Training (LVC-OT) requirements. AFI 99-103 defines M&S considerations for T&E.

4.9.2.2. The M&S strategy describes how the use of M&S benefits the program and addresses how the program meets DoD M&S mandates such as reusability, interoperability, adoption of standards, and promoting visibility of M&S capabilities, resources and data.

4.9.2.3. The M&S strategy should describe how the PM is to obtain sufficient M&S data to adequately characterize the technical and operational capabilities of the system. Programs should obtain data and models from authoritative sources when available and feasible.

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

4.10. General Equipment Valuation. General Equipment Valuation is a DoD initiative to capitalize, and depreciate assets, including modifications, to meet federal accounting standards as defined in DoDI 5000.64, *Accountability and Management of DoD-Owned Equipment and Other Accountable Property*, DoDI 5000.02, and DoD 7000.14-R.

4.10.1. The PM accounts for all General Equipment assets subject to capitalization and depreciation.

4.10.2. General Equipment is defined in DoD 7000.14-R and includes military equipment, non-military equipment, Government Furnished Property (GFP), IT assets, and Internal Use Software (IUS).

4.10.3. The PM shall include a General Equipment program description as part of the AS. At MS 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, ensure the program's General Equipment description identifies the following deliverables at a detail level consistent with level 2 of the Program WBS (detailed guidance on the work breakdown structures for defense materiel items is located in MIL-STD-881C):

4.10.3.1. The assets meeting the capitalization thresholds.

4.10.3.2. The GFP or material that will be included in the assets. See the *Process Guide for Accountability of Government Furnished Equipment (GFE)* for more information.

4.10.3.3. Other deliverables that accompany the assets (e.g., manuals or tech data).

4.10.3.4. Other types of deliverables purchased with program funding (e.g., initial spares or support equipment), but that cannot be directly attributed to a specific asset.

4.10.4. The PM ensures proper accounting and contractual allocation of program expenditures between capitalized assets and expenses. This is 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, Vol. 4.

4.10.4.1. The PM ensures the gross book value of equipment assets and modification to those assets are provided IAW AFI 21-103, *Equipment, Inventory, Status and Utilization Reporting*.

4.10.4.2. The PM also ensures the useful life of the assets and modification programs are also provided IAW AFI 21-103.

4.10.5. The PM shall ensure Chief Financial Officer (CFO) reporting data elements (the full cost value and useful life) for military equipment assets and modifications over \$1 million 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 (AVDO) when inventory items are added, removed, or adjusted as a result of modifications. The PM shall ensure the performance of monthly data reconciliations and automated attestation in REMIS for weapon system assets and qualified modifications annually. REMIS is the CFO compliant system used in equipment valuation and reporting through the Defense Finance and Accounting System. Refer to AFI 21-103 for additional guidance.

4.10.6. The PM shall provide the Procuring 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 equipment to be acquired.

4.10.7. The PM shall ensure all Government property is accounted for in the correct Accountable Property Systems of Record (APSR) IAW AFI 23-111, *Management of Government Property in Possession of the Air Force*, to support their program, to include property in the possession of contractors.

4.10.8. Accountability for assets in which title has passed but delivery to the DoD has not yet occurred will be maintained through a Construction In Process account. See DoD 7000.14-R for procedures). This account may reside in either the DoD Component accounting system or the Component APSR. Upon delivery, accountable property records will be established as appropriate in the APSR.

4.11. Government Cost Estimates. The PM is responsible for updating life cycle cost estimates IAW AFPD 65-5, *Cost and Economics*, AFI 65-502, *Inflation*, AFI 65-508, *Cost Analysis Guidance and Procedures*, and AFMAN 65-506, *Economic Analysis*. The PM will compare cost estimates to the program budget to assess program executability. 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, Vol. 2A for more details. Note: PM responses to external inquiries should use official cost estimates; consult AFI 65-508.

4.11.1. The PM shall provide cost estimates at the identified confidence level to the MDA during reviews. To the greatest extent possible, the PM identifies 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, to be documented in the Program Office Estimate (POE).

4.11.1.1. For cost estimates that provide a range of potential costs, the PM should assess that range for the associated risks to the program. Establish each cost estimate and associated risk assessment using approved AF cost estimating procedures and 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. The MDA for an ACAT I or II program uses the cost estimate distribution and cost estimate confidence to establish a sufficient program funding level. The selection of the appropriate program cost estimate confidence level is at the discretion of the MDA, however, IAW AFI 65-508, the PM will establish a confidence level and document in the ADM and other deliverables/documents as necessary.

4.12. Program Funding. Authority is delegated to SAF/AQX to direct the implementation of programs in the Research, Development, Test and Evaluation; Aircraft; Missile; Space; 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. SAF/FMB issues Budget Authorization (BA) funding documents to MAJCOMs and other Air Force field activities (ref AFI 65-601, *Budget Guidance and Procedures*, Vol. 1).

4.12.1. Programs 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.

4.12.2. SAF/AQX coordinates 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).

4.13. 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 is 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, Vol. 1 and DoD 7000.14-R, Vol. 3, Ch. 6. Additional guidance on new start business rules can be provided by SAF/FMBI.

4.13.1. New Start Validation Responsibilities. The PM and the respective Program Office CFO are 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.

4.13.1.1. Refer to AFI 65-601, Vol. 1 and DoD 7000.14-R, Vol. 3, Ch. 6 for additional guidance on the key points delineated in the Validation Form in AFPAM 63-128.

4.13.1.2. If no item in the Validation Form is marked "YES," the PM works with the respective PEM and/or 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, file it as part of the program's contract file.

4.13.2. 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.

4.13.2.1. 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.

4.13.2.2. All Small Business Innovation Research (SBIR) Phase I and II efforts. See AFI 61-102 for more information.

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

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

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

4.13.2.6. O&M funded efforts.

4.13.3. Reference AFI 65-601, Vol. 1 for details on the New Start Notification process, procedures, and reporting requirements. In addition, individuals can contact SAF/AQXE and SAF/FMBI for additional guidance and/or help regarding New Starts specific issues.

4.14. Will-Cost and Should-Cost Management. The PM shall implement Will-Cost Management and Should-Cost Management for all ACAT I, II, and III programs at MS A and throughout their lifecycle. Refer to DoDI 5000.02 for more information on Should Cost.

4.14.1. Will-Cost and Should-Cost estimates are required at MS decisions for all ACAT I, II, and III programs and are updated as necessary.

4.14.2. Will-Cost.

4.14.2.1. AFI 65-508 identifies specific requirements for Will-Cost estimates or Service Cost Positions in support of ACAT I MS decisions.

4.14.2.2. ACAT II and III programs present Will-Cost estimates that have been approved by the appropriate financial management cost estimating organization at each MS decision.

4.14.2.3. The non-advocate Will-Cost estimate is used as the basis for all budgeting and programming decisions.

4.14.2.4. Under unique circumstances, programs may be waived from conducting annual Will Cost Estimate updates. More information on this process can be found in AFI 65-508.

4.14.3. Should-Cost.

4.14.3.1. The PM develops Should-Cost estimates and seeks assistance from outside organizations (e.g., SAF/AQX, SAF/AQC, AF 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 assessments on every ACAT I, II, and III program.

4.14.3.2. The PM for ACAT I, II and III programs presents Should-Cost estimates at each MD decision. For ACAT II and III programs, the MDA has the authority to approve the use of the POE in lieu of an approved Will Cost estimate in order to establish Should-Cost Management as early as possible in the program life cycle. Additionally, MDAs review and approve Should-Cost estimates for ACAT II and III programs.

4.14.3.3. Under unique circumstances, programs may be waived from conducting Should-Cost Management. These programs must submit a Should-Cost Waiver, following the instruction provided in the SAF/AQ's Should-Cost Management Guidance and Business Rules. Note: Programs categorized as a Low Cost Modifications, Service Bulletin, or Urgent Capability Acquisitions are waived from Should-Cost Management requirements, to include reporting per SAF/AQ Business Rules for Should Cost.

4.14.4. Schedule Assurance. RESERVED

4.15. Use of Specifications and Standards. Consistent with the DoDI 4120.24, *Defense Standardization Program (DSP)*, and the AF Standardization Program (refer to AFI 60-101, *Materiel Standardization*), balance decisions to standardize against specific mission requirements, technology growth, and cost effectiveness. Use specifications and standards 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. In support of this, the office of the Air Force Standardization Executive has developed portfolio-specific standardization document lists that can be used; refer to AFPAM63-128. Specific DoD policy on the use of specifications and standards and other methods to achieve objectives required by 10 U.S.C. §2451-2457, DoDI 2010.06, *Materiel Interoperability and Standardization with Allies and Coalition Partners*, DoDD 5000.01, and DoDI 5000.02 are contained in DoDM 4120.24 procedures. Additional guidance on the use of specifications and standards in architecting is contained in AFI 17-140, *Air Force Architecting*.

4.16. Intelligence Supportability. The first step in the acquisition intelligence process is the determination of the intelligence sensitivity of the program by the Implementing Command's

intelligence focal point, in conjunction with the PM and other stakeholders. If a program is identified as intelligence-sensitive, the PM, in collaboration with the Implementing Command's designated intelligence focal point and other stakeholders to include but not limited to AF/A2, the operating command intelligence representatives, and the intelligence production centers, develops and documents requirements and level of intelligence support required for the life cycle of intelligence-sensitive programs IAW and as defined in AFI 14-111 and AFI 14-205, *Geospatial Information and Services*. The PM uses the results of Intelligence Supportability Analysis to develop and document requirements (to include CIPs and IMD), the level of intelligence support, the integration of intelligence information into the program decision making and system engineering, and to involve any applicable Foreign Military Sales stakeholders.

4.16.1. The PM engages with the Implementing Command designated intelligence focal point for SAP or special access initiatives. The PM collaborates with the designated intelligence focal points to develop and document requirements and level of intelligence support required for the life cycle of the system IAW AFI 14-111 and AFI 14-205. Note: Per applicability section of this publication, SAP programs shall be coordinated with SAF/AQL.

4.16.2. The PM develops the Life Cycle Mission Data Plan (LMDP) for each acquisition program dependent on IMD, in conjunction with the Implementing Command's intelligence focal point, beginning at MS A. DoD Directive 5250.01, *Management of Intelligence Mission Data (IMD)*, requires the LMDP, previously known as the Life Cycle Signature Support Plan, in DoD Acquisitions. A template for LMDPs can be found in AFI 14-111.

4.16.2.1. The LMDP, developed for MS A and, at a minimum, updated at each MS, shall be approved by the PEO for ACAT I and II programs or MDA for ACAT III or as delegated IAW statute and regulation. The PM submits ACAT I LMDPs to the SIPRnet AIR which can be found at <https://dodtechipedia.smil.mil>. SAP and Top Secret (TS)/SCI LMDPs shall be disseminated as identified in the LMDP outline through appropriate communications channels.

4.16.2.2. IMD requirements are to be documented and submitted for IC action via a production requirement through the designated intelligence focal point prior to each MS decision. Program requirements communicated as part of a multi-program IMD production request should not be duplicated or submitted independently from the multi-program requirement. Furthermore, programs will participate in the annual AF IMD requirements prioritization process for inclusion in a consolidated AF IMD priorities list. This list will be formalized into a prioritized AF IMD production request for action by Service Intelligence Production Centers (SIPCs). Prior to LMDP approval, the PM provides the LMDP to the Implementing Command, Using Command, HAF/A2 offices, and National Air and Space Intelligence Center (NASIC). LMDP waiver authority resides at AF/A2.

4.16.2.3. Intelligence products and services required for IMD-dependent acquisition programs and efforts are produced by the DoD Intelligence Production Centers unless waivers are coordinated by the USD(I), approved by the MDA, and documented in an ADM. The PM ensures that the program is designed to use existing IC-defined data standards for IMD.

4.16.3. Critical Intelligence Parameter (CIP) Processes. CIPs are factors which clearly define the threshold at which the performance of a foreign system or capability could compromise the program or mission effectiveness of the US system.

4.16.3.1. Defining Program CIPs. The PM ensures that the requirements sponsor, DoD component capability developer, and IC representatives collaboratively establish program-specific CIPs for validated capability requirements and acquisition programs IAW AFI 14-111. CIPs should be characteristics of adversary threat and operational capabilities which are a factor in establishing capability requirements and associated initial objective performance values. CIPs should be objective, quantifiable, measurable, specific, and of high impact to the program, such that they influence system development and tradeoffs. CIPs should be developed as early as possible in the capability's life cycle when it can be determined which Key Performance Parameters (KPPs) and Key System Attributes (KSA) are threat sensitive. The Lead and Implementing Command will collaboratively define their CIP reporting thresholds for threat-sensitive KPPs and KSAs of the planned capability. The PM ensures CIPs, once developed, are tasked for monitoring by the IC through NASIC as the AF's Service Intelligence Center or by the appropriate SAP intelligence production organization.

4.16.3.2. CIP Breach. If a CIP is breached at any point in the programs life cycle (e.g., a foreign system has met a CIP threshold) all materiel and/or non-materiel (i.e., Doctrine, Organization, Training, Leadership/Education, Personnel, Facilities, or Policy) impacts are reviewed to determine appropriate responses and/or risk mitigation efforts. The program will likely require additional time and funds to adjust (i.e., "re-baseline"), and spiral/increment thresholds, objectives, KPPs, KSAs, etc. may require adjustment or modification. The PM notifies the PEO, MDA, and Implementing Command's intelligence focal point if a CIP threshold is reported as breached by the appropriate supporting Service Intelligence Center (e.g., NASIC). A CSB, as detailed in [Chapter 3](#), determines if any follow-on action is required.

4.16.4. The PM, working with the Implementing Command intelligence focal point, requests a Validated Online Lifecycle Threat (VOLT) document from NASIC in support of MDD, MS A, Development RFP Release, MS C, and FRP/FD Decision in accordance with DoDI 5000.02. NASIC will produce ACAT ID/IAM VOLTs for AF-led programs using DIA-validated threat data in accordance with DIAI 5000.002, *Intelligence Threat Support for Major Defense Acquisition Programs*.

4.17. Arms Control Compliance. The PM ensures all activities within the acquisition life cycle are compliant with all US Government arms control obligations IAW AFI 16-601, *Implementation of, and Compliance With, International Arms Control and Nonproliferation Agreements* and AFI 16-608, *Implementation of and Compliance with the New Start Treaty*. This assessment occurs prior to all MS reviews or when concerns arise, whichever is earlier.

4.17.1. If necessary, the PM submits relevant Arms Control Compliance documents for their programs and activities, prior to program review MSs and when required throughout the program's life cycle, to the AF Strategic Stability & Countering Weapons of Mass Destruction (WMD) Division (AF/A10-S), or an AF/A10-S-designated organization.

4.17.2. The PM ensures the program is reviewed for arms control compliance, to include New Start Treaty compliance, and obtains a certificate of review from AF/A10-S for program review MSs.

4.17.3. A PM who oversees 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/control 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).

4.18. Procurement Fraud. The PM immediately notifies the AF Office of Special Investigations, Deputy General Counsel for Contractor Responsibility (SAF/GCR), Contracting Officer, 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.

4.19. Urgent Capability Acquisition. Urgent Capability Acquisition includes rapid acquisition programs responding to an approved Joint Urgent Operational Need (JUON), Joint Emergent Operational Need (JEON), Urgent Operational Need (UON), Quick Reaction Capabilities (QRC), or Top-Down direction IAW applicable 10-Series publications, DoDI 5000.02, and DoDD 5000.71, *Rapid Fulfillment of Combatant Commander Urgent Operation Needs*. Urgent Capability Acquisition programs are ACAT programs and required to be on the AML. Reference AFPAM 63-128 for more information.

4.20. Missile Defense Agency Related Acquisition. Life cycle management support is provided to the Director, Missile Defense Agency, as needed, to carry out the responsibilities and functions assigned to the Missile Defense Agency IAW DoDD 5134.09, *Missile Defense Agency*. Where the AF and the Missile Defense Agency have agreed through a weapon-specific memorandum of understanding that the AF is responsible for the life cycle management of an element of the ballistic missile defense system IAW the Deputy Secretary of Defense guidance on Ballistic Missile Defense System funding responsibility, the AF then follows the DoD 5000-series publications and this instruction.

4.21. Nuclear Weapon Related Policy. AF Nuclear Weapon related acquisitions shall be developed IAW DoDD 5000.01 and DoDI 5000.02. AF nuclear certification on nuclear weapon systems shall be considered as early as possible in the acquisition process to ensure compliance with the four DoD nuclear surety standards per DODD 3150.02, *DOD Nuclear Weapons Surety Program*.

4.21.1. Nuclear Certification. The PM ensures nuclear weapon systems obtain nuclear certification according to AFI 63-125, *Nuclear Certification Program*. For new systems, the PM will engage the nuclear certification process during the requirements analysis process to ensure nuclear surety requirements are factored into the design as early as possible.

4.21.2. Joint AF-National Nuclear Security Administration developed nuclear weapons will also be accomplished IAW DoDD 3150.01, *Joint DOD-Department of Energy/National Nuclear Security Administration (DOD-DOD/NNSA) Nuclear Weapon Life Cycle Activities*, DoDI 3150.09, *The Chemical, Biological, Radiological, and Nuclear (CBRN) Survivability Policy*, 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*.

4.21.3. Additional AF nuclear weapon related policy may be found in AFI 16-601, 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, 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*, and MIL-STD-1822, *Nuclear Compatibility Certification of Nuclear Weapon Systems, Subsystems, and Support Equipment*.

4.21.4. Nuclear Weapon Related Materiel (NWRM). The PM ensures parts are evaluated against NWRM criteria in AFI 20-110. If assets are deemed NWRM, the PM will implement applicable actions in compliance with AFI 20-110.

4.22. 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 ACAT programs are governed IAW this instruction.

4.22.1. The PM coordinates the program plans and activities with the Training System PG, lead commands, and HQ Air Education and Training Command (AETC) to meet training system life cycle cost, schedule, and performance requirements.

4.22.2. The PM includes system training concepts and training system requirements in all ASs prepared for, and subsequent to, MS B. The PM includes 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.

4.22.3. The PM ensures training systems remain current with prime mission systems throughout the life cycle of a system IAW approved program documentation and funding. The PM ensures that all post-production system modification and upgrade programs conducted for prime mission systems also include modifications to the affected training systems.

4.22.4. Lead Command and the PM determines the training system fielding requirements necessary to support the fielding of prime systems and equipment, to include any FMS considerations. The PM coordinates training system product acceptance, movement, and delivery matters with the Lead Commands that will receive the training system(s).

4.22.5. The PM assists Lead Commands with management and reporting of training system concurrency matters.

4.22.6. The PM manages, reports, and executes the accountability and disposal of training devices IAW federal acquisition regulation and supplements, AFI 21-103, *Equipment Inventory Status and Utilization Reporting*, and AFI 23-101, as applicable.

4.23. End Use Certificates (EUC). The AF purchases foreign products to best meet US requirements, consistent with US laws, regulations, and acquisition policy. Acquisitions of foreign products that meet DoD requirements also promote interoperability, standardization, and an expanded procurement base. Execute EUCs when the purchase of such products is in the best interest of the US and a EUC is required by the foreign government for the purchase of foreign products. See DoDD 2040.3, *End Use Certificates (EUC)*, for more details.

4.23.1. US 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 US “Use for Defense Purposes” of an item or data. AF personnel should seek to maintain “Use for Defense Purposes” flexibility in EUCs that foreign governments require DoD to sign.

4.23.2. EUCs are divided into three categories:

4.23.2.1. Category I. Applies to acquisition items classified for security purposes by a foreign government and covered by the nonproliferation agreements to which the US is a party (such as missile technology). This permits the item to be used by or for the US 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.

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

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

4.23.3. EUCs are a two part process consisting of approval of the EUC and signature of the EUC. EUCs are approved prior to contract award. Include requests to delegate signature authority as part of the approval package. Approval and signature authorities for EUCs are as follows:

4.23.3.1. 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.

4.23.3.2. 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.

4.23.4. The PM maintains records of all EUCs and provide copies to USD(AT&L).

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

4.23.4.2. The PM notifies MAJCOM headquarters of the EUC approval and explains any restrictions on the use, transfer, or disposal of the item’s hardware, technology, and associated technical data.

4.24. 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 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 DoDI 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*, the *DoD Guide to Uniquely Identifying Items*, and DoDI 4151.19 for additional guidance.

4.24.1. The PM shall document the SIM strategy in the AS and ISP.

4.24.2. 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.

4.25. Item Unique Identification (IUID) Planning. The PM, with support from the PSM and in collaboration with the AFMC AIT program office, plans for and implements IUID. IUID requirements are integrated into planning for development of engineering, manufacturing, maintenance technical data; configuration management; and integrated product support as prescribed in DFARS 211.274-2, DoDI 5000.02, and DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*. For more information and non-directive best practices refer to AFPAM 63-128.

4.25.1. 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.

4.25.2. The PM begins IUID implementation planning after the program has been formally established. The PM includes the approved IUID Implementation Plan in the Systems Engineering Plan (SEP).

4.25.3. The PM, with support from the PSM, documents the part number and serial-number IUID discriminators to support trending analysis.

4.25.4. For sustainment activities of legacy programs, new individual IUID Implementation Plans are not required. However, Sustainment Work Center/Cost Center supervisors will still incorporate planning, programming, budgeting, and execution of IUID requirements for legacy programs into day-to-day workload planning and scheduling based on planned workflows, technical documentation and specifications. This includes registration in the DoD IUID registry.

4.25.5. Special Interest IUID requirements:

4.25.5.1. Nuclear Weapons-Related Materiel (NWRM). All individual NWRM items are accounted for and managed by serial number. This includes the assignment of a Unique Item Identifier. Consistent with engineering analysis, individual NWRM items in the

DoD Supply System are marked with a machine readable Unique Item Identifier or assigned a virtual Unique Item Identifier.

4.25.5.2. 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 used in numbering each CSCI and related documentation and in ordering and tracking software (reference TO 00-5-16, *Technical Manual Methods and Procedures – Software Managers* and User Manual for the USAF ACPINS).

4.25.5.3. 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 CFR § 207.106. Unique tooling designated for preservation is considered DoD serially managed and should meet the requirements of IUID as outlined in DoDI 8320.04.

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

4.25.7. 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.

4.26. Government Furnished Property (GFP). The PM identifies, and is accountable for, all required GFP addressed in the SEP and other program documentation. The PM working with the IPT, will identify, justify, and document the requirement for GFP. The PM, working with the PCO, ensures the clauses at DFARS 252.211-7007 and PGI 245.107 are 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 GFP management is contained in FAR Part 45 and DoDI 8320.04. The PM ensures the contract specifies the requirements for property accountability in the Accountable Property System of Record as described in DoDI 5000.64.

4.26.1. The PM will ensure the list of GFP is provided to the contracting office, and listed as an attachment to the official contract, in the GFP Attachment formats, IAW DFARS 245.103-72 and PGI 245.103-72, *Government-furnished property attachments to solicitations and awards*.

4.26.2. The PM, working with the program office, shall conduct a physical inventory of all GFP, to include data in the contract, the AF Equipment Management System, and the IUID Registry annually. The PM maintains property accountability and conducts a physical inventory of all GFP, to include data in the contract, the AF Equipment Management System, and the IUID Registry annually, IAW the procedures of DoDI 5000.64, DoDI 4140.01 (equipment), and DLM 4000.25 (material).

4.27. Industrial Base Constraints. All programs 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. Implementing Commands can assist the PM in addressing DMSMS, industrial base constraints, and industrial base assessments (IBA).

4.27.1. The PM addresses industrial base constraints in the AS and LCSP. This should address mitigation to ensure that the system(s) can be supported, upgraded, and updated during its life cycle. Open systems design can help manage 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. Reference the *DoD Open Systems Architecture Contract Guidebook for Program Managers*.

4.27.2. The PM ensures that product support efforts include an active DMSMS process to anticipate occurrences and take appropriate actions. For further information on DMSMS or Government Industry Data Exchange Program (GIDEP), reference the DMSMS Knowledge Sharing Portal for the SD-22, *DMSMS Guidebook*, and DoDM 4140.01.

4.27.3. The PM follows the procedures of DoDI 5000.60, *Defense Industrial Base Assessments*, when proposing the use of government funds for the preservation of an industrial capability.

4.27.4. All ACAT programs shall complete an IBA as prescribed by DoDI 5000.60. The IBA will be conducted as part of technology development prior to MS B, and prior to MS C. Results of the IBA will inform the AS and support the Development RFP. In addition, a PM for MDAPs shall engage the Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy at the beginning of the IBA development process.

4.28. Small Business (SB) ILCM Activities. The PM ensures that SB is an integral part of the life cycle from DP through system demilitarization and disposal to help meet SB goals set by the PEO. Early considerations to provide maximum practicable opportunities for SB include pre-acquisition market research and requirements definition categorization planning, principally in support of MDD and AoA, to ensure approval authorities are offered trade space for portfolio and risk management. See AFI 64-201, *Air Force Small Business Programs*, for more information.

4.29. Other Acquisition Planning Requirements. The PM considers the requirements in [Table 4.2](#) as part of acquisition planning. These planning requirements do not apply to all programs and are 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 U.S.C. §2437; DoDI 5000.02
DoD Joint Services Weapon and Laser System Safety Review Process	Liaison with the AF Safety Center (AFSEC/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	10 U.S.C. §2375-2377; FAR Part 12; DFARS Part 212; AFFARS; Part 5312
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 U.S.C. §10a-10d; FAR Subpart 25.1 and 25.2, and 25.6; DFARS Part 225; AFFARS Part 5325
Berry Amendment & 10 U.S.C. §2533b	This amendment establishes domestic source preferences for commodities, such as textiles, specialty metals, and machine or hand tools, in DoD acquisitions above the simplified acquisition threshold. 10 U.S.C. §2533b establishes domestic source preferences for specialty metals.	10 U.S.C. §2533a and §2533b; DFARS Part 225; AFFARS Part 5325
Lead Systems Integrator (LSI) Limitations	An entity performing LSI functions may not have direct financial interest in the development or construction of an individual system, or element of a system, or is performing inherently governmental functions (IGF).	10 U.S.C. §2410p; DFARS 209.570; DoDI 5000.02
Inherently Governmental Functions (IGF) Determinations	Determination from the Installation Manpower Office identifying if there are military (active or Reserve Component) or civilian employees of the AF available to perform the functions and if the required services are inherently governmental, acquisition functions closely associated with IGFs, or otherwise inappropriate for performance by contractor employees. An IGF is a particular task or function that must be performed by a Government official. IGF is a policy term which encompasses those governance areas that require officials to exercise discretion (e.g., policy decision-making, performance/mission accountability, and execution of monetary transactions and entitlements).	10 U.S.C. §2383; DoDI 1100.22; DoDI 5000.02 FAR Subpart 7.5; DFARS Subpart 207-5
Leasing	Guidance and regulations governing leasing equipment.	FAR Subpart 7.4; DFARS Subpart 207.4; AFFARS

		5307.4; DoD FMR 7000.14-R; OMB Circulars A-11; A-94
Scientific and Technical Information (STINFO)	Properly mark equipment leased and purchased IAW FAR Subpart 7.4, DFARS Subpart 207.4, DOD FMR 7000.14-R, OMB Circulars A-11, A-94 STINFO 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.	DoDI 3200.12; DoDM 3200.14; DoDI 5230.24; DoDD 5230.25; AFPD 61-2; AFI 61-201, , <i>Dissemination of Scientific and Technical Information.</i>
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) Program	DoD Components shall implement a VE program to improve military worth and reduce acquisition and ownership costs.	FAR Part 48; DoDI 4245.14
Planning for Federal Sustainability in the Next Decade	As a part of integrating ESOH into systems engineering, program offices should evaluate the inclusion of sustainable alternatives in system design and services acquisition.	E.O. 13693
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 MS 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
National Security Exception to Full and Open Competition	The national security exception may be utilized to authorize limited competition in certain narrow circumstances; however, it may not authorize sole-source contracts solely through use of the national security exception (whether under an individual or class Justification and Approval) unless disclosure of	10 U.S.C. §2304(c)(6); FAR 6.302-6

	the agency's need to more than one source would compromise national security.	
Certification Procedures for Navigation Warfare (NAVWAR) Compliance	Programs will conduct analysis and test of Position, Navigation, and Timing (PNT) enabled equipment against measures of effectiveness based performance standards. The Service MDA will report to the DoD CIO the determination regarding the sufficiency of NAVWAR compliance certification for each platform or system under consideration for development or production following the acquisition MS decision.	DoDI 4650.08
Small Business Programs	Applies to supplies, services and construction acquisitions above \$10,000.	FAR Part 19; AFI 64-201

Chapter 5

SYSTEMS ENGINEERING

5.1. Systems Engineering (SE) Overview. Systems engineering provides the integrating technical processes and design leadership to define and balance system performance, life cycle cost, schedule, risk, and system security within and across individual systems and programs. The CE, in support of the PM, embeds systems engineering in program planning and execution to support the entire system life cycle. It requires optimization at the system level, using SE processes (section 5.2.) throughout the lifecycle (section 5.3.) to integrate user capability needs with design considerations (section 5.4.) to affordably satisfy customer needs.

5.1.1. Life Cycle Systems Engineering (LCSE). The CE, in support of the PM, is responsible for assuring the proper application of engineering principles, processes, and practices across the life cycle of a system to ensure that it is satisfying the user's capability needs as defined by the system's Lead and Using Commands. Configuration management and control, deficiency reporting and response, reliability, maintainability, integrity, HSI implementation, ESOH risk management, mishap investigation, and other engineering practices combine to successfully develop, test, build, field, operate, sustain, and dispose of systems. The PM includes representatives of the operational, maintenance/sustainment, safety, and test and evaluation communities in these efforts. In addition, the PM establishes and documents relationships and responsibilities with other organizations that support or interface with systems or end items managed by the PM. The PM monitors the fielded system by tracking and evaluating system data to ensure the preservation of the technical baseline. The PM conducts periodic in-service reviews with the Lead and Using Commands using leading and trailing indicator data elements selected in concert with the users to help ensure effective communication of issues, concerns, and priorities. The PM documents how these LCSE requirements are being met in the PMA, SEP, and LCSP avoiding duplication.

5.1.2. 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.

5.1.2.1. This AFI delegates AF SEP approval authority from the SAE to the PEO for ACAT I programs and final SEP approval authority for ACAT II programs. Per DoDI 5000.02, DASD(SE) reviews the SEP for MDAP and MAIS programs prior to final approval. The MDA is the final SEP approval authority, regardless of ACAT. PEOs for ACAT I, IA, and non-delegated ACAT II programs coordinates SEPs with SAF/AQR prior to approval. The PM and PEO approve the draft SEP prepared for the Development RFP Release Decision Point. The final version of this draft SEP is approved by the MDA at MS B.

5.1.2.2. The CE, in support of the PM, prepares a SEP for formal approval as required by DoDI 5000.02. The PM complies 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.

5.1.2.3. Post-MS C, the PEO establishes a review and approval schedule for each program office in the PEO's portfolio. The PM and CE review the SEP (and attached documents) for currency and consistency with other program documentation and update and approve it per the PEO's schedule. 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.

5.1.2.4. The PM ensures that the contractor systems engineering approach is aligned to the program's SEP.

5.1.3. Mission Assurance (MA) for Space Programs. The PM ensures that MA is an integral part of the space system development, and is integrated throughout life cycle and documented in life cycle documentation. MA is defined as the disciplined application of proven scientific, engineering, quality, and program management principles towards the goal of achieving mission success. MA follows a general SE framework and uses RM and independent assessment as cornerstones throughout the program life cycle. Refer to AFI 10-1211, *Space Launch Operations*, for more information. MA does not replace the mandatory elements of the system safety process described in MIL-STD-882E unless waived by the MDA.

5.1.4. Certifications. Certifications provide a formal acknowledgement by a mandatory approval authority that a system or program meets specific requirements. The PM ensures all required certifications are obtained prior to testing and operational use, and maintained for the life of the system.

5.1.4.1. The PM includes in the SEP applicable certifications for the program and when they are required. The PM also includes certification activities and events in the IMS.

5.1.4.2. DoDI 5000.02 provides a list of statutory and regulatory requirements and certifications. AFPAM 63-128, Attachment 14, *Acquisition Program Technical Certifications Summary* provides a list of potential certifications for the PM to review for applicability.

5.1.4.3. A PM for aircraft systems (manned and unmanned) shall obtain required airworthiness approvals IAW AFI 62-601, *USAF Airworthiness*.

5.1.4.4. A PM for nuclear weapon systems shall obtain required nuclear certification in accordance with AFI 63-125.

5.1.5. SE Role in Contracts. The PM includes SE requirements in program contracting efforts to ensure offerors provide sufficient SE resources. The primary tool for shaping a program contract is the RFP.

5.1.5.1. The CE participates in the RFP development team and is responsible for all technical aspects of the RFP. The CE, at a minimum, ensures that the RFP:

5.1.5.1.1. References required operational documentation and specifications;

5.1.5.1.2. Identifies appropriate design requirements;

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

5.1.5.1.4. Specifies testing and verification requirements;

- 5.1.5.1.5. Specifies certification requirements;
 - 5.1.5.1.6. Specifies all technical review and technical documentation requirements;
 - 5.1.5.1.7. Specifies system cybersecurity requirements.
- 5.1.5.2. *The DoD Guide for Integrating Systems Engineering into Contracts* provides additional guidance on SE role in contracts.
- 5.1.5.3. IEEE-15288, *Systems and Software Engineering – System Life Cycle Processes*, IEEE 15288.1, *Application of Systems Engineering on Defense Programs*, and IEEE-15288.2, *Standard for Technical Reviews and Audits on Defense Programs*, provide industry-accepted requirements for implementing systems engineering for DoD programs.
- 5.1.6. 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.
- 5.1.6.1. The PM and CE analyze the program’s system operations concept and capability document to identify external dependencies, interoperability, and cybersecurity needs and ensure that they are integrated into the program’s requirements decomposition, risk management, interface management, architecture, verification, validation, and other processes.
 - 5.1.6.2. M&S (to include Model Based Systems Engineering) is an effective means for understanding complex SoS/FoS, and can provide insights into interoperability in the SoS/FoS mission context.
 - 5.1.6.3. The PM identifies interdependent systems that may be impacted by a proposed baseline change, and during the design process, coordinates the change with the PM (or equivalents) of the affected systems.
- 5.1.7. Air Force Technical Authority. SAF/AQR is the Air Force Chief Engineer and Technical Authority per HAF MD 1-10. The Air Force Chief Engineer and Technical Authority provides the SAE unbiased technical advice for pre-acquisition investment decisions and throughout the acquisition life cycle; engages Implementing Commands and Center-level engineering offices to provide technical support to PEOs and PMs; oversees AF Engineering Enterprise policy and guidance; and directs external technical assessments of programs, as needed.
- 5.1.7.1. SAF/AQR may delegate attendance at any of the four primary program office technical reviews (Alternative Systems Review, Preliminary Design Review [PDR], Critical Design Review [CDR], and Production Readiness Review [PRR]) to Implementing Commands and Center-level Engineering offices and request the attendees provide results and recommendations to SAF/AQR, with courtesy copies to the PM and PEO, using a SAF/AQR prescribed reporting template.
 - 5.1.7.2. Prior to SAF/AQ-chaired reviews of a program, representatives of the PEO or PM for the program and the Center-level engineering office supporting the program each provide SAF/AQR with their separate assessments of the program's technical status.

5.2. Systems Engineering Processes. Application of SE processes enables sound decision-making which increases capability maturity and reduces risk. The CE ensures systems engineering processes are integrated. The CE, in support of the PM, documents the tailoring of systems engineering 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.

5.2.1.2. Decision Analysis. Decision analysis helps the PM and the CE understand the impact that uncertainty has on decision-making, and identifies and communicates a course of action that best balances competing objectives. The CE identifies, organizes, and executes necessary trade studies to support program technical decisions and presents 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 program established technical performance 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, PDR, CDR, System Verification Review, Functional Configuration Audit, PRR, and Physical Configuration Audit. Only the PDR and CDR are mandatory.

5.2.1.3.1. The PM and CE 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 MDAP and MAIS programs, the PM invites SAF/AQR and Center ENs to attend principal formal technical reviews and invites cognizant DASD(SE) staff members to the CDR. The PM also provides access to the technical data relevant to the issues, risks and topics to be addressed at a given technical review.

5.2.1.3.3. Technology Readiness Assessments (TRA). TRA is the primary tool to benchmark and begin to assess maturity of critical technologies. TRAs are mandatory for MDAPs at Development RFP Release Decision Point with updates for MS B to inform the 2366b certification per DoDI 5000.02. TRAs 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 CE, in support of the PM, to perform a TRA for a program with high technological risk. If a program requires a TRA, the PM obtains 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 DoD Technology Readiness Assessment (TRA) Guidance.

5.2.1.3.4. TRAs do not provide a comprehensive assessment of the degree of risk mitigation needed prior to development. Deeper analysis of the actual risks associated with the preferred design and any recommended risk mitigation must be conducted IAW [Chapter 4](#).

5.2.1.3.5. IEEE-15288.2, *Standard for Technical Reviews and Audits on Defense Programs*, provides industry-accepted requirements for technical reviews and audits of DoD programs

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.

5.2.1.4.1. The PM ensures that program and system requirements include all documented user requirements, airworthiness requirements, statutory, regulatory, and certification requirements; and ensures bi-directional requirements traceability from the systems level down through all verification and validation activities.

5.2.1.5. Risk Management. The CE, in support of the PM, ensures that technical risks are incorporated into the program's overall risk management effort as described in [Chapter 4](#).

5.2.1.6. Configuration Management (CM). Configuration Management is formalized change management of the system Technical Baseline, which includes a Functional Baseline, an Allocated Baseline, and a Product Baseline. The CE, in support of the PM, uses CM to establish and control product attributes and technical baselines across the system life cycle. EIA-649-1, *Configuration Management Requirements for Defense Contractors*, provides industry-accepted requirements for implementing configuration management on DoD programs. MIL-HDBK-61, *Configuration Management Guidance*, contains detailed information about CM.

5.2.1.6.1. The Functional Baseline (also referred to as the Requirements Baseline) consists of the documented, validated, and approved system-level (top level) functional and performance requirements and design constraints, their allocation or assignment to the next level, and all approved changes. Typically, it is at the System Functional Review where this baseline is first approved.

5.2.1.6.2. The Allocated Baseline consists of the documented, validated, and approved "design-to" requirements, and all changes thereto approved IAW the contract. The allocated baseline includes (a) the physical hierarchy, (b) the design-to requirements for each product in the hierarchy, and (c) separable documentation identifying all design-to requirements for each component and integrated grouping of components.

5.2.1.6.3. The Product Baseline is the "build-to" requirements for each physical element to be manufactured; the software code for each software element that has been separately designed or tested; and the "buy-to" requirements for any other physical element, part, or material to be procured.

- 5.2.1.6.4. The PM ensures key CM practices and responsibilities are summarized in the SEP IAW 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 4](#) for IMD management and LMDP guidance and [Chapter 7](#) for other data management guidance.
- 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 PM and the CE ensure that internal and external interface requirement changes are documented IAW the program's CM plan.
- 5.2.2. Technical Processes.
- 5.2.2.1. Stakeholder Requirements Definition. The PM and CE 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 PM ensures that all relevant program requirements and design considerations (see section 5.4.) are addressed in program specifications and baselines. If the PM generates program-unique specifications, they should be prepared IAW MIL-STD-961, *Defense and Program-Unique Specifications Format and Content*, and informed by its companion document SD-15, *Guide to Performance Specifications*.
- 5.2.2.3. Architecture Design. The PM ensures that architectural descriptions conform to the requirements of the DoD Architecture Framework (DoDAF). For IT and NSS, the PM works with the applicable sponsor to ensure architectures are developed IAW CJCSI 5123.01G, DoDI 8330.01 and AFI 17-140. For IT and NSS, the PM also ensures that the architectures are aligned with the AF Enterprise Architecture and DoD Business Enterprise Architecture (BEA) when applicable.
- 5.2.2.3.1. The PM and CE ensure that architecture products include the program's system as well as its potential interfaces and/or impacts to external systems (i.e., the 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 applies MOSA and Open Technology Development to the system architecture design wherever feasible.
- 5.2.2.3.3. The PM conducts architecture-based assessments of trades in the overall operational context. The PM and CE ensure that each principal formal technical review includes an architecture-based assessment to confirm that the system development remains aligned to the operational requirements.
- 5.2.2.3.4. All architectures are approved IAW AFI 17-140, including any architecture that goes to Air Force requirements process validation staffing 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 assemblies with verification at each step.

5.2.2.6. Verification. Verification confirms that the program's system satisfies system specifications. The PM and the CDT/TM manage verification activities, to include developmental testing. The PM and the CE 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 ensures the system is ready for OT&E. The PM will implement the dedicated OT review process as described in AFMAN 63-119 and briefs the MDA who will certify system readiness for IOT&E.

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

5.2.2.8.1. The CE 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 provides Technical Orders (TO) and other maintenance and supportability technical data to the end user IAW [Chapter 7](#).

5.2.2.8.3. The PM establishes and maintains deficiency reporting processes for operators and maintainers and ensures that all validated deficiency reports are tracked to actual resolution of the deficiency. The PM works with the CE to document this process in the SEP no later than MS C. Refer to TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, for more information.

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

5.3. SE Activities in the Life Cycle.

5.3.1. Early SE. Early SE encompasses pre-acquisition technical planning, principally in support of MDD and AoA, to ensure leadership is offered trade space for portfolio and risk management. The results of early SE and DP activities are documented in the Concept Characterization and Technical Description (CCTD) and are the principal artifacts of Early SE. The AF Early SE Guide and the AF CCTD Guide provide additional information. SAF/AQR reviews the CCTD and provides technical recommendations to the decision authority. Provide CCTDs prepared for requirements validation and approval preceding MDD to SAF/AQR 90 days prior to the decision.

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

5.3.3. Sustainment SE. Beginning at Initial Operational Capability (IOC), sustainment SE is focused on maintaining the technical baseline of the system. Key Sustainment SE considerations include but are not limited to the following:

5.3.3.1. Configuration Management (see 5.2.1.6.)

5.3.3.2. Deficiency Reporting (see 5.2.2.8.3.)

5.3.3.3. DMSMS (see 5.4.8.)

5.3.3.4. Reliability and Maintainability (see 5.4.20.)

5.3.3.5. Manufacturing and Quality Management during O&S.

5.3.3.6. Refer to AFI 63-145, *Manufacturing and Quality Management*.

5.3.3.7. Additive Manufacturing. Use of Additive Manufacturing to build replacement parts for a system under a PM's configuration control must have prior PM approval.

5.3.3.8. Engineering and Technical Support (ETS) to Field-level Maintenance Organizations. PMs provide ETS throughout the life cycle, beginning with IOT&E. To provide ETS, PMs use organic or contractor resources or a combination of the two. PMs address the ETS strategy in the MS C SEP.

5.3.4. SE in Support of Demilitarization and Disposal. See [Chapter 7](#).

5.4. Systems Engineering Design Considerations. The CE 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.

5.4.1. AF-Unique Design Considerations.

5.4.1.1. Recorded Aircraft Information (RAI). For any air system acquired, developed, or sustained by the AF, the PM collaborates with data user stakeholders to 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. This includes an assessment of needed interfaces with existing information systems (e.g., REMIS, LIMS-EV). The PM re-assesses information needs and data collection capabilities as a part of aircraft and system modifications. The uses of RAI include the following:

5.4.1.1.1. Aviation Mishap Investigation. All AF aircraft requiring AF airworthiness approval shall record crash survivable parametric and acoustic data that meets the minimum requirements listed in AFH 63-1402, *Aircraft Information Program*, to support mishap investigation.

5.4.1.1.2. The PM ensures that aircraft employ devices (i.e. Emergency Locator Transmitters and Underwater Locator Beacons) to enable recovery of the data recording equipment in the event of a mishap. Consideration may be given to inhibiting these devices to address combat operational concerns.

5.4.1.1.3. The PM provides the Air Force Safety Center the capability (hardware and software) to download and analyze crash survivable data for mishap investigations, and updates that capability, as needed, throughout the life cycle.

5.4.1.1.4. For aircraft that do not meet these requirements, the Lead Command Commander may waive the requirements. Parameters that are not applicable to a particular platform (e.g., a C-130 afterburner nozzle position) do not need to be waived.

5.4.1.1.4.1. The Lead Command's Director of Safety is responsible for preparing, staffing, and submitting waiver requests to the Commander.

5.4.1.1.4.2. The PM provides the Lead Command with the data on the cost, schedule, and performance impacts of meeting these requirements.

5.4.1.1.4.3. Command Directors of Safety will report approved waivers within 30 days to the Air Force Chief of Safety (AF/SE) and provide the cost, schedule, and technical information that supported the waiver decisions.

5.4.1.1.4.4. Existing waivers from the AF Vice Chief of Staff remain valid IAW their original terms and conditions.

5.4.1.1.5. 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 handling/mitigation activities. See AFI 91-225, *Aviation Safety Programs*, for more information.

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

5.4.1.1.5.2. The PM assists lead commands in assessing risks and determining handling/mitigation measures when MFOQA data analyses identify new hazards.

5.4.1.1.6. System Health and Usage Monitoring. 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.

5.4.1.1.6.1. The PM integrates system and end-item operational and maintenance data collection, storage, and transmission.

5.4.1.1.6.2. For aircraft, the PM integrates user-defined, capability-based, enhanced flight data requirements (e.g., 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. Product and System Integrity. For all new or modified systems, the PM plans and implements effective integrity programs. For each Aircraft Mission Design Series (MDS) the AF acquires, uses, or leases, the PM establishes an Aircraft Structural Integrity Program (ASIP) IAW AFI 63-140, *Aircraft Structural Integrity Program*.

5.4.1.2.1. The PM integrates the development, documentation, and implementation of other integrity efforts applicable to their systems by applying and tailoring 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*; MIL-HDBK-515, *Weapon System Integrity Guide (WSIG)*; MIL-HDBK-525, *Electrical Wiring Interconnect System (EWIS) Integrity Program*; MIL-HDBK-1783, *Engine Structural Integrity Program (ENSIP)*.

- 5.4.1.2.2. 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 integrates CPC with program integrity efforts.
- 5.4.1.2.3. PMs develop, document, execute, and obtain approval for their ASIP IAW MIL-STD-1530, *Aircraft Structural Integrity Program (ASIP)*.
- 5.4.1.2.4. In order to preserve the integrity of the system, the CE ensures that non-destructive inspection procedures, to include procedures for TCTOs and one-time repair purposes (e.g., Technical Assistance Requests), are approved by a technician certified to Level III IAW NAS 410, Certification & Qualification of Nondestructive Test Personnel.
- 5.4.1.3. AF Metrology and Calibration (AFMETCAL). Acquisition of systems and equipment includes assessment of calibration and measurement requirements IAW AFI 21-113, *Air Force Metrology and Calibration Management*.
- 5.4.2. Accessibility. The PM ensures that all electronic and information technology systems comply with Section 508 of the Americans with Disabilities Act (36 CFR §1194), unless exempt under FAR 39.204 as a military system or NSS.
- 5.4.3. Affordability-SE Tradeoff Analysis
- 5.4.3.1. At MS A, the PM establishes an affordability goal (see section 3.15). This goal is the basis for pre-MS B decision-making, SE tradeoff analysis, and the basis for tradeoffs between a commodity's capability and its cost.
- 5.4.3.2. At MS B, the PM provides the results of cost analyses that quantitatively depict the impact of trading cost against affordability drivers, such as capability and other technical parameters (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 manages the risk of counterfeit components as a part of Program Protection Planning as described in **Chapter 6**.
- 5.4.5. Commercial-Off-the-Shelf (COTS). For COTS systems and components being contemplated for use in the program, the PM evaluates the risks of using those items in the intended military use environment. The PM applies the appropriate SE processes and design considerations to COTS systems and components through the life cycle.
- 5.4.6. Corrosion Prevention and Control (CPC). The AF CPC program is a part of the long-term DoD CPC strategy that supports to reduce total system ownership cost. See DoDI 5000.67, *Prevention and Mitigation of Corrosion on DoD Military Equipment and Infrastructure*, MIL-STD-1568, *Materials and Processes for Corrosion Prevention and Control in Aerospace Weapons Systems*, and DoDI 5000.02 for additional guidance. Further information, including the *DoD Corrosion Prevention and Control Planning Guidebook for Systems and Equipment*, can be found at the CorrDefense website.
- 5.4.6.1. The CE, in support of the PM, conducts and integrates CPC planning into appropriate program documentation IAW DoDI 5000.67. The PM may include corrosion planning documentation in a separate, Corrosion Prevention and Control Plan (CPCP), which is considered a best practice, or the PM includes corrosion planning in the SEP and LCSP. For ACAT I programs, the PM provides the AF Corrosion Control and

Prevention Executive (CCPE) the CPCP, the SEP, or the LCSP prior to obtaining PEO approval.

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

5.4.6.3. For new starts, the PM obtains early AF CCPE involvement in corrosion planning including comparing the CPCP, SEP, and LCSP content to the guidance in the *DoD Corrosion Prevention and Control Planning Guidebook for Systems and Equipment* for each life cycle phase.

5.4.6.4. IAW DFARS 223.73, *Minimizing the Use of Materials Containing Hexavalent Chromium*, the PM shall not use hexavalent chromium in new systems 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 evaluates the opportunity to cost-effectively and safely replace hexavalent chromium without adversely impacting R&M.

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-882E. CSI statutory requirements are contained in Section 802 of Pub. L. 108-136 and are codified in 10 U.S.C. §2319. AF CSI regulatory requirements are contained in AFI 20-106, *Management of Aviation Critical Safety Items*. See also DFARS 246.407, *Nonconforming Supplies or Services*, and DFARS 246.371, *Notification of Potential Safety Issues*.

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

5.4.7.2. The PM obtains CSIs only from sources approved by the Engineering Support Activity (ESA). This applies only to CSIs not under the direct configuration control of the program.

5.4.7.3. The CE, in support of the PM, develops and maintains an updated list of CSIs and corresponding critical characteristics, updated annually after Full Operational Capability (FOC). The PM should ensure a process is in place to track the impact of mishap investigations, deficiency reports, ECPs and other processes that may affect the inclusion of items on the list of CSIs, or result in a change of the critical characteristics for CSIs.

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 7](#).

5.4.10. ESOH. The CE, in support of the PM, identifies, assesses, and mitigates potential ESOH risks to personnel, the system, and the environment, and manages ESOH compliance requirements. The CE:

5.4.10.1. Ensures ESOH risk management is integrated into systems engineering using the system safety process described in MIL-STD-882E. The CE uses the standard matrix in MIL-STD-882E unless the PM obtains formal MDA approval to use an alternative matrix. The CE documents the specific matrix used by the program and any required MDA approval of an alternative matrix in the SEP. Note that no approval is required for an alternative ESOH risk matrix that adds only quantitative values to the probability levels consistent with the probability word definitions in MIL-STD-882E. However, only the MDA can approve deviations from the standard MIL-STD-882E probability level word definitions and severity categories. As required by **Chapter 4**, the PM uses the translation matrix in **Attachment 3** to present the status of current High and Serious ESOH risks on the standard 5x5 risk matrix during technical and program reviews.

5.4.10.2. Eliminates hazards where possible and manage ESOH risks of hazards that cannot be eliminated.

5.4.10.3. Identifies and integrates ESOH design considerations and compliance requirements into the SE process. Examples of this include but are not limited to the following:

5.4.10.3.1. Compliance with NEPA/E.O. 12114;

5.4.10.3.2. Obtaining required design certifications (e.g. airworthiness);

5.4.10.3.3. Prohibiting or strictly controlling the use of banned or restricted hazardous materials, such as hexavalent chromium and ozone depleting substances. The CE shall not introduce new operational or maintenance requirements for out-of-production Class I or Class II Ozone Depleting Substances unless approved by SAF/AQ.

5.4.10.4. Includes the ESOH management planning in the SEP, not in the PESHE. The SEP identifies the strategy for integrating ESOH considerations into systems engineering process and relationships between ESOH effort and other systems engineering activities, the ESOH risk matrix used by the program, and contractual ESOH requirements. During the SEP approval process for MS B and C, both the PESHE and the NEPA/E.O. 12114 compliance schedule must be provided to all reviewers. Additional ESOH sustainment considerations after MS C are included in the LCSP.

5.4.10.5. Uses the PESHE as the repository for program office ESOH data, to include hazard tracking system data, hazardous materials, ESOH compliance requirements, and environmental impact information necessary to support NEPA/E.O. 12114 analysis.

5.4.10.5.1. For ESOH risks, the PESHE identifies hazards and records initial ESOH risk assessments, risk handling/mitigation measures, target risk levels, current risk levels, event risk levels, and risk acceptance decisions. See **Chapter 4** for ESOH risk assessment, mitigation and acceptance.

5.4.10.5.2. For hazardous materials, either imbedded in the system or used for system operations and maintenance, the PESHE includes information on the locations, amounts, disposal requirements, and special training requirements. The CE can use the optional Task 108, *Hazardous Materials Management Plan*, in MIL-STD-882E and/or the Aerospace Industries Association (AIA) National Aerospace Standard

(NAS) 411, *Hazardous Materials Management Program*, as the basis for a program's HAZMAT management. Both Task 108 and NAS 411 require a contractual listing of the HAZMAT, which the program intends to manage. The contractual listing categorizes each listed HAZMAT as Prohibited, Restricted, or Tracked. NAS 411-1, Hazardous Material Target List, provides a DoD-AIA agreed-upon baseline listing of HAZMAT for each category to use as the starting point in defining the program's list of HAZMAT.

5.4.10.6. Uses the NEPA/EO 12114 compliance schedule to document completed and projected analyses. The CE should also incorporate analyses that are on the critical path in the IMP and IMS. The NEPA/E.O. 12114 compliance schedule includes, but is not limited to:

5.4.10.6.1. Each proposed action (e.g., testing or fielding).

5.4.10.6.2. Proponent for each action (i.e., the organization that exercises primary management responsibility for a proposed action or activity).

5.4.10.6.3. Anticipated start date for each action at each specific location.

5.4.10.6.4. Anticipated NEPA/EO 12114 document type.

5.4.10.6.5. Anticipated start and completion dates for each document.

5.4.10.6.6. The document approval authority.

5.4.10.7. Ensures the PESHE and the NEPA Compliance Schedule are approved as a part of the SEP at MS B and C. They are reviewed and approved by the PEO at the Full-Rate Production Decision Review/Full Deployment Decision (FDD) Review/Build Approval. In support of these approvals, the CE obtains coordination of the PESHE from the supporting Environmental, Safety, and Surgeon General (USAFSAM/OE), as applicable. The CE obtains coordination of the SEP at MS A from the supporting Environmental, Safety, and Surgeon General (USAFSAM/OE) since the PESHE and NEPA Compliance Schedule are not included with the SEP at MS A. The MS A SEP ESOH Management content is critical because it governs the TMRR ESOH activities.

5.4.10.8. Provides the ESOH hazard data (including the hazardous materials information) to the Air Force Civil Engineer Center (AFCEC) responsible for including these data in TO 00-105E-9, *Aerospace Emergency Rescue and Mishap Response Information (Emergency Services)*.

5.4.10.9. Provides a safety release for the system prior to each developmental and operational test involving known system hazards to people, equipment, or the environment. The safety release identifies the hazards involved in the test and their formal risk acceptance. This is in addition to and can inform any safety release provided by the T&E organization.

5.4.10.10. Provides system-specific ESOH analyses and data to support Using Commands' and T&E organizations' NEPA and E.O. 12114 documentation requirements.

5.4.10.11. Works with AF Safety Center to provide the inputs required by DoDI 6055.07, *Mishap Notification, Investigation, Reporting, and Record Keeping*, Enclosure

4, section 3.b.(9) as part of mishap investigations of all Class A and B mishaps involving their systems. The PM provides analyses of the ESOH hazards that may have contributed to the mishap under investigation, and makes recommendations for resulting materiel risk mitigations measures, especially those designed to minimize the potential for human error.

5.4.10.12. Integrates ESOH and Human Factors Engineering.

5.4.11. Human Systems Integration (HSI). Each system consists of three major components: hardware, software, and human. The SEP documents how the PM integrates HSI design considerations early in the design process and throughout the life cycle. Human Factors Engineering (HFE) is conducted to provide safe and effective human interfaces, and ensure that systems are designed to account for human capabilities and limitations. Refer to DoDI 5000.02, Enclosure 7, AFPAM 63-128, 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 ensures 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 4](#).

5.4.15. Interoperability & Dependency (I&D).

5.4.15.1. See sections 5.1.6. for SoS/FoS and 5.2.2.3. for I&D in architecting. Refer to [Chapter 8](#) for additional information on interoperability of IT and NSS.

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

5.4.15.2.1. The PM addresses 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 IAW the *JCIDS Manual*.

5.4.15.2.2. The PM addresses future multinational operations in acquisition of all materiel intended for use by US Forces. Refer to DoDI 2010.06. 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 notifies AF/A5/8 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, *International Military Standardization (IMS) Program*, for further information.

5.4.16. Modular Open Systems Approach (MOSA). MOSA is used 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 applies MOSA and Open Technology Development wherever feasible. The CE 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. Refer to DoDI 5000.02, Enclosure 2 for more information.

5.4.17. Operational Energy. The CE incorporates 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 PM, with the support of the CE and PSM, identifies PHS&T requirements based on operational capabilities and life cycle cost considerations. See DoDI 4140.01, DoDM 4140.01, AFPD 24-1, and AFI 24-203 for weapon systems PHS&T; and FAR Subpart 47.2.

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. SAE-AS6500, *Manufacturing Management Program*, provides industry-accepted requirements for implementing manufacturing management practices on DoD programs. Refer to MIL-HDBK-896A, *Manufacturing Management Program Guide*, and the *DoD Manufacturing Readiness Level (MRL) Deskbook* for more information.

5.4.19.1. The PM and CE ensure that the contractor establishes a quality management system to ensure product quality, and consider including achievement of product quality objectives in evaluations of contractor performance. Refer to AFI 63-145, *Manufacturing and Quality Management*.

5.4.19.2. The PM conducts assessments of, and addresses manufacturing readiness at formal technical and MS reviews.

5.4.20. Reliability and Maintainability (R&M) Engineering. The CE, in support of the PM, develops an R&M program using an appropriate strategy to ensure reliability and maintainability requirements are understood, designed, produced, maintained, and improved. Refer to *DoD Guide for Achieving Reliability, Availability, and Maintainability* and the *DoD Reliability, Availability, Maintainability, and Cost (RAM-C) Rationale Report Manual*; GEIA-STD-0009, *Reliability Program Standard for Systems Design, Development, and Manufacturing*; and SAE TA-HB-0009, *Reliability Program Handbook* for additional information. The RAM-C Report documents the rationale behind the development and balancing of sustainment requirements.

5.4.20.1. The PM conducts an analysis of the Lead and Using Command(s) R&M requirements and flow them into the system specification and appropriate contractual requirements.

5.4.20.2. The PM includes a RAM-C Report in the SEP at MS A, updates it to support the RFP pre-release review at MS B and MS C, and documents the reliability growth strategy with reliability growth curve in the SEP IAW DoDI 5000.02.

5.4.20.3. The PM documents the reliability growth curve and associated verification methods for R&M requirements in the TEMP.

5.4.20.4. Post-MS C. The PM reviews maintenance data documentation, deficiency reports, and modification proposals to determine if overall system R&M is affected and may require product improvement. This review should occur for modifications, mishaps, or as part of LCSP updates and involve the Lead Command, applicable product support teams, and supply chain management teams to ensure deficiencies are identified and corrected.

5.4.20.5. The PM ensures 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.

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

5.4.20.5.2. The PM includes 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.

5.4.20.5.3. The PM implements CBM+ on existing programs where technically feasible and beneficial.

5.4.21. Software Engineering. SE manages system development and sustainment by addressing each system as having three major components: hardware, software, and human. The PM ensures 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 in the SEP, LCSP, or AS. The PM ensures that software assurance and software safety principles are addressed throughout the life cycle and applies open systems architecture principles to software wherever feasible. Refer to the Joint Software Systems Safety Engineering Handbook and MIL-STD-882E for more information. If the Software Resources Data Report (SRDR) is required, the PM uses the Cost and Software Data Reporting (CSDR) system to submit the report. Refer to DoD 5000.02 for more information on CSDR requirements.

5.4.22. 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 shall obtain spectrum certification to comply with national and international laws as well as established treaties. Reference DoDI 4630.09, *Communications Waveform Management and Standardization*, DoDI 4650.01, *Policy and Procedures for Management and Use of the*

Electromagnetic Spectrum, AFI 17-220, *Spectrum Management*, for additional information and definitions of spectrum management terms.

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

5.4.22.2. The PM ensures system documents (including contract deliverables) properly address characteristics required by the equipment spectrum certification process described in AFI 17-220.

5.4.22.3. The CE, in support of the PM, ensures electronic and electrical systems, subsystems, and equipment, including ordnance, procured for US forces are mutually compatible in the operational electromagnetic environment IAW DoDI 3222.03, *DoD Electromagnetic Environmental Effects (E3) Program*. See [Chapter 4](#).

5.4.23. Standardization. Refer to DoDM 4120.24, Enclosure 4, *Standardization in the Acquisition Process*. The PM utilizes non-governmental consensus standards, if available, when identifying compliance documents in contracts. The Defense Standardization Council supports development of non-government consensus standards with DoD participation and use of those standards that meet DoD's requirements; these documents can enable program office success. This is the case with the following standards mentioned previously: EIA-649-1, IEEE-15288.1, IEEE-15288.2, and SAE-AS6500.

5.4.24. Supportability. See [Chapter 7](#).

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

5.4.25.1. The PM addresses survivability requirements and performance parameters across the life cycle.

5.4.25.2. The PM ensures survivability design, test, and analysis activities are based on a system operations concept and threat assessments (including nuclear, biological, chemical, conventional, radiological, blast and fragmentation, electromagnetic, cyber, and natural environments).

5.4.25.3. The PM implements a Hardness Maintenance / Hardness Surveillance (HM/HS) program if a 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)*. The program will consider High Altitude Electromagnetic Pulse (HEMP) protection of mission-essential Nuclear Command, Control, Communications (NC3) systems. Methods will verify that the HEMP protection for the system and facility integration meets requirements listed in survivability policy. Procedures and plans will include materials, methods, and devices required to design, construct, test, and maintain HEMP protection from initial conception to deactivation of a fixed facility are also described.

5.4.25.4. The PM implements survivability policy and guidance found in:

5.4.25.4.1. Section 141 of Pub. L. 108-375, *Development of Deployable Systems to Include Consideration of Force Protection in Asymmetric Threat Environment*, and

§1053, *Survivability of Critical Systems Exposed to Chemical or Biological Contamination*.

5.4.25.4.2. 50 U.S.C. §1522, *Conduct of Chemical and Biological Defense Program (CBDP)*, DoDI 3150.09, DoDI 3222.03, MIL-HDBK-237, *Electromagnetic Environmental Effects and Spectrum Certification Guidance for the Acquisition Process*, MIL-STD-188-125-1, *High-Altitude Electromagnetic Pulse Protection for Ground-Based C4I Facilities Performing Critical, Time Urgent Missions*, MIL-STD-188-125-2, *High-Altitude Electromagnetic Pulse Protection for Transportable Systems*, MIL-STD-3023, *High-Altitude Electromagnetic Pulse Protection for Military Aircraft*, MIL-HDBK-423, *High-Altitude Electromagnetic Pulse Protection for Ground-Based C4I Facilities*.

5.4.26. Meteorological Analysis. Meteorological analysis is used to identify and mitigate the impacts of the natural environment, to include the space environment, on a system's performance and employment for the life cycle of any weather-sensitive programs or basing activities. The PM and CE, in collaboration with the Implementing Command's designated meteorologists, ensure the identification and documentation of a systems' operational requirements for weather products and services, and assessment of weather-related risk during all phases of the life cycle, as appropriate.

Chapter 6

ACQUISITION SECURITY

6.1. Acquisition Security Overview. Acquisition Security encompasses holistic security policies and practices for AF systems. Acquisition Security helps ensure that all systems and programs consider lifecycle risk management (LCRM) and execute their program to protect against cyber-related threats, counterfeit hardware/software components, information exfiltration, unauthorized or indiscriminate information disclosure, and tampering efforts should components fall outside positive physical control. Security elements and considerations will be included and consistent across a program's documentation (e.g., SEP, TEMP, LCSP, etc.).

6.2. Acquisition Security Applicability. The PM ensures:

6.2.1. Security-related system requirements are fully derived and integrated into overall system requirements, incorporated into the system's design through systems' security engineering (SSE), and thoroughly tested from a mission perspective.

6.2.2. Security-related program requirements are included in RFP and contract language, to include requirements and evidence for a secure supply chain (e.g. statistical part inspections, facility inspection results, network certifications).

6.2.3. Completed Program Protection Plans (PPP) containing security requirements, including critical component mitigation and management schema, are included in the SEP then transferred to the LCSP when a system transitions into the O&S phase; Product Support Providers (PSP) identified in the LCSP will be fully informed of their responsibilities.

6.3. Program Protection Planning. The PM ensures a program's Critical Program Information and mission-critical functions and components are protected to keep technological advantages in and malicious content out IAW DoDI 5200.39, *Critical Program Information (CPI) Identification and Protection Within Research, Development, Test, and Evaluation (RDT&E)*, DoDI 5200.44, *Protection of Mission Critical Functions to Achieve Trusted Systems and Networks*, DoDD 5200.47E, *Anti-Tamper*, and DoDI 5240.24, *Counterintelligence Activities Supporting Research, Development, and Acquisition*.

6.3.1. Program Protection Plan (PPP). The PPP is approved by the MDA. Refer to DoDI 5000.02, Enclosure 3 for more information. The PM completes a PPP per DoDI 5000.02 and maintains it throughout the life cycle of the program. At a minimum, review the PPP every five years congruent with LCSP updates. When a technology development activity transfers to a program, IAW AFI 61-101, or the system has a major modification, the PM becomes responsible for security impacts of the change and documents them in their program's PPP. The PM ensures that risk-reducing countermeasures for security-related threats are identified and recorded in the PPP. An approved PPP is also included as supporting documentation in the attachment section of the ISP.

6.3.1.1. The PM implements a plan, documented in the PPP, for managing and reporting Controlled Unclassified Information (CUI) consistent with DoDI 5230.24, *Distribution Statements on Technical Documents*, DoDI 8582.01, and DoDM 5200.01, Volume 4, *DoD Information Security Program: Controlled Unclassified Information (CUI)*.

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

6.3.1.3. The PM creates an audit/inspection plan to periodically review the PPP, records this plan as part of the PPP, and ensures any findings or updates to the PPPs that involve significant High risks are sent IAW section 6.3.3.

6.3.2. Critical Program Information (CPI). The PM ensures that CPI is identified and properly documented in each program's PPP along with risk calculations and mitigations. CPI responsibilities extend across a system's entire lifecycle and the PM re-evaluates CPI when there are program changes in system design, major modifications, or supply chain changes. CPI is defined in DODI 5200.39. Some documents may distinguish between CPI and Critical Components, which can be subsets of CPI.

6.3.2.1. CPI Identification Methodology. The PM describes the methodology used or to be used for identifying CPI, including hardware and software critical components in the PPP. CPI identification, CPI risk calculation, and CPI risk mitigation development is typically accomplished through vulnerability and criticality analyses.

6.3.2.2. CPI must be protected against threats in development and operations.

6.3.2.3. Inherited CPI is identified and properly documented in each program's PPP, and is included in the program's applicable risk assessments. At a minimum, inherited CPI must be protected IAW the countermeasures outlined in the originating program offices' PPP. Inherited CPI is defined in DoDI 5200.39. Inherited CPI responsibilities extend across a system's entire lifecycle.

6.3.2.4. After CPI is identified, the PM ensures that the current authoritative database is reviewed for programs with same or similar CPI for horizontal protection. The PM documents review results, to include the database used, and risk mitigations consistent with DoDI 5200.39.

6.3.3. The PM will notify the MDA, and appropriate AO or CIO, of significant High risks that cannot be reasonably addressed through technical mitigation, countermeasures, or risk management procedures per DoDI 5200.44, DoDI 8500.01, and DoDI 8510.01.

6.3.4. The PM documents how the program addresses SSE requirements in Systems Engineering Technical Reviews (SETRs), functional/physical configuration audits, and change analyses in the PPP. Program managers document program protection-oriented entry and exit criteria for engineering/technical reviews in the PPP. The PM ensures that acquisition security requirements are thoroughly tested and function as designed prior to system implementation. The PM ensures the acquisition security requirements are assessed as part of the test and evaluation strategy.

6.3.5. The PM records how acquisition security requirements and considerations will be managed during sustainment in the PPP.

6.3.6. The PM documents, in the PPP, how program personnel and contractors will respond (procedures) to attempted or successful CPI compromises, supply chain exploitations, counterfeit infiltration, and the compromise of CUI and/or classified information.

6.3.7. Other System Security-Related Plans and Documents. The PM records security relevant program documents (e.g., plans, strategies, standards, analysis results, letters of agreement or letters of understanding associated with foreign sales or usage), their originating organization, location, and points of contact in the PPP.

6.4. Countermeasures.

6.4.1. Cryptographic Countermeasures. Cryptographic countermeasures are developed IAW DoDM 5220.22, *National Industrial Security Program Operating Manual (NISPOM)*, DoDI 8500.01, DoDI 8520.02, DoDI 8520.03, AFI 23-101, and AFI 16-1404. The PM documents cryptographic countermeasures in the PPP.

6.4.2. Communications Security (COMSEC) Countermeasures. COMSEC countermeasures are developed, implemented, and managed consistent with DoDI 5220.22, *National Industrial Security Program (NISP)*, DoDI 8500.01, DoDI 8520.03, DoDM 5220.22, AFI 23-101, AFI 16-1404, and AFI 16-1406, *Air Force Industrial Security Program*. The PM documents COMSEC countermeasures in the PPP.

6.4.3. Biometrics Countermeasures. Biometric countermeasures are developed and implemented consistent with DoDI 5200.08 and DoDI 8521.01E. The PM documents biometric countermeasures in the PPP.

6.4.4. Anti-Tamper (AT) Countermeasures. The PEO shall identify an AT Lead to coordinate with the AF AT Service Lead and to guide PEO programs through the AT planning process. The PM collaborates with the AF AT Service Lead for AT Planning. SAF/AQL is the AF AT Service Lead.

6.4.4.1. The PM ensures that AT plans and AT waivers are included as an appendix in the PPP. See DoDD 5200.47E, Anti-Tamper, for more information.

6.4.4.2. The PM implements AT countermeasures, where appropriate, consistent with DoDI 2010.06, DoDI 5200.39, DoDI 5200.44, and DoDM 5220.22. AT countermeasures are often associated with horizontal protection.

6.4.5. Operations Security (OPSEC) Plan. The PM ensures an OPSEC Plan is updated during the Material Solution Analysis through Production & Deployment acquisition phases. The goal is to protect a system or capability's unclassified critical information and define indicators or operational profiles throughout the acquisition life cycle. An OPSEC plan can be part of the countermeasures listed in the PPP. It is the responsibility of the program to determine what measures are essential to protect critical and sensitive information. Programs should identify OPSEC measures in their requirements documents when possible and passed to resulting solicitations and contracts. Refer to DoDM 5205.02, *DoD Operations Security (OPSEC) Program Manual*, and AFI 10-701, *Operations Security (OPSEC)*, for more information.

6.5. Special Access Programs (SAP). SAPs created under the authority of E.O. 13526 are exempt from compliance in developing a PPP. This exemption does not include AT plans or the Cybersecurity Strategy (CS). The PM ensures collateral programs with acknowledged SAP elements, or SAP programs that transition to collateral status comply with this AFI. The PM collaborates with SAF/AAZ when SAP information is involved to determine a prudent protection approach prior to developing a PPP. SAPs are managed IAW DoDD 5205.07, DoDI 5205.11,

Management, Administration, and Oversight of DOD Special Access Programs (SAPS), AFPD 16-7, and AFI 16-701.

6.6. Counterfeit Detection and Avoidance. The PM, with support from the Implementing Command and the Defense Logistics Agency (DLA), identifies and maintains an updated list of critical components vulnerable to counterfeiting throughout the system life cycle. The PM ensures contracts require prime contractors take the steps necessary to implement management controls to guard against counterfeit materiel in the supply chain. Reference DoDI 4140.01, *Supply Chain Materiel Management Policy*; AFI 23-101 and DFARS 246.870 for further guidance on counterfeit materiel management—to include suspect counterfeit items—and associated GIDEP reporting.

6.7. Counterintelligence. When determined applicable with the Implementing Command's intelligence focal point, the PM collaborates with the local AF Office of Special Investigation Research Technology Protection office regarding defensive Information Operations and counterintelligence support for the life cycle of the system or technology.

6.8. Trusted Systems and Networks (TSN).

6.8.1. TSN Focal Point. The HAF TSN focal point is the overall AF TSN lead and performs those TSN duties that cannot be performed at the MAJCOM level and resolves disputes between Implementing Commands on matters concerning Enterprise-level TSN activities. The HAF TSN focal point is SAF/AQR.

6.8.1.1. Implementing Commands should each designate a TSN focal point to perform the following activities:

6.8.1.1.1. Coordinate and prioritize MAJCOM requests for threat analysis of suppliers of critical components.

6.8.1.1.2. Coordinate use of TSN resources, including TSN SMEs and tools.

6.8.1.1.3. Coordinate with the HAF TSN focal point in the development of TSN requirements, best practices, and mitigations.

6.8.1.1.4. Monitor the identification of mission critical functions and critical components as well as TSN planning and implementation activities documented in the PPP.

6.8.1.2. The PM coordinates with the Implementing Command's TSN focal point regarding TSN threat identification, best practices, processes, techniques and procurement tools. For more information see DoDI 5200.44 and AFPAM 63-113.

6.9. Assurance. The PM is responsible for implementing hardware and software assurance activities throughout the program's life cycle, integrating them into the program protection processes, and documenting them in the PPP and Risk Management Plan.

6.9.1. Hardware Assurance (HwA). The PM determines mission-critical functions and critical components within their system and provides assurance consistent with the criticality of the system and consistent with risk management decisions. The PM manages the risk to the mission-critical systems and critical components throughout the system life cycle to ensure the hardware and firmware in the system and components is reliable, secure, and free of vulnerabilities. The PM manages the risk to the supply chain, uses verification and test

tools for electronic components, and performs nondestructive or forensic analyses for electronic components as required.

6.9.2. Software Assurance (SwA). The PM implements and applies SwA throughout the life cycle of the program to increase the level of confidence that software functions as intended and is free of vulnerabilities, either intentionally or unintentionally designed or inserted as part of the software. The PM addresses specific areas to include identifying known software weaknesses, implementing appropriate mitigation activities and security controls, and conducting the appropriate level of software vulnerability testing. PMs also use automated software code vulnerability analysis and testing tools to the greatest extent possible. Reference the DoD Software Assurance Community of Practice, and the Department of Homeland Security “Build Security In” website for more information.

6.9.3. Joint Federated Assurance Center (JFAC). The JFAC is an OSD resource available to PMs to facilitate access to hardware/software assurance capabilities and best practices; more information at the JFAC Portal, <https://jfac.army.mil>.

6.10. Cybersecurity. Cybersecurity is the prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and nonrepudiation. See DoDI 8500.01, DoDI 8510.01, AFPD 17-1, AFI 17-130, and AFI 17-101 for more information.

6.10.1. Cybersecurity Strategy (CS) (formerly known as the Information Assurance [IA] Strategy [IAS]). The PM shall ensure that programs develop and implement a CS consistent with DoDI 5000.02, DoDI 8500.01, DoDI 8510.01, and include the CS as an appendix to the PPP throughout the system life cycle. The CS is approved by the applicable CIO (AF or DoD) prior to MS decisions or contract awards and is required for every MS review beginning at MS A.

6.10.2. Cyber T&E. Cyber T&E must be included in program TEMP. The TEMP should build upon the program CS and provide detailed T&E activities to support cyber T&E requirements. See AFI 99-103 for more information on cyber T&E.

6.11. Nuclear Systems Security. Nuclear components governed by DoDI 5030.55, *DoD procedures for Joint DOD-DOE Nuclear Weapon Life Cycle Activities*, AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management* and DoD-DoE and/or Air Force-National Nuclear Security Administration (AF-NNSA) agreements are not exempt from acquisition security considerations. Nuclear weapons security shall be accomplished consistent with DoDD 3150.02. Nuclear surety tamper control and detection shall be consistent with AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*.

6.12. Foreign Military Sales (FMS) and Direct Commercial Sales (DCS) Security. FMS and DCS programs must implement acquisition security considerations.

6.12.1. The PM ensures that foreign involvement is considered during requirements development, and that requirements reflect security considerations in light of foreign involvement. The PM summarizes international activities, to include plans for foreign cooperative development or foreign sales, or reasonable probability for future foreign

cooperative development or sales, in the PPP. Identified CPI, countermeasures, designs, testing, and acquisition documents should be consistent with foreign involvement.

6.12.2. The PM ensures that Defense Exportability Features are incorporated into the requirements development and engineering processes and that appropriate countermeasures are included in the PPP. The PM includes links to relevant Defense Exportability Features discussions in the AS. See DoDI 2010.06 for more information.

6.12.3. CPI is released to foreign entities (e.g., government, military, business) only after appropriate reviews (e.g., ITAR, National Interest Determinations) and approvals. Safeguards must exist for continued CPI disclosure prevention after given to the foreign entities.

6.13. Committee on Foreign Investment in the US (CFIUS). The PM participates in CFIUS assessments and activities consistent with DoDI 2000.25. CFIUS-related activities will typically include an evaluation for the impact to US security interests should a foreign organization purchase, merge, or otherwise obtain significant control over a system's supplier.

6.14. National Interest Determinations (NID). The PM participates in National Interest Determination activities in connection with Foreign Ownership, Control, or Influence situations when a US prime or subcontractor, cleared under a special security agreement and determined to be operating under foreign ownership, control or influence, requires access to proscribed information (TS, SAP, SCI, Communication Security, and Restricted Data). NID implementation is consistent with DoDI 5220.22 and DoDM 5220.22. See AFI 16-1406 and AFI 16-701 for more information.

6.15. Physical Security. The PM ensures that program-related facilities (government, including GOCOs, and contractor) have physical security attributes commensurate with program information and system characteristics, to include CUI, consistent with DoDI 5200.08, DoDI 5205.11, DoDI 8521.01E, DoDM 5200.01, DoDM 5220.22, AFI 31-101, *Integrated Defense*, AFI 16-701, and AFI 16-1406. The PM ensures that physical security requirements are included in RFPs and final contracts, to include adequate provisions for sub-contractors and program asset protection at AF-owned industrial facilities. Refer to AFI 10-245, *Antiterrorism (AT)*, for more information.

6.15.1. The PM identifies physical protection standards for weapon system platforms in post-production, test and government acceptance until the asset is physically removed from the industrial property.

6.15.2. Minimum protection standards for produced weapon system platforms will meet the intent of AFI 31-101, unless otherwise identified by the Lead Command.

Chapter 7

PRODUCT SUPPORT REQUIREMENTS

7.1. 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 is 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, test 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.

7.1.1. The PM retains overall responsibility for all aspects of the program. The PSM is accountable to the PM for the execution of all product support requirements, to include integrity programs; within the PM's scope of responsibilities. The PSM, with support from the Implementing Command, develops and implements a comprehensive product support strategy for each applicable program. For more information on PSM and product support responsibilities refer to the *PSM Guidebook, Integrated Product Support Element Guidebook, MIL-HDBK-502, Product Support Analysis*, and 10 U.S.C. §2337.

7.1.2. The PSM ensures the appropriate concepts, techniques, and analyses necessary to assure achievement of defined supportability, sustainment/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 conducts 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. The PSM documents any product support strategy changes to the LCSP.

7.2. Product Support Business Model (PSBM). PSBM defines the hierarchical framework in which the planning, development, implementation, management, and execution of product support for a weapon system component, subsystem, or system platform will be accomplished over the life cycle and is documented in the LCSP. The PSBM effectively describes the methodology by which the AF intends to ensure achievement of optimized product support through balancing maximum weapon system availability with the most affordable and predictable total ownership cost. The PM has substantial discretion in determining the implementation of the PSBM and develops performance-based agreements with warfighter customer(s), Product Support Integrators (PSI), and PSPs to meet overall performance requirements and support validated warfighter needs. However, in all implementations of the PSBM, the PSM ensures that the support necessary to satisfy all of the Product Support Elements is within the scope of the agreements with one or more PSIs.

7.2.1. Product Support Integrators (PSI). The PSI is defined as an entity (within 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.

7.2.2. 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.

7.3. Weapon System Sustainment (WSS). WSS is a subset of Readiness and O&S funding that includes Contractor Logistics Support (CLS), Depot Purchased Equipment Maintenance (DPEM), Sustaining Engineering, TOs and organic maintenance, repair and overhaul. Depot level repairables and consumables for organically managed aircraft and the Flying Hour Program are excluded from WSS. WSS costs should be balanced with readiness needs and addressed as part of the product support strategy.

7.4. 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. ANG, Air Force Reserve Command (AFRC), and AFSOC utilize CAM processes and schedules, but manage their own requirements validation and execution of funds.

7.4.1. MAJCOMs and the PM utilize CAM procedures, meet established timeframes/suspenses, and support associated reviews as documented in AFMAN 63-143, Centralized Asset Management Procedures.

7.4.2. MAJCOMs and the PM utilize the government registered system Centralized Access for Data Exchange (CAFDEx) for defining, validating, prioritizing, and publishing system sustainment requirements at the depot.

7.4.3. MAJCOMs and the PM collaborate with HQ AFMC to advocate and ensure all requirements associated with systems' support receive equitable consideration under CAM.

7.5. Product Support Strategy. The PSM develops and implements a comprehensive product support strategy in support of the PM's integrated program objectives and documents this strategy in the LCSP. The objective of the product support strategy is to achieve operational readiness outcomes at an affordable cost. The strategy is based upon a best value determination, evidenced through the Product Support Business Case Analysis (PS-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 U.S.C. §2464 (Core) and 10 U.S.C. §2466 (50/50) requirements.

7.5.1. 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 PM, in conjunction with the PSM, should assess system design, design changes, and sustainment strategies and planning to identify factors impacting future O&S costs throughout these phases and develop strategies for reducing O&S costs or cost growth on the program.

7.5.2. Performance based life cycle product support (or Performance Based Logistics [PBL]) strategies are to be employed when analysis indicates that they can effectively reduce cost and improve performance.

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

7.6. Product Support Business Case Analysis (PS-BCA). The PSM performs and documents a PS-BCA, in support of the PM's integrated program objectives, to validate the product support strategy is cost effective, financially feasible, optimizes system readiness and manages risk, IAW 10 U.S.C. §2337, *Life Cycle Management and Product Support*.

7.6.1. The PS-BCA will vary in size, scope, and level of detail depending on many factors, such as fleet size, projected program life cycle, and depot statutory requirements. The PS-BCA uses a structured methodology to aid decision making by identifying and comparing alternatives by examining the mission and business impacts (both financial and non-financial), risks, and sensitivities. In order to properly size and scope the PS-BCA, the PSM and PM must completely understand the appropriate level of analysis required to support the MDA's decision making and tailor the PS-BCA accordingly.

7.6.2. The PS-BCA is supported by a team comprised of program management, life cycle logistics, financial management, cost estimation, small business, and depot sustainment personnel who can assist the PSM in completing the PS-BCA. The PSM conducts the PS-BCA using government personnel to the maximum extent possible. Refer to AFI 65-501, *Economic Analysis*, AFI 65-509, *Business Case Analysis*, AFMAN 65-510, *Business Case Analysis Procedures*, and the *DoD Product Support Business Case Analysis Guidebook* for more information on PS-BCAs.

7.6.3. The PS-BCA is required for ACAT I, IA, and II programs but is at the discretion of the MDA for ACAT III programs. For ACAT III programs, the MDA ensures rationale for not conducting a PS-BCA is documented in the LCSP.

7.6.4. The PS-BCA is completed prior to MS-C and is an annex to the LCSP. The PS-BCA will be initiated and updated to justify the product support approach defined in the LCSP.

7.6.5. The PSM revalidates the PS-BCA at a minimum of every five years from the PS-BCA completion or revalidation date. For legacy programs that are beyond MS-C and do not have a PS-BCA, the PSM is not required to conduct a PS-BCA unless a change to the product support strategy is being considered. The PSM documents that the current product support strategy is affordable and effective, obtains SAF/AQD approval for ACAT I and IA programs, and includes this determination as an annex to the LCSP.

7.6.6. SAF/AQD is the delegated approval authority for ACAT I and IA PS-BCAs and PS-BCA revalidations. The MDA is the approval authority for ACAT II and III programs.

7.6.7. The PSM, in support of the PM's integrated program objectives, shall maintain a complete history of PS-BCAs over the course of the system life cycle to track decisions and understand how real-world operations cause program impacts.

7.7. 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 is integrated across the system life cycle into strategies, planning, implementation, development, production, fielding, support, sustainment and disposal. The LCSP streamlines, consolidates, and makes visible to leadership all aspects of the program's product support strategy.

7.7.1. The PM develops or updates an LCSP for all ACAT programs for MS A, B, C, Full Rate Production (FRP) and every five years after IOC until system disposal.

7.7.1.1. Programs in the O&S phase are required to have an LCSP, unless the program has an LCMP that meets the conditions stated in para 4.3.6.

7.7.1.2. The Implementing Command may also designate other efforts requiring the development of an LCSP.

7.7.1.3. The PM performs the appropriate level of analysis necessary to develop the product support strategy and support each MS decision.

7.7.2. The PM updates the LCSP to reflect changes in the product support strategy, at major MS reviews, or at five year intervals, whichever comes first.

7.7.3. The PM should develop and coordinate the LCSP IAW the OSD approved outline. Tailoring strategies ensure that the information and coordination requirements of the LCSP are addressed in any integrated documentation.

7.7.4. LCSP Approval and Concurrence.

7.7.4.1. Prior to IOC, ASD (L&MR) is the approval authority for LCSPs on all ACAT ID, IAM, and USD(AT&L)-designated special interest programs, and the MDA is the approval authority for all other LCSPs.

7.7.4.2. After IOC, SAF/AQD is the delegated approval authority for LCSPs on all ACAT I and non-delegated ACAT II programs, and the MDA is the approval authority for all other LCSPs.

7.7.4.3. The Implementing Command provides concurrence on the LCSP as the Sustainment Command. Authority to provide concurrence may be delegated to the appropriate level.

7.7.5. LCSP Annexes. The PM will include the following annexes to the LCSP:

7.7.5.1. Product Support Business Case Analysis (PS-BCA) or other analyses used to develop the product support strategy documented in the LCSP.

7.7.5.2. Core Logistics Analysis.

7.7.5.3. Preservation and Storage of Unique Tooling Plan (MDAP only).

7.7.5.4. Intellectual Property (IP) Strategy (O&S phase only).

7.7.5.5. Independent Logistics Assessment (MDAP Only).

7.7.5.6. PPP (O&S phase only; included in SEP for pre-O&S programs).

7.7.5.7. IUID Implementation Plan after MS C approval.

7.7.5.8. Demilitarization Plans.

7.7.5.9. Replaced System Support Plan.

7.7.6. System modifications/upgrades may be added as a stand-alone annex to the platform LCSP. The annex will address all standard LCSP requirements for that specific modification/upgrade. Upon completion of the modification/upgrade, the platform LCSP will be updated to incorporate the changes. Each modification or upgrade should have a separate annex to the LCSP. See [Chapter 9](#) for more information.

7.7.7. For more information on the LCSP refer to the Product Support Manager Guidebook and the Integrated Product Support Element Guidebook.

7.8. 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.

7.8.1. The PM develops and documents materiel fielding plans starting at MS B and through the production and deployment phase. The PM coordinates materiel fielding schedules and plans with the Lead/Using Command(s) and other stakeholder organizations that interface with, or provide support (e.g. training) for the materiel being developed. It is at the PM's discretion how they document materiel fielding plans; they may be a stand-alone document known as a Materiel Fielding Plan (MFP), an annex to the program AS or LCSP, or embedded within the AS or LCSP.

7.8.2. At MS C and all subsequent production decision reviews, the PM updates the materiel fielding plans to reflect the materiel fielding-related requirements, 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), IOC, and FOC. Materiel fielding plans address levels of maintenance, sources of repair, sustainment partnering relationships, source of supply, support equipment, training, and use of interim contractor support and/or contractor logistics.

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

7.9. Product Support and Logistics Assessments.

7.9.1. Logistics Health Assessments (LHA). In order to self-inspect and reduce product support risk for all programs, the PM shall periodically assess program product support planning and performance using the LHA assessment tool. PEOs shall determine the frequency of the periodic assessment.

7.9.2. Independent Logistics Assessments (ILA). PEOs shall ensure that ILAs are conducted for all MDAP programs within their portfolios. ILAs are required prior to MS B, C, the FRP decision (if FRP is more than 4 years after MS C), and every 5 years after IOC. ILA results are annexed to the LCSP.

7.9.2.1. PEOs tailor ILAs to program requirements using the LHA criteria as a baseline for assessing the program. The ILA:

7.9.2.1.1. Assesses the adequacy of the product support strategy (to include the core logistics analyses and establishment of organic capabilities).

7.9.2.1.2. Identifies system design and sustainment planning features that impact readiness and future O&S costs.

7.9.2.1.3. Identifies changes to system design that could reduce costs, and effective strategies for managing such costs.

7.9.2.1.4. Specifically assesses O&S costs to identify factors resulting in cost growth and provide strategies to reduce costs growth.

7.9.2.2. PEOs are delegated authority to charter ILA teams and ensure they are conducted by a team comprised of logistics, program management, engineering, financial management, testing, contracting, small business, program protection, and business experts who are independent of the program office. "Independent" means a person outside the program office who is not active nor has recently been active in the management, design, test, production or product support planning of the program.

7.10. 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/ KSAs defined by the user IAW the *JCIDS Manual*. Sustainment metric calculation information can be found in AFPAM 63-128.

7.10.1. Materiel availability measures 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.

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

7.10.3. TOC measures total costs as identified in the OSD Cost Assessment and Program Evaluation (CAPE) O&S Cost Estimating Structure. TOC is measured IAW *OSD CAPE Operating and Support Cost-Estimating Guide*.

7.10.4. Mean Down Time (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.

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

7.11.1. The PM supports HQ AFMC, IAW AFMC developed procedures, by:

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

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

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

7.11.2. To ensure compliance with 10 U.S.C. §2464 (Core) and 10 U.S.C. §2466 (50/50), the PM shall reflect the AF Core and 50/50 requirements in programmatic strategy and product sourcing documents throughout the program life cycle.

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

7.11.3.1. 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.

7.11.3.2. 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.

7.11.3.3. 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. Government Depot Level Maintenance is also called Organic Depot Level Maintenance.

7.11.4. The PM working with the PCO will ensure requirements for the Contractor Sustainment Report are included in all major contracts and subcontracts, regardless of contract type, valued at more than \$50 million (then-year dollars). Reference DoD 5000.04-M-1 and DI-FNCL-81831 for additional detail.

7.12. 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.

7.13. Depot Source of Repair (DSOR). The DSOR process is the method by which the DoD postures its depot level maintenance workloads – organic, contract, or a combination of both. 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 is initiated as soon as a change in posture is considered.

7.13.1. The PM initiates DSOR planning early in the life cycle and documents DSOR planning in the LCSP.

7.13.2. The PM ensures DSOR determinations for programs, systems, sub-systems, and end items are processed and approved through AFMC. The PM provides AFMC with all required data needed to develop the DSOR using the DSOR Automated Management System.

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

7.13.3.1. SAPs complete the DSOR determination process using the classified process defined by AFMC.

7.13.3.2. DSOR determinations for Space programs, systems, sub-systems and end items will be routed through AFSPC (as Implementing Command) prior to submission to AFMC.

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

7.13.4.1. The PM collaborates with AFMC to determine the core depot-level maintenance and repair requirements. This analysis is completed prior to MS A, and the results of the analysis are also documented in the Core Logistics Analysis Annex to the LCSP.

7.13.4.2. 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 is completed by MS B, and it identifies sources of repair for each depot level reparable at the system and sub-system level at a minimum.

7.13.4.2.1. 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 provides AFMC with all required data needed to develop the DSOR. When the DSOR is completed, the PM documents the DSOR in the LCSP.

7.13.4.2.2. Prior to MS B, the Implementing Command develops a DSOR, coordinates it with the other DoD components, issues a DSOR decision documenting the results of the coordinated DSOR, and provides a copy of the DSOR decision to the PM.

7.13.5. The PM reviews the DSOR decision at the following intervals:

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

7.13.5.2. At MS C and the FRP Decision.

7.13.5.3. Every 5 years to document continued validity of the DSOR in the DSOR Automated Management System.

7.13.5.4. As requested by AFMC or AFSPC as applicable.

7.13.6. The PM informs the MDA and the Implementing Command if programmatic changes dictate a change in the DSOR or Depot Maintenance Activation Plan.

7.13.7. Situations when a DSOR is necessary:

7.13.7.1. New acquisitions. A new acquisition includes any system, item, component, system, subsystem, or software that results in a new requirement for depot-level maintenance. DSORs for new acquisitions are accomplished on the total anticipated inventory to be acquired. For new acquisitions, the DSOR requirements are initiated no later than the Technology Maturation and Risk Reduction phase and in sufficient time to obtain a DSOR decision for inclusion into the AS.

7.13.7.2. New work. New work, as related to requiring a DSOR, is a change in workload (hardware or software) to a previously postured system, sub-system, end-item, or

component that results in a change greater than 20% to the depot maintenance workload hours or cost.

7.13.7.3. Modification Follow-on. The DSOR applies to modifications (see [Chapter 9](#)) to existing systems for which the depot-level source of repair has been approved.

7.13.7.4. Modification Install. This is not a long-term sustainment decision; however, the DSOR needs to be accomplished to determine whether contract or organic sources should accomplish modification installations (see [Chapter 9](#)) that are depot-level maintenance workloads on the equipment upon which the new system is being installed. This helps ensure compliance with the 50% contract limitation levied by 10 U.S.C. §2466.

7.13.7.5. Overseas Workload Program (OWLP). Complete DSORs for any Source of Repair (SOR) that involves the potential for accomplishment of depot-level maintenance by a source outside of the US. DSOR packages are 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.

7.13.7.6. 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. Complete a DSOR for a workload shift when there is a proposed change in the 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.

7.13.8. 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:

7.13.8.1. Workloads generated by Industrial Facilities' Equipment located exclusively within the depot maintenance complex and funded through the industrial fund.

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

7.13.8.3. 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.

7.13.8.4. FMS programs.

7.13.8.5. US Special Operations Command (USSOCOM) workloads which are Major Force Program-11 funded.

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

7.13.8.7. Department of Energy (DOE) acquired, operated, and maintained systems that are supported by the Air Force.

7.13.8.8. Medical Equipment. Management and sustainment for medical materiel for peacetime and wartime support is established under the AF 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.

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

7.13.9. Depot Activation. Depot activation, planning and budgeting should begin as early as practicable in the acquisition cycle and be documented in the LCSP. Investments are limited to long lead time items such as technical IP rights and special equipment, and do not include Military Construction until a DSOR has been completed.

7.13.9.1. Prior to MS B, the PM develops 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 is continually updated until the depot is activated. Data is kept current and reported until all depot activation requirements are achieved. The Lead and Using Commands advocate for programming and budgeting for depot activation cost and associated requirements for the sustainment of systems.

7.13.9.2. The PM submits program depot maintenance activation funding data line entries across the FYDP via the Web Comprehensive Cost and Requirement System (CCaR) System. Detailed instruction on CCaR formatting and entries are published in the *CCaR Guidebook*.

7.14. Contractor Logistics Support (CLS). The PM considers the use of CLS when developing and implementing a comprehensive product support strategy. Specific funding guidance cannot cover all contracts or situations; therefore, the PM, with assistance and advice from the Financial Management organization, must review each proposed contractual action as described in AFI 65-601, Vol. 1.

7.14.1. Interim Contractor 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.

7.14.1.1. If ICS is planned, the PM ensures 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.

7.14.1.2. The Lead and Using Command(s) plan and advocate for programming and budgeting for ICS cost and associated requirements for the sustainment of systems.

7.14.2. CLS and other support requirements are programmed for and executed using the types of funds and funding level approved by the Lead command and/or AF CAM Executive Agent, AFMC. The PM provides 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. Reference AFI 65-601, Vol. 1 for more information. The Lead and Using Command(s) plan and advocate for programming and budgeting for their portions of the CLS costs and any associated CLS requirements for the sustainment of systems.

7.14.3. CLS contracts are written based on characteristics for performance based logistics. The PM establishes 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 can link contract incentives to performance outcomes while allowing the AF to make sound, enterprise-wide, capabilities-based resource decisions when deciding where to accept risk.

7.14.3.1. CLS contracts are crafted to identify ranges of outcome performance with thresholds and objectives and the target price (cost to the user) for each level of capability. The contract reflects normal operations and delineates any constraints or boundary conditions. CLS contracts should 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. If used, the PM documents the thresholds, objectives, and target price of the CLS contract in the LCSP.

7.14.3.2. The PM, in collaboration with stakeholders, identifies needed CLS requirements and makes provisions within regulation in RFPs, Statements of Work (SOW), and contracts to ensure visibility of direct contractor costs for each type of support material and service that is being provided.

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

7.14.3.2.2. The PM reports all CLS costs consistent with AFI 65-601, Vol. 1.

7.14.3.2.3. The PM ensures CFO report is submitted for CLS contract assets in the applicable APSR to AF/A4LR, IAW AFI 23-101.

7.14.3.2.4. The PM ensures compliance with DLMS transactional data reporting IAW AFI 23-101.

7.14.4. The PM coordinates and obtains MAJCOM agreement on unit, base, or MAJCOM support requirements and ensures agreed-to support requirements are included in the CLS contract. Reference AFI 25-201, *Support Agreement Procedures*, for additional information.

7.14.5. The PM obtains AF Metrology and Calibration (AFMETCAL) PG approval prior to contracting for commercial calibration services or when deviating from currently established calibration support plans IAW AFI 21-113.

7.14.6. The PM reviews the requirements in DoDI 3020.41, *Operational Contract Support (OCS)*, when making logistics sustainability decisions regarding contract support in contingency operations outside the US.

7.14.7. CLS for commercial derivative/hybrid aircraft adheres 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*. Reference AFI 13-204, Vol. 3, *Airfield Operations Procedures and Programs*, for requirements applicable to support for Air Traffic Control and Landing Systems (ATCALs).

7.15. 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 product support to the warfighter. Public-Private Partnerships may be established in support of any of the integrated product support elements.

7.15.1. Public-Private Partnerships are typically supported by two complementary agreements. The Partnership Agreement (PA) establishes the overarching organizational interactions, assumptions and processes the stakeholders agree to follow during the partnership. The Implementation Agreement describes the specific workloads to be performed by the partners.

7.15.2. The PSM identifies potential public-private partnerships that support the product support strategy early in the life cycle, and continuously evaluates potential partnering opportunities for the duration of the life cycle.

7.15.2.1. The PSM considers public-private partnerships in the RFP for the EMD and documents these considerations in the LCSP.

7.15.2.2. For fielded systems, the PSM considers the use of public-private partnerships to improve sustainment outcomes and documents these considerations in the LCSP.

7.15.2.3. The PSM includes all PAs supporting the product support strategy in an annex to the LCSP.

7.15.3. The PSM ensures that the decision to enter into an Implementation Agreement is supported by an analysis that is specific to the particular workload being considered for the partnership. Note: This analysis is tailored to the particular Implementation Agreement and is different than the PS-BCA.

7.15.3.1. The analysis considers costs, benefits, opportunities, risks, investments, resource needs, constraints, 50/50 impacts, Core workload requirements, and the best use of public sector capabilities. The analysis should assess potential partnership structures and management controls to ensure best value of the PPP to the U.S. Government.

7.15.3.2. Analysis developed in support of the DSOR decision may be leveraged to meet this requirement.

7.15.4. The PSM ensures cost data for all factors of production (e.g., direct labor, overhead, materiel, G&A) are captured for each Implementation Agreement supporting a public-private

partnership. The cost data must be quantifiable and measurable utilizing generally accepted accounting practices.

7.15.5. There are three basic types of public-private partnership arrangements: Direct Sales Agreements (DSA), Work Shares, and Leases.

7.15.5.1. 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 a DSA 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 this type of arrangement.

7.15.5.1.1. A DSA is the most appropriate type of public-private partnership when the supported product is immature or unstable.

7.15.5.1.2. DSAs must be scrutinized carefully, and the pass-through costs associated with this type of arrangement must be specifically addressed in the supporting analysis.

7.15.5.1.3. The PSM includes the basis for selecting a DSA in the LCSP.

7.15.5.2. A Work Share is an arrangement 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.

7.15.5.3. 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.

7.16. Technical Orders (TO). AF 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 ensures 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) utilize and comply with applicable Government-verified TOs. The terms "Technical Manual" and "manual" are used interchangeably with the terms "Technical Order (TO)." The AF TO System consists of the methods, procedures and the AF standard TO management system used to author, publish, manage, distribute and use TOs.

7.16.1. The PM ensures TOs and Preliminary TOs (PTO) are developed and verified IAW DoDM 5010.12, *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. TOs for FMS systems are ordered and distributed IAW TO 00-5-19, *Security Assistance Technical Order Program (SATOP)*. US Security Assistance Organizations (SAO) will provide assistance to the PM as required. The PM:

7.16.1.1. Ensures TCTOs are issued and verified IAW TO 00-5-15.

7.16.1.2. Develops TOs IAW approved Government Technical Manual Specifications and Standards (TMSS) and S1000D, *International Specification for Technical Publications*, listed in the Technical Manual Contract Requirements (TMCR) document, TM-86-01 used to document program requirements for AF Technical Manuals. This includes the development of linear-structured, electronic TMs (ETM) and database-structured, interactive ETMs.

7.16.1.3. Provides 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)*.

7.16.1.4. Provides inputs to the Comprehensive AF TO Plan for assigned system/commodity IAW AFMAN 63-143.

7.16.1.5. Maintains currency of TO index, configuration, distribution, and content data, etc. for assigned system/commodity in the AF Standard TO Management System.

7.16.1.6. Ensures Interactive Electronic Technical Manuals are developed IAW with ASD-S1000D, *International Specification for Technical Publications Utilizing a Common Source Database* and current business rules listed in MIL-STD-3048, *Air Force Business Rules for the implementation of S1000D*.

7.16.1.7. Acquires existing COTS manuals instead of developing new TOs if there is no degradation of performance. COTS manuals are assigned USAF TO numbers and managed in the USAF TO system. When acquiring COTS manuals, request Government Purpose Rights at a minimum.

7.16.1.8. Acquires and manages flight manuals when required IAW AFI 11-215 and TO 00-5-3.

7.16.1.9. Reviews available manuals from other DoD components to determine adequacy and application to particular programs. Joint-use technical manuals are integrated into the TO system, assigned TO numbers, indexed, distributed, stored, reprinted and rescinded in the same manner as any other AF TO (AFI 20-118, Instructions for the Interservicing of Technical Manuals and Related Technology Program).

7.16.2. 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.

7.16.3. 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 developed TOs are available and verified.

7.16.4. The PM shall ensure TO procedures to be used with nuclear weapons are nuclear safety certified IAW AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, and AFI 63-125.

7.16.5. The PM provides 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 (DEMIL) and disposal procedures should identify DEMIL-coded parts and HAZMAT locations, and include special tools and equipment, personnel qualifications, and ESOH requirements.

7.16.6. TOs should address equipment and special tools substitutions and restrictions. Do not make substitutions and restrictions of equipment and tools used with nuclear weapons without the approval of the AF Nuclear Weapons Center (AFNWC).

7.16.7. TOs may contain classified information only up to and including Secret-Restricted Data. Data is classified, IAW guidelines found in AFI 16-1404, *Air Force Information Security Program*, and respective Security Classification Guides.

7.16.8. Flight manuals are a type of TO and direction for managing and using flight manuals is in AFI 11-215. Do not place unverified flight manual data on an aircraft for operational use. For more information on managing and using flight manuals including requesting deviations or waivers to specific flight manuals, see AFI 11-215.

7.16.9. Unclassified TOs are marked, controlled and distributed IAW AFI 61-201.

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

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

7.16.10.2. Develop processes and procedures for implementation, management, and execution of the AF TO System. This can include chartering an AF Centralized TO Management Committee for the coordination of TO policy recommendations with the using commands and functional user communities.

7.16.10.3. 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.

7.16.11. Existing COTS operating instructions, part breakdown handbooks, and repair manuals should be acquired instead of developing new TOs if no degradation in performance results. COTS manuals are assigned unique TO numbers and managed within the Standard TO Management System unless covered by the exclusions identified in TO 00-5-1.

7.16.12. Use of the standard TO management system, consisting of the Enhanced Technical Information Management System (ETIMS), Automated TO System (ATOS), and DLA TO Distribute and Print Services (TODPS) is mandatory, unless exempted by TO 00-5-1 and TO 00-5-3.

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

7.17.1. 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 are developed or procured only as a last alternative, after coordination with the SE/ATS PG and consideration of SE/ATS that is already in the USAF or DoD inventory.

7.17.2. The PM:

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

7.17.2.2. Coordinates SE/ATS development, procurement, and modification requirements with the SE/ATS PGs, who ensures that DoD processes for SE and ATS selection are followed. The SE/ATS PGs provide any applicable SE/ATS-specific contract data requirements for incorporation when the PM is authorized to procure unique/peculiar SE/ATS.

7.17.2.3. Submits waivers to the SE/ATS PG and obtains approval prior to acquiring SE/ATS that are not standard DoD solutions. The PEO resolves any waiver disputes prior to procurement.

7.17.2.4. Endeavors 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.

7.17.2.5. Contracts for and coordinates support equipment recommendation data (SERD) with the SE/ATS and AFMETCAL PGs. Coordinate with AFMETCAL on all calibration requirements, including those involving Public-Private Partnerships.

7.17.2.6. Obtains SE/ATS PG SERD approval prior to procurement of system unique SE/ATS. The PEO resolves any SERD disputes prior to procurement.

7.17.2.7. Documents requirements for new SE/ATS, replacement SE/ATS, or modifications to existing SE/ATS and coordinate as identified in AFI 10-601.

7.18. Provisioning. The PM of new systems, subsystems, modifications to existing systems, or sustainment activities for existing weapons systems determines and acquires 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 ensures that the logistics business processes implemented within their applicable programs are aligned with provisioning guidance. Readiness-Based Sparing techniques are used in performance based weapons system product support arrangements. Reference DoDM 4140.01, AFPD 23-1, *Materiel Management Policy and Procedures*, AFI 23-101, SAE-GEIA-STD-0007, *Logistics Product Data*, TA-STD-0017, *Product Support Analysis*, and other applicable AF Provisioning guidance.

7.19. Divestiture Planning. Program divestiture planning is the process used to layout the rate at which the system is 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 is shared with the PSM, Environmental Resources Manager (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 ensures appropriate funding to execute drawdown plan is in place, update program documentation to include TOs and Programmed Depot Maintenance (PDM), and ensures requirements are updated.

7.20. Demilitarization, Removal from Service, Disposal, Reclamation, and Migration. Migration planning is 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 DoDM 4160.28, *Defense Demilitarization*, and AFI 23-101. 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*. The PM determines if property is obsolete or excess to requirements prior to sending property (to include Special Test/Special Tooling Equipment) to long-term storage. When the requiring activity determines equipment is obsolete or excess, the documents equipment by Part number/Tool control number, states that the asset is obsolete/excess, and is being permanently removed from service with a copy of that document sent to the storage facility manager. **Note:** Contact the 309th Aerospace Maintenance and Regeneration Group (AMARG) if considering DoD storage facilities (reference AFI 23-101).

7.20.1. Demilitarization Plans. DEMIL planning early in the development of a system is important to reduce the risks of inadvertent release of military property. Document DEMIL requirements for items such as prototypes and tooling, end items, and each National Stock Number (NSN), as well as procedures for demilitarizing the items. DoDM 4160.28 provides guidance for programmatic and procedural plans. DEMIL plans are documented when prototypes are delivered. The PM ensures demilitarization and disposal of end items are addressed in the program budget.

7.20.1.1. DEMIL Code Determination/Procedures and Execution of DEMIL Plans. Demilitarization code determination is performed as soon as material designs are documented.

7.20.1.2. Programmatic Plans include the process (e.g. TOs, Configuration Control Board, etc.) to ensure program changes such as technology insertion, block upgrades, and approved engineering changes are documented in the procedural plan.

7.20.1.3. For aircraft programs, the PM develops a transition plan addressing reclamation and disposal for each mission design series (MDS), to include peculiar end items associated with the MDS. For systems not designated as MDS, ensure the plan mitigation to the system or end item level.

7.20.1.4. The PM documents an assessment of when the initial migration plan is due per AFI 16-402. The migration plan is then documented and periodically reviewed. Generally, this would be when retirements of the system are scheduled in the FYDP.

7.20.2. The PM shall ensure demilitarization, disposal and reclamation support requirements are identified IAW applicable directives and documented in the LCSP NLT MS C. Forecast funding well enough in advance to support execution of these activities throughout each weapon system's life cycle. The PM periodically reviews and updates the forecasted funding and cost estimates for military equipment and weapon system programs.

7.20.3. The PM disposes of IT Hardware Assets IAW AFMAN 17-1203, Information Technology (IT) Asset Management (ITAM).

Chapter 8

REQUIREMENTS APPLICABLE TO ALL PROGRAMS CONTAINING INFORMATION TECHNOLOGY

8.1. Networks and Information Integration Requirements Overview. Networks and Information Integration Requirements Overview. The PM shall ensure capabilities to include systems, platform IT, IT services, and products are compliant with applicable AF and DoD criteria related to security, interoperability, supportability, sustainability and usability by reviewing and implementing the requirements in **Table 8.1**. These planning requirements do not apply to all programs except when required by applicable law and regulation.

Table 8.1. Programs Containing Information Technology Requirements.

(A) Title: Data Center Consolidation	AF Source Publication(s): AFI 17-120, <i>Management of Cyberspace Support Activities</i>
Applicability: All organizations/systems owning, managing, or operating servers (data centers)	When Required: Prior to the obligation of funding to acquire servers and/or equipment related to data centers
Information: The DOD CIO, working under the purview of Federal Data Center Consolidation Initiative guidance, requires all data centers (exceptions are noted in AFI 17-120) to be documented. Records will be created and maintained by data center owners IAW guidance and training provided by the AF Data Center Consolidation team within SAF/CIO A6.	
(B) Title: Clinger-Cohen Act (CCA) Compliance	AF Source Publication(s): AFMAN 17-1402, <i>Air Force Clinger-Cohen Act (CCA) Compliance Guide</i>
Applicability: All AF programs containing IT, regardless of ACAT	When Required: Prior to all MSs and contract awards IAW DoDI 5000.02.
Information: CCA compliance and reporting applies to the acquisition, management, operation, and closure of all AF 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.	
(C) Title: Information Technology Systems Registration	AF Source Publication(s): AFI 17-110, <i>Information Technology Portfolio Management and IT Investment</i>
Applicability: All IT and NSS	When Required: As early as possible but no later than MS A.
Information: Enterprise Information Technology Data Repository (EITDR), or the authoritative system designated in AFI 17-110, is an AF IT data repository used to collect IT system information at the AF level for both internal compliance and reporting to DoD and OSD. Note: SAP and SCI programs are not authorized in EITDR; SAP programs contact SAF/AAZ and SCI programs follow IC Directive 503 for registration.	

(D) Title: Interoperability Certification for IT and NSS	AF Source Publication(s): AFGM2015-33-03, <i>Air Force Interoperability and Supportability of Information Technology and National Security Systems (IT/NSS)</i>
Applicability: Applicable to all IT, including NSS.	When Required: Testing completed before or during OT&E.
Information: Interoperability considerations will be documented in the Information Support Plan (ISP), and test requirements will be coordinated with the appropriate agency (CIO for AF, Joint Interoperability Test Command (JITC) for Joint requirements). Refer to DoDI 8330.01 and AFGM2015-33-03 for detailed guidance.	
(E) Title: AF IT Standards	AF Source Publication(s): AFI 17-140, <i>Air Force Architecting</i>
Applicability: Varied	When Required: System Design
Information: The PM ensures system development adheres to mandated IT standards outlined in the GTG-F (formerly known as Defense Information Technology Standards Registry [DISR]), AF unique standards in the Information Technology Reference Model (i-TRM). The PM also ensures technical and security compliance with all relevant DISA Security Technical Implementation Guides (STIG).	
(F) Title: Privacy	AF Source Publication(s): AFI 33-332, <i>Air Force Privacy and Civil Liberties Program</i>
Applicability: Systems that maintain, use, store, and/or disseminate PII	When Required: Must be compliant prior to deployment of the system
Information: Ensure privacy controls are implemented to protect personally identifiable information (PII) and other privacy related information	
(G) Title: Records Management	AF Source Publication(s): AFMAN 33-363, <i>Management of Records</i>
Applicability: All programs creating and receiving records	When Required: Must be compliant prior to deployment of the system
Information: Electronic records (e-records) or record data will 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 US of permanent records.	
(H) Title: IT Budget Reporting	AF Source Publication(s): AFI 17-110, <i>Information Technology Portfolio Management and IT Investment</i>
Applicability: All IT Investments	When Required: Continuous
Information: The PM supports the input of the AF IT Budget Reporting requirements by reporting in the designated AF IT data repository, EITDR, and SNaP-IT for CIRs (also referred to as Exhibit 300s or Major Information Technology (IT) Investment). The PM ensures the dollar amounts entered are approved budget positions, as reflected in the designated AF budget repository, not funding requirements. Note: Refer to OMB Circular A-11, Sec 55 – Information Technology Investments; and the <i>DoD Financial Management Regulation</i> 7000.14-R, Vol. 2B, <i>Budget Formulation and Presentation</i> , Chapter 18, <i>Information Technology</i> . SAF/CIO A6 provides specific AF guidance with its Budget Estimate Submission (BES) and PB Submission Guidance.	

(I) Title: NETCENTS Mandatory Use	AF Source Publication(s): AFMAN 17-1203, <i>Information Technology (IT) Asset Management (ITAM)</i>
Applicability: All AF units purchasing IT products and solutions	When Required: Contract Awards
Information: The PM, in coordination with their PCO, reviews the NETCENTS-2 contracts for applicability to determine if a requirement for a proposed IT acquisition is within the scope of the NETCENTS-2 contracts. If the applicability is unclear, the PM, in coordination with their PCO, will work with the NETCENTS-2 program office to determine the applicability of the NETCENTS-2 contract. For all acquisitions, the PM documents whether or not the program is using the NETCENTS-2 contract vehicle in the Strategy prior to any contractual action. If the program is not using NETCENTS-2 contract, the PM ensures the justification and rationale for not using the NETCENTS-2 contract vehicle is contained in the AS and signed by the MDA. If a requirement falls under the scope of the NETCENTS-2 contracts, the use of a non-NETCENTS-2 contract for such requirement may only be authorized by the MDA. Note: Refer to the NETCENTS-2 home page through the AF Portal for more information	
(J) Title: Risk Management Framework	AF Source Publication(s): AFI 17-101, <i>Risk Management Framework (RMF) for Air Force Information Technology (IT)</i>
Applicability: All IT Investments	When Required: Prior to test and/or operation
Information: The PM provides required cybersecurity documentation to the AO and obtains an IATT or ATO from the AO before the system under development is connected to any external network for test or operations.	
(K) Title: Cloud Computing	AF Source Publication(s): AFI 17-100, <i>Air Force Information Technology (IT) Service Management</i>
Applicability: IT Investments	When Required: System Design
Information: Program managers will ensure that cloud computing technical requirements for their acquisition programs are in compliance with the DoD Enterprise Cloud Environment. Note: PEO C3I&N will act as a technical center to ensure that an application meets the technical requirements to move to a cloud. PEO C3I&N will assist AF acquisition programs to define requirements and capabilities that can be implemented utilizing DoD approved cloud offerings.	
(L) Title: Common Computing Environments (CCE)	AF Source Publication(s): AFI 17-100, <i>Air Force Information Technology (IT) Service Management</i>
Applicability: All new and modernizing (changing configuration baseline) IT investments	When Required: System Design
Information: Leverage enterprise services and existing infrastructures in order to identify technical requirements for the materiel solution. Note: The CCE is provisioned by the PEO C3I&N Managed Services Office (MSO). The MSO has established a set of baseline-driven platform and infrastructure services in both physical and virtual hosting environments.	
(M) Title: Architecture	AF Source Publication(s): AFI 17-140, <i>Air Force Architecting</i>

Applicability: All processes, services, systems, and procedures in support of decision making, transformation, and governance	When Required: System Design
Information: Program architectures are those architectures which reflect the programs, systems and or services which provide IT support to the Domains and Service Core Functions. These architectures are developed and managed by various AF organizations.	
(N) Title: Information Support Plan	AF Source Publication(s): AFGM2015-33-03, <i>Air Force Interoperability and Supportability of Information Technology and National Security Systems (IT/NSS)</i>
Applicability: 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)	When Required: MS Decisions per DoDI 5000.02
Information: The Information Support Plan is a technical document required by DoDI 5000.02 and DoDI 8330.01 that provides a means to identify and resolve potential information support implementation issues and risks that, if not properly managed, will limit or restrict the ability of a program to be operationally employed to support existing and future mission requirements. It is an authoritative document that directly informs the program's TEMP with threshold and objective operations parameters, and it is a key vehicle that supports validation of a program's eligibility for interoperability certification.	
(O) Title: Air Force Cyber Intrusion Damage Assessment	AF Source Publication(s): AFI 17-130, <i>Air Force Cybersecurity Program Management</i>
Applicability: All AF functional authorities and MAJCOMs	When Required: At the request of the Air Force Senior Information Security Officer
Information: Provide appropriate programmatic and technical SMEs, to work with intelligence analysts, operations SMEs and cyber forces, as part of IPTs to assess compromised DoD information resulting from cyber intrusions to defense contractor networks. Air Force Damage Assessment Management Office (AF DAMO) personnel assist the IPT in the damage assessment process. Damage assessment reports are drafted for each case and disseminated to the appropriate AF program offices, agencies, and stakeholders for review and possible mitigation actions. Within 30 days of the damage assessment report, the PM should provide the PEO a written response to the damage findings along with proposed countermeasures and/or revised mitigation strategies that nullify the advantages gained by an adversary from the documented information, or propose acceptance of the threat risk and rationale.	

Chapter 9

MODIFICATION MANAGEMENT

9.1. Modification Management Overview. Modifications are changes to hardware or software to satisfy an operational mission requirement by removing or adding a capability or function, enhancing technical performance or suitability, or changing the form, fit, function, and interface (F3I) of an in-service, configuration-managed AF asset. Modifications can retain existing capability, extend service life, correct product quality deficiencies, or retain/restore the functional baseline or performance specification. Modifications may improve the operational availability of the item, transform or modernize defense business systems, or reduce ownership costs. This chapter applies to weapon systems or other designated systems, subsystems, and items requiring additional configuration control.

9.1.1. All modification activities in continued materiel support of a weapon system shall be assigned to a PM or 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. The PM has overall management authority and accountability to accomplish the development, test and evaluation, production, and sustainment objectives for a given modification activity and coordinate planning, programming, budgeting, and execution of the modification.

9.1.2. The PM ensures temporary modifications will be removed from the host system or component at the end of the modification period specified unless converted into a permanent modification.

9.1.3. Modification requirements are documented, reviewed, and approved using an AF Form 1067 or appropriate JCIDS documentation as described in applicable 10-series AFIs. The AF Form 1067 (also referred to as the modification proposal) is validated by the Lead/Using Command(s) and approved by the assigned PM. It is the source for the technical requirements baseline. For modifications involving an engineering change proposal (ECP), use the technical description of the engineering change(s) contained in the ECP for developing the technical requirements baseline.

9.1.4. The PM ensures data required for temporary modifications is developed and acquired commensurate with the modification scope, duration, and employment. The PM documents data requirements for temporary modifications in the modification proposal. For more information, refer to MIL-HDBK-61A.

9.2. AF Form 1067 Applicability. The AF Form 1067 is the document normally used to initiate temporary modifications and permanent sustainment modifications for fielded systems and equipment. An AF Form 1067 can also be used to document the submission, review, and approval of requirements for permanent capability modifications estimated to cost no more than ten percent of the minimum threshold dollar values for ACAT II programs. The AF Form 1067 provides a means to track modification proposals through the approval/funding process, and to initiate actions to maintain configuration control of items affected by the modification, even though the capability is described in a previously approved capability requirements document. The form provides a means for the system or commodity manager with configuration control over the affected asset(s) to document the technical parameters associated with the modification,

such as systems engineering requirements and recommendations, impacts to logistics support elements associated with the asset(s), and the type and amount of funding necessary to accomplish the modification.

9.2.1. Urgent Capability Acquisition modifications processing is described in DoDI 5000.02 and applicable 10-series AFIs. A streamlined AF Form 1067 is generated and processed to summarize the modification requirement, to document the technical parameters necessary to satisfy the urgent need, and to initiate the modification management processes. Other modification proposal documents, such as airworthiness directives produced by the FAA and Service Bulletins developed by defense industry manufacturers, may fulfill modification proposal documentation requirements and be attached to the AF Form 1067 for recording required reviews and approvals.

9.2.2. Lead, Using, and Implementing Commands may develop standard processes for subordinate units to develop, submit and validate AF Form 1067s that meet the intent of this instruction. For example, attaching a SEEK EAGLE request (SER), per AFI 63-104, can fulfill or supplement sections of the AF Form 1067.

9.2.3. AF Form 1067 may be used to initiate/establish modification requirement(s) for temporary modifications or permanent capability modifications estimated to cost no more than ten percent of the minimum threshold dollar values for ACAT II programs, as described in DoDI 5000.02. Consult applicable 10-series AFIs or AF/A5R Requirements Development Guidebook for detailed information on the AF requirements generation, JCIDS document preparation, and approval processes.

9.2.3.1. The requesting organization will be advised to complete a formal JCIDS document to establish the user's requirement(s) for permanent modifications upon determination at any point of the AF Form 1067 review/certification process that the requirement exceeds thresholds defined in applicable 10-series AFIs.

9.2.3.2. An existing JCIDS or AF Form 1067 capability document for a temporary modification can be used as justification to transition to a permanent modification; however, for long-term sustainment planning, a new AF Form 1067 for the permanent modification must be approved.

9.3. Modification Types.

9.3.1. There are two primary types of modifications, temporary and permanent. Refer to AFI 10-601, the *AF/A5R Requirements Development Guidebook*, and **Attachment 2, Modification Proposal Process**, in this instruction for guidance on the use of AF Form 1067, and for assistance defining, validating, and approving modification requirements.

9.3.2. Temporary Modifications. Temporary modifications change the configuration of an item to enable short-term operational mission accomplishment, or to conduct T&E of new and modified equipment. Temporary modification proposals are validated, reviewed, approved as described in AFI 10-601 and this instruction. Refer to AFI 65-601, Vol. 1 for AF policy on funding. There are two kinds of temporary modifications: Temporary-1 (T-1) and Temporary-2 (T-2).

9.3.2.1. Temporary modifications are managed using temporary modification baselines and additional supporting documentation attached to the modification proposal for review, approval, and potential future transition to a permanent modification.

9.3.2.2. T-1 temporary modifications change the configuration of an item in order to satisfy short-term operational mission requirements by adding, modifying, or removing hardware and/or software components or capabilities in a manner that provides an immediate operational benefit. T-1 modifications typically involve the use of existing off-the-shelf or non-developmental items, including stock-listed equipment and materiel. The T-1 modification proposal specifies the number of units to be modified, duration of installed T-1 modification, and plans for removing the modification converting it to a permanent modification.

9.3.2.2.1. T-1 modifications shall not be used to circumvent the requirements associated with permanent modifications, as prescribed in this instruction, or the lack of appropriate modification funding.

9.3.2.2.2. T-1 modifications are normally accomplished and supported locally by a MAJCOM or base-level operational unit. Depending on complexity, accomplishment and support may be provided with partial or full depot support. In such cases, the Lead/Using Command is responsible for funding the depot requirements.

9.3.2.2.3. The PM shall ensure all T-1 modifications do not compromise system capability and performance. This includes the PM conducting test, in conjunction with the appropriate Lead Command test organization, to ensure previously approved operational safety, suitability, and effectiveness of a T-1 modified asset is not compromised.

9.3.2.2.4. T-1 modification proposals are approved by the PM, Lead Command certification/approval authority, and/or AF/A5R as specified in applicable 10-series AFIs or the *AF/A5R Requirements Development Guidebook*. Requests must include clear and compelling evidence that shows why the temporary modification is needed to support mission requirements. The request should be coordinated through the Lead Command (as identified by AFPD 10-9), to the PM within AFMC, AFSPC or AF/A5R as applicable. T-1 modifications to AFRC or ANG systems, or if the system uses NGREA funding, will be coordinated through AFRC or ANG, and Using Command before PM approval. T-1 modifications with duration of greater than 1 year must be supported by clear and compelling justification/rationale to exceed 1 year. Note: All existing T-1s submitted under the 5-asset/1 year rule of the July 2001 version of AFI 63-1101(superseded) submit a new modification proposal (AF Form 1067) in lieu of a waiver.

9.3.2.2.5. T-1 modifications are not authorized permanent logistics support such as peculiar support equipment and sustaining engineering support. However, minimum essential logistics support, including verified technical data or interim contractor support, essential for the temporary operation and sustainment of the modification in its designated mission environment will be provided, consistent with weapon system support concepts and/or product support strategies. The Lead Command determines these minimum essential logistics support requirements in coordination with the PM.

- 9.3.2.2.6. T-1 modifications may be used to satisfy Urgent Capability Acquisition programs in the Year of Execution.
- 9.3.2.2.7. All T-1 modifications will be removed from the host system or component at the end of the modification period specified on the approved AF Form 1067. If a new AF Form 1067 or other equivalent requirements documentation as described in AFI 10-601 is approved to replace the T-1 with a permanent modification in lieu of removal, use acquisition policy, procedures, processes, and funding guidance described in this instruction for converting to a permanent modification. The Lead Command will provide the PM with the new approved AF Form 1067 to use in updating the LCSP to ensure permanent life cycle management issues such as supportability are addressed.
- 9.3.2.2.8. Organizations requesting to extend the installation of a T-1 modification beyond the currently approved quantity or time period will prepare and submit a new modification proposal.
- 9.3.2.2.9. T-1 modifications will be removed prior to host weapon system/component input for PDM unless otherwise coordinated between the Lead command/Using organization and the depot maintenance activity. In the rare situation where a T-1 modification is not removed prior to PDM, the Lead Command/Using organization coordinate with the performing depot maintenance organization to ensure the T-1 modification does not interfere with scheduled maintenance activities and that maintenance activities do not alter the installed T-1 modification.
- 9.3.2.2.10. T-1 modification includes the inherent authority to install developmental components of the modification, conduct testing for the purposes of engineering investigations, and evaluate the modification to ensure the configuration satisfies the T-1 requirement and preserves the technical baseline.
- 9.3.2.2.11. T-1 modified assets must be capable of being returned to their original or currently approved permanent configuration within a time period specified by the lead command (typically 48 hours) and documented in AF Form 1067.
- 9.3.2.2.12. T-1 modification proposals will describe any demilitarization and disposition of components when removed.
- 9.3.2.3. T-2 Temporary Modifications. T-2 modifications are used to evaluate, demonstrate, or exercise the technical performance, effectiveness, and/or the suitability of developmental and/or test materiel (hardware, firmware and software) capabilities. T-2 modifications are also used to install and operate T&E-specific support equipment, Instrumentation and data recording equipment, telemetry systems, etc., on T&E assets. T-2 modifications may be used in support of all forms of T&E activity, including developmental test and evaluation, operational test and evaluation, and Lead/Using Command-conducted force development evaluation activities. An AF Form 1067 is required for T-2 mods. T-2 modifications to AFRC or ANG systems, or if the system uses NGREA funding, will be coordinated through AFRC or ANG, and Using Command before PM approval. If applicable, document how aircraft airworthiness assessment and release will be addressed for the T-2 modification. Information on testing and evaluating systems can be found in AFI 99-103.

9.3.2.3.1. The PM, the Lead Command, and designated test agencies will collaboratively determine the number of assets requiring T-2 modification based on the scope, complexity, and length of T&E activities. They will collaboratively determine the organizational roles, responsibilities, and procedures for the configuration management, installation, operation, sustainment, and funding requirements for each T-2 modifications.

9.3.2.3.2. The PM, Lead Command, and test organization may create a single T-2 modification proposal that covers a specified period of time or series of integrated test activities for the purpose of conducting incremental hardware and software T&E, or to identify a range of test support equipment that may be installed in support of T&E activities. In this case, the T-2 modification proposal enables the PM, Lead Command, and test organization to install and remove developmental and/or test materiel (hardware, firmware, and software), or specific pieces of test support equipment on designated test assets without the need for repeated configuration management reviews and approvals. It also allows for testing of current aircraft stores used in a new configuration or on different platforms. In all these cases, the PM, Lead Command, and test agency should collaborate to maintain accurate and up-to-date configuration control of affected test assets, and to coordinate specific materiel installation requirements and activities.

9.3.2.3.3. T&E organizations and Lead Commands assist the PM to ensure safety and performance of T-2 modified assets, and to ensure T-2 modified assets are provided sufficient sustainment support as needed to complete directed T&E activities.

9.3.2.3.4. T-2 modifications are maintained on the test asset(s) for as long as necessary to complete T&E activities specified in approved test plans. The asset is then removed and returned to its original or current approved permanent configuration. Instrumentation data collection and other support equipment used for both current and future test data collection requirements are not normally removed after each test. Such T-2 modifications will be removed when no longer required. The T-2 modification approval authority authorizes retention or removal of instrumentation data collection and other support equipment on test assets during T-2 modification proposal review, validation, and approval processes.

9.3.2.3.5. T-2 modifications will normally be removed prior to host weapon system/component input for PDM unless otherwise coordinated between the Lead Command/using organization and the depot maintenance activity. In the rare situation where a T-2 modifications are not removed prior to PDM, the Lead Command/Using organization coordinate with the programmed depot maintenance activity in updating the work package to describe the T-2 modification and ensure it does not interfere with the programmed maintenance actions and that maintenance actions do not alter the installed T-2 modification.

9.3.2.3.6. A T-2 modification may be used to support T&E of proposed permanent configuration changes. Upon the conclusion of T&E activity, the Lead Command, in coordination with the PM, determines if the modification will be fielded. If fielded, the T-2 modification may remain in place upon completion of T&E activity while a permanent modification proposal is processed and implemented IAW the provisions

of this instruction. The T-2 modification will be upgraded to the approved permanent configuration as part of the permanent modification program.

9.3.3. Permanent Modifications. Permanent modifications change the configuration of an asset/software for effectiveness, suitability, survivability, service life extension, and/or reduce ownership costs of a fielded weapon system, subsystem, or item. Some permanent modifications are further designated as safety modifications.

9.3.3.1. Permanent modification efforts will comply with all program requirements commensurate with the respective program's ACAT level. The permanent modification baseline and additional documentation will be managed by being attached to the modification proposal for review and approval; then attached, or included with the appropriate existing acquisition program documentation.

9.3.3.2. Permanent modifications are used to satisfy requirements approved IAW AFI 10-601, and this instruction. An approved permanent modification includes the inherent authority to install developmental components of the modification on test assets for the purposes of conducting engineering investigations, developmental testing, and/or other evaluation of the modification. An approved permanent modification also includes the inherent authority to perform trial TCTO kit installations and TCTO verification activities on test assets in order to verify the installation procedures and sustainment elements associated with the modification prior to full-rate kit production and/or fleet-wide installation. A separate T-2 Modification Proposal is required when trial TCTO kit installs, proofing, and verification activities are performed on operational assets/combat coded aircraft instead of test assets/aircraft.

9.3.3.3. Permanent modifications are only accomplished in response to an approved AF Form 1067 or capability requirements document as described in AFI 10-601. The PM may initiate systems engineering tasks and preliminary design activities in anticipation of approved modification documentation, but must consider the technical complexity and maturity of the stated need, along with programmatic risk, when preparing modification program strategies and plans. In such cases, the PM will limit expenditures to the modification financing allowed by AFI 65-601, Vol. 1 while the requirement is undergoing coordination and approval. The modification requirement must be fully documented in an approved modification proposal/capability requirements document prior to starting the modification, usually at program initiation for modifications managed as an acquisition category program. Permanent modifications funded with investment dollars are ACAT programs which fall under the ILCM chain of authority.

9.3.3.4. Normally, permanent modifications will be installed across the entire inventory of the host weapon system or product line. However, when necessary to support operational mission requirements, permanent modifications may be installed on a subset of the host weapon system or product line inventory with the approval of the lead command, applicable PM, and AF/A5R as described in AFI 10-601 and this instruction.

9.3.3.5. Permanent modifications may be conducted in discrete installation segments (e.g., "Group A" and "Group B" TCTO kit segments) when necessary to support operational mission or deployment requirements or to manage the host weapon system or product line inventory in a cost effective manner. In this case, the content of each modification segment must be approved by the Lead Command and the applicable PM.

Full funding policy requires that all TCTO kit segments be procured with a single year appropriation to field an increment of capability.

9.3.3.6. Permanent modifications will be provided full logistics support (e.g., spares, support equipment, technical data, IUID, serialized item management, etc.) commensurate with the host system or component maintenance concept and product support strategy/plans. See sustainment planning requirements in this instruction.

9.3.3.7. When considering modification proposals, approval authorities should seek the most cost effective solution over the system's life cycle and determine availability, suitability, and supportability of considered and selected solutions.

9.3.4. Safety Modifications. Safety modifications are permanent modifications that correct materiel or other deficiencies which could endanger the safety or health of personnel, cause the loss of, or extensive damage to, systems or equipment, or irreversible significant environmental impact. Safety modifications are also conducted to correct materiel deficiencies which caused a Class A mishap, per the provisions of AFI 91-204, *Safety Investigations and Reports*.

9.3.4.1. Whether directly associated with a Class A mishap or not, permanent modification proposals designated as safety modifications shall meet the following criteria:

9.3.4.1.1. The underlying deficiency has been determined by the PM to be a "High risk" as defined in MIL-STD-882E of causing a mishap.

9.3.4.1.2. The PM has performed a risk analysis to determine the proposed modification is technically feasible, operationally effective, and sustainable.

9.3.4.1.3. The Chief of AF Safety concurrence with the lead command's designation as a safety modification.

9.3.4.2. Safety modifications will be given priority for funding and implementation over all other pending modifications.

9.3.4.3. Safety modifications will be accomplished IAW with the provisions of this instruction; however, the PM may deviate from the provisions of this chapter when necessary to prevent loss of life or minimize risk to personnel. With the prior coordination of the Lead Command, the PM may issue interim procedures or operating restrictions as necessary prior to implementing a safety modification. Note: Aircraft grounding can only occur IAW [Chapter 4](#).

9.3.4.4. Safety modifications which implement FAA-issued airworthiness directives and Service Bulletins will comply with AFD 62-6 and AFI 62-601. Modifications which implement FAA-issued airworthiness directives and Service Bulletins will receive priority for funding and implementation when such modifications are necessary to preserve FAA certification and comply with Federal Aviation Regulations and standards

9.4. Modifications to Assets Planned for Retirement (or Sunset Provisions). IAW 10 U.S.C §2244a, Equipment Scheduled For Retirement or Disposal: Limitation On Expenditures For Modifications, modifications to any aircraft (i.e., a given tail number), weapon, or other item of equipment that the SECAF plans to retire or otherwise dispose of within five years after the date

on which the modification would be completed, are prohibited. Exceptions to this prohibition include modifications which:

9.4.1. Cost less than \$100,000 per modification as described in the prohibition (any aircraft [i.e., a given tail number], weapon, or other item of equipment such as a space system).

9.4.2. Have reusable items of value installed as part of the modification that will, upon the retirement or disposal of the modified item, be removed from that item, refurbished, and installed on another piece of equipment, and the cost of this modification, including the cost of removal and refurbishment of reusable items of value, is less than \$1 million.

9.4.3. Are designated as safety modifications.

9.4.4. 10 U.S.C. §2244a grants authority to the SECAF to waive the prohibition when the SECAF has determined the modification to be in the national security interest of the US, and has so notified the Congressional Defense Committees in writing.

9.5. Additional Modification Requirements. In addition to the general modification program requirements prescribed in this AFI, modification activities involving certain types of materiel may impose additional management requirements on the using/lead command and PM.

9.5.1. Modifications in response to validated Urgent Capability Acquisition requirements (JUONs, JEONs, UONs, or top-down directed QRCs) will be streamlined. For Urgent Capability Acquisition program modifications, modify the minimum number of systems needed for testing and in-theater operations, and implement as line-replaceable “Group B” modification kits to the maximum extent possible. Note: the Urgent Capability Acquisition ADM fulfills AF Form 1067 parts I, II, III and V; Part IV is accomplished by the PM. In conjunction with the 1067, the validated QRC requirements document will be used for configuration control and to manage installation and removal of Urgent Capability Acquisition program modifications pending a Capability Transition Decision (CTD) that will determine whether to return the system or subsystem item to its original configuration or implement an enduring capability. See [Attachment 2](#) for more information.

9.5.2. Modifications to aircraft shall comply with the airworthiness certification requirements in AFPD 62-6 and AFI 62-601.

9.5.3. A SER is used to establish aircraft-stores configuration certification requirements for aircraft stores configuration, flight clearance, TO, or other SEEK EAGLE data as described in AFI 63-104.

9.5.3.1. Modifications involving non-nuclear munitions and their associated support and training equipment must be certified IAW AFI 91-205, *Non-Nuclear Munitions Safety Board*. Modifications involving nuclear munitions and their associated support and training equipment must be certified IAW AFI 91-103.

9.5.3.2. Modifications involving directed energy weapons must comply with AFI 91-401, *Directed Energy Weapons Safety*.

9.5.3.3. A SER does not replace AF Form 1067 and is not used to validate requirements for modification of aircraft or stores, but may be used to supplement an AF Form 1067.

9.5.4. Modifications to nuclear certified equipment or items shall also meet the requirements in AFI 91-103 and AFI 63-125.

9.5.5. Modifications to devices which transmit electromagnetic energy must include appropriate spectrum certifications required by DoDI 4650.01, *Policy and Procedure for the Management and Use of the Electromagnetic Spectrum*, AFI 17-220, *Spectrum Management*, MIL-STD-464, *Electromagnetic Environmental Effects*, and MIL-STD-461, *Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment*.

9.5.5.1. Consult AFI 17-220, *Spectrum Management*, for specific guidance related to the certification of RF dependent devices and applicable certification of modified spectrum dependent systems for worldwide DoD use.

9.5.5.2. Radio modification efforts will comply with additional OSD policy requirements.

9.5.5.3. Modifications to Electronic Warfare Integrated Reprogramming (EWIR) Equipment will comply with AFI 10-703, *Electronic Warfare Integrated Reprogramming*. EWIR equipment is used to make changes to operational electronic warfare hardware and software systems, threat simulators and emitters, aircrew training devices, and other related support systems.

9.5.6. Modifications to defense communications system equipment, such as the Defense Switching Network and defense communications satellite terminals will be initiated, approved, and conducted in coordination with DISA, which designates DoD communications equipment as defense communications systems configuration items (DCSCI). DISA participates in configuration control processes and boards for DCSCI modifications executed by the AF.

9.5.7. Modifications to intelligence and information systems and networks may have other requirements for modification programs (e.g., interoperability, certification and accreditation, cybersecurity, spectrum management) to consider.

9.5.8. Modifications to SE/ATS systems will comply with guidance contained in this instruction. Additionally, modifications which affect the form, fit, function, or interface of support equipment/automatic test systems with supported weapon system, sub system, or item will be coordinated with the designated support equipment PG for common SE/ATS, or the PM for unique SE/ATS.

9.5.9. Modifications involving materiel subject to serialized item management (SIM) will comply with DoD and AF policies which require AF materiel to be equipped with standardized, machine-readable markings that provide globally unique and unambiguous identification of individual assets. Modifications to AF materiel that are so marked must comply with SIM policy provisions contained in DoDI 8320.03, *Unique Identification (UID) Standards for a Net-Centric Department of Defense*, DoDI 8320.04, DoDI 4151.19, and this instruction. The PM shall ensure all modification activities are conducted in compliance with DFARS 211.274, *Item Identification and Valuation Requirements*, DFARS 252.211-7003, *Item Identification and Valuation*, DFARS 252.211-7007, *Reporting of Government-Furnished Property*, and MIL-STD-130N, *Identification Marking of U.S. Military Property*.

9.5.10. Serialized item management (SIM) requirements such as IUID registration and marking will be considered for temporary modifications based on the long term strategy of

the modification. Assets used for temporary modification do not require IUID marking and registration the AF Form 1067 states the strategy is dispose of the assets at demodification.

9.5.11. Modifications to AF Aircrew and Maintenance Training Device will comply with guidance contained in AFI 36-2251, *Management of Air Force Training Systems*. Additionally, modifications to prime systems which affect corresponding training equipment must be coordinated with the appropriate training device PM as part of the overall modification.

9.5.12. The provisions of this AFI are applicable to modifications involving AF materiel sustained via CLS contracts. The PM ensures CLS contracts include specific work requirements, terms, conditions, and deliverables necessary to satisfy the modification and configuration management requirements prescribed in this instruction.

9.5.13. All modifications (temporary or permanent) involving FMS or security assistance (SA) assets will be conducted IAW existing management arrangements between the US Government and the affected foreign government(s). In the event existing management agreements do not specifically or sufficiently address the modification of FMS/SA assets, the PM contacts the AF Security Assistance and Cooperation (AFSAC) Directorate to coordinate modification activities involving such assets. Modifications pursuant to International Armaments Cooperation Agreement (IACA) will be conducted as described in AFI 16-110, *US Air Force Participation in International Armaments Cooperation (IAC) Programs*.

9.5.14. Modifications to assets under the management purview of a Joint Program Office (JPO) are conducted IAW the designated lead service's modification management process/procedures, or as established in a memorandum of agreement (MOA).

9.5.15. Modifications to systems and equipment developed by the Missile Defense Agency and transferred to the AF will comply with Configuration management procedures established in an MOA between the AF and the Missile Defense Agency. If AF funds are used to implement modifications to an in-service Missile Defense Agency-developed system, apply the requirements of this instruction in addition to modification program management and/or configuration management agreements between the AF and the Missile Defense Agency.

9.5.16. Modifications to AF assets on loan to a non-AF agency (e.g., Defense Intelligence Agency, security assistance organizations, etc.) will be initiated, approved, and conducted IAW a MOA between the AF and the using agency. Modifications to AF-common assets that are initiated by a non-AF agency will be reviewed, validated, approved, and evaluated for AF-wide application by the lead command or commodity manager with overall management responsibility for the asset.

9.5.17. Technology demonstrations that require modification of an in-service AF asset in order to evaluate the capability or technology will be conducted IAW this instruction. The modifications necessary to conduct a testing demonstration will normally be approved and installed as T-2 modifications.

9.5.18. Modifications to aircraft and/or remotely piloted aircraft that create a change to standard flight manuals must comply with the modification flight manual guidance provided in AFI 11-215. Modification introduced changes include but are not limited to changes in the

cockpit and/or flight crew station, changes in aircraft and/or system operating limits, and changes to crew procedures.

9.6. Modification Fielding/Installation. Permanent modifications are generally installed on AF weapon systems and equipment using a time compliance TCTO prepared IAW this instruction and TO 00-5-15, *Air Force Time Compliance Technical Order Process*. Contractor-provided field Service Bulletins and FAA-issued airworthiness directives and Service Bulletins may also prescribe specific modification installation procedures and requirements. Temporary modifications are generally installed using a technical/engineering data package that describes the system/component engineering changes and outlines the component modification instructions to be accomplished. This data package must be approved by the applicable system/component PM prior to installation. The PM, Lead Command, and test agency coordinate as necessary to define specific technical/engineering data package requirements.

9.6.1. The PM coordinates modification installation requirements and timelines with the Lead Command and all affected organizations, including PSPs. The PM ensures modification installation activities do not begin until the Lead and Using Commands have identified and resolved any fielding issues associated with the modification. Additionally, the PM ensures sufficient time is provided to develop and field any infrastructure or other product support requirements that will be necessary to operate and sustain the modification once it is fielded.

9.6.2. Temporary and permanent modifications may be installed at base level by organic unit/MAJCOM personnel that initiated the modification proposal, by PM and organic field teams, and by contractor logistics support personnel, or a combination thereof. Modifications may also be conducted in conjunction with depot maintenance activities, at contractor facilities, or a combination thereof.

9.6.3. Upon receipt of the approved modification proposal document from the Lead Command, the PM coordinates the modification installation schedule with all affected organizations. Prior to trial kit installation, T&E activities, or field operation, the CE, in support of the PM, ensures that any requisite certifications that accompany the modification are in place, such as safety of flight releases or airworthiness or nuclear certifications. All modification installation documents are approved by the PM.

9.6.4. The PM ensures all modifications include a plan for product support and logistics requirements as described in this instruction and AFPAM 63-128 to ensure the modification is sustainable for the duration of its intended life cycle. Generally, this involves updating the existing weapon system LCSP to reflect modification requirements in terms of all applicable integrated product support elements. For temporary modifications, the PM collaborates with Lead/Using Command(s) and participating test organizations to determine the minimal support requirements and responsibilities necessary to accomplish, operate and maintain the modification during its limited installation lifespan.

9.7. Modification Close-out. Proper disposal will be ensured for modification kits that become excess. For configuration control and management purposes, a complete copy of the modification package will be maintained IAW AFI 33-364, *Records Disposition Procedures and Responsibilities* and the AF Records Disposition Schedule.

9.7.1. All temporary modifications will close out when they are replaced by permanent modifications or removed from the host system or component as specified in the approved AF Form 1067.

9.7.2. When a TCTO is or will be rescinded, and there are excess kits, the PM verifies that all affected systems/items/equipment spares have been modified and provide supply chain managers with disassemble/disposition instructions for the excess kits per AFI 23-101.

9.7.3. Technical data, which exists prior to the modification, must be retained until all affected systems/items/equipment have been modified. When the last asset has been modified, all pre-existing data must be updated by formal changes or revisions to technical data/manuals, thus ensuring the current configuration is reflected.

9.7.4. When the modification has been completed, shipping or disposition instructions for GFP must be provided. The PM is notified when modification kit installation has been completed and the TCTO has been rescinded.

9.7.5. Unsuccessful completion of the modification must also be documented including the reason for termination and any plan to recover assets.

9.8. Modification Management Reporting. See [Chapter 11](#) for more information.

Chapter 10

ACQUISITION WORKFORCE MANAGEMENT AND PROFESSIONAL DEVELOPMENT

10.1. 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**, Pub. L. 101-510, codified at 10 U.S.C. §1701-1764, along with DoDD 5000.52 and DoDI 5000.66, 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.

10.2. 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 are designated by acquisition coding in the manpower and personnel systems of record.

10.3. Responsibilities and Authorities. SAF/AQ establishes policy and provides Service oversight for acquisition workforce management and professional development, and IAW DoDD 5000.52, is responsible for implementing the AT&L Workforce Education, Training and Career Development Program in the AF on behalf of the SECAF.

10.3.1. AF Director, Acquisition Career Management (DACM). The DACM is designated by SAF/AQ with authority to assist the SAE with oversight and execution of acquisition workforce responsibilities. Responsibilities of the DACM include:

10.3.1.1. Developing, implementing, and overseeing policies and procedures for the AF Acquisition Professional Development Program (APDP).

10.3.1.2. 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.

10.3.1.3. Managing training matters associated with DAWIA implementation, including DAU course quotas.

10.3.1.4. Managing the AF share of the Defense Acquisition Workforce Development Fund.

10.3.1.5. Establishing programs to provide career development opportunities for the acquisition workforce IAW DAWIA, associated regulations, and AF acquisition workforce human capital strategic planning objectives.

10.3.1.6. 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.

10.3.2. Functional Managers. HAF Functional Managers, appointed IAW AFI 36-2640, 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.

10.3.3. 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.

10.3.4. 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, a program management agreement, and all statutory requirements. Supervisors 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.

10.3.5. Individuals Assigned to Acquisition Positions. Individuals assigned to acquisition-coded positions need to meet all APDP requirements including statutory and/or assignment-specific training/education, certification, tenure, and professional currency/continuous learning standards.

10.4. Acquisition Workforce Management. SAF/AQ establishes 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.

10.4.1. Human Capital Strategic Planning (HCSP). The DACM office, in coordination with Functional Managers, develops, reviews, and coordinates 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.

10.4.2. Review of Performance Appraisals.

10.4.2.1. Military Performance Evaluations. IAW AFI 36-2406, an opportunity is 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.

10.4.2.2. 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.

10.4.2.3. Contracting Career Field Evaluations. First level evaluation of individuals on contracting coded positions is performed within the Contracting career chain. The only exception is 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 SCO in charge of contracting for the organization as MAJCOM or DRU Senior Contracting Officials, Senior Center Contracting Officials, and operational contracting squadron commanders.

10.5. AF Acquisition Professional Development Program (APDP). The APDP is designed and managed to facilitate the development, credentialing, 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”).

10.5.1. Designating Acquisition Positions. If the duties of a position (regardless of series) are predominantly acquisition functions as defined by DoDD 5000.01, DoDI 4205.01, *DoD Small Business Programs (SBP)*, DoDI 5000.02, and DoDI 5000.66 then the position falls under the requirements of this AFI and is coded as an acquisition position IAW detailed APDP guidance. In addition to Active Duty (AD) and permanent civilians, Active Guard and Reserve (AGR) and civilian over hires are designated as acquisition positions. Non-AGR military guard and reserve positions may not be coded as acquisition positions.

10.5.1.1. APDP position coding relates functional coding to the civilian occupational (OCC) series or the military AF Specialty Code (AFSC) as outlined in detailed APDP guidance.

10.5.1.2. APDP position coding identifies required certification levels based on authorized position grade/rank/pay band as defined in detailed APDP guidance.

10.5.1.3. Developmental Positions, as defined in detailed APDP guidance, are 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.

10.5.1.4. All civilian 1101 positions with predominantly (>50%) life cycle management duties are coded Program Management.

10.5.1.5. All 63XX positions are considered acquisition positions and are coded IAW detailed APDP guidance.

10.5.1.6. All civilian 1102 and all AD and AGR military 64XX and 6C0X1 positions are considered acquisition positions and are only coded Contracting.

10.5.1.7. All civilian 1103 positions are considered acquisition positions and are coded Industrial Property Management.

10.5.1.8. All civilian 1105 positions are considered acquisition positions and are coded Purchasing.

10.5.2. IAW DoDI 5000.66, certain senior level acquisition-coded positions are 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 require CAP designation include:

10.5.2.1. General Schedule (GS)-15 (or equivalent), O-6, and higher grade acquisition-coded positions.

10.5.2.2. Senior Materiel Leader positions of acquisition organizations directly responsible for ACAT I, IA, and II programs are coded Program Management Level III and require completion of the training statutorily required for ACAT I, IA, and II PMs.

10.5.2.3. The following positions that are a subset of GS-14 (or equivalent), and O-5 acquisition-coded positions:

10.5.2.3.1. All acquisition-coded Materiel Leader positions.

10.5.2.3.2. Civilian 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.

10.5.2.3.3. Military 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 require officers graded at the O-5 level or above, such as O-5 Materiel Leader positions that are filled by a board process, or program office O-5 positions that require an O-5 officer fill. O-5 positions that are routinely filled by an officer of lower rank do not require CAP designation.

10.5.2.4. Further examples of positions that should be coded CAP can be found in the detailed APDP guidance.

10.5.2.5. O-4/GS-13 (or equivalent)/or lower grade positions are not coded as CAPs.

10.5.2.6. All CAPs are coded Level III.

10.5.2.7. Individuals assigned to CAPs shall be Acquisition Corps members (refer to section 10.5.6) and shall meet AF eligibility standards as outlined in detailed APDP guidance.

10.5.2.8. Individuals assigned to CAP positions incur a three-year tenure.

10.5.2.8.1. Civilians: DD Form 2888 is used to document the CAP tenure agreement. Individuals sign DD Form 2888 (Block 6a) to capture tenure agreement and document in Defense Civilian Personnel Data System (DCPDS). Approving Official on DD Form 2888 (Block 6c) is the hiring official.

10.5.2.8.2. Military: Assignment Availability Code (AAC) 59 is updated for the required tenure outlined in AFI 36-2110; therefore a DD Form 2888 is not required.

10.5.2.8.3. Tenure periods for ACAT I and IA Program Managers are applied based on two distinct periods, Program Definition and Program Execution. A single PM will need to be assigned for each of these periods unless the PM is removed for cause or for exceptional circumstances (e.g. period longer than appropriate for a single person).

10.5.2.8.4. Program Definition period – The tenure for ACAT I or IA PM will begin at an “initiation” point that falls between AoA and 6 months prior to RFP Release Decision Point (will vary by program) and will end at MS B.

10.5.2.8.5. Program Execution period – The tenure for ACAT I or IA PM will begin following MS B approval and will run until IOC

10.5.3. Key Leadership Positions (KLPs). A subset of CAPs that require SAE oversight of position qualification requirements and tenure are designated KLPs. KLPs are determined and designated by the SAE. Further guidance on KLPs is outlined in AFI 36-1301 and detailed APDP guidance.

10.5.3.1. Civilian: DD Form 2889 is used to document the KLP tenure agreement. Individuals 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.

10.5.3.2. Military: Assignment Availability Code (AAC) 59 is updated for the required tenure as outlined in AFI 36-2110, and an AF Form 63, Active Duty Service Commitment Acknowledgement, is completed to cover the tenure period (AFI 36-2107, Table 1-1), DD Form 2889 not required.

10.5.3.3. Assignment Availability Code (AAC) 59 and Active Duty Service Commitment (ADSC) are 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.

10.5.4. Certification. IAW DoDI 5000.66, ensure individuals assigned to acquisition positions meet all position certification requirements. The DACM uses an online certification tool to execute the certification process. Acquisition workforce members 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.

10.5.4.1. 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 IAW DoD policy. Certifying Officials are accountable for ensuring current functional area education, training, and experience standards are met for certification. The DACM issues criteria for Certifying Officials. Refer to the detailed APDP guidance for further information.

10.5.4.1.1. 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):

10.5.4.1.1.1. HAF Functional Managers.

10.5.4.1.1.2. MAJCOM Headquarters.

10.5.4.1.1.3. Others as identified in detailed APDP guidance.

10.5.4.1.2. As delegated by the DACM, certification authority remains with the HAF Functional Manager for AF personnel assigned to DRUs, FOAs, Unified Commands, DoD Agencies, and other Components.

10.5.4.1.3. As delegated by the DACM, HAF Functional Managers are the Certifying Official for GO and SES members who meet functional category acquisition certification requirements. This authority may not be re-delegated.

10.5.4.2. 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.

10.5.5. Professional Currency.

10.5.5.1. Individuals assigned to acquisition-coded positions 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.

10.5.5.2. 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 are not eligible for acquisition Civilian Strategic Leader Program positions. In addition, individuals require CL currency to compete for special acquisition career development programs or AF acquisition awards unless a waiver is granted. For more details, refer to the detailed APDP guidance.

10.5.5.3. 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.

10.5.5.4. Guard and reserve personnel possessing an acquisition AFSC may enroll in DAU courses for professional development including all DAU courses required for DAWIA Level 1, 2, or 3 certifications.

10.5.6. Defense Acquisition Corps. The Acquisition Corps is a pool of highly qualified members of the Acquisition Workforce from which CAPs are filled.

10.5.6.1. 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.

10.5.6.2. Ensure new entrants to the Acquisition Corps meet all Acquisition Corps requirements and are a Lt Col (select), GS-14 (or equivalent), or above.

10.5.6.3. Acquisition professionals should 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 are disqualified and removed from, the Acquisition Corps.

10.5.6.4. Members of the Acquisition Corps are expected to have recent acquisition experience and retainability. Members are 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 are removed from the Acquisition Corps.

10.5.7. 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 AF. Process waiver requests, coordination, and approval/disapproval via the AT&L Workforce Waiver Tool. Refer to detailed APDP guidance for further information.

10.5.7.1. A position requirements waiver does not confer certification or permanently obviate the acquisition related requirements of the position.

10.5.7.2. Membership in the Acquisition Corps cannot be granted via a waiver.

10.5.7.3. The SAE (or designated representative) must approve waivers from the approved tenure commitment for KLPs.

10.5.7.4. Delegation of Waiver Approval Authority.

10.5.7.4.1. The DACM office will receive KLP waiver requests from the field and coordinate Service Acquisition Executive disposition.

10.5.7.4.2. 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.

10.5.7.4.3. The DACM or Deputy DACM grants waivers for position and tenure requirements for all non-KLP CAPs.

10.5.7.4.4. The DACM may delegate waiver authority for non-CAP position requirements. Refer to detailed APDP guidance for further information.

10.5.7.4.5. The PEO, Deputy PEO, or Director 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 or directorate to another non-KLP CAP within the same PEO portfolio or directorate. This authority does not obviate the requirement for a tenure waiver for reassignment when a tenure agreement is in effect.

Chapter 11

REPORTING

11.1. Reporting Requirements. The reporting guidelines below are applicable to all investment activities. ACAT designated programs shall follow DoD 5000 series for DoD and Congressional reporting requirements.

11.2. Investment Fund Reporting.

11.2.1. Investment Fund Reporting. The PM, or equivalent, ensures all efforts with AF RDT&E 3600 (Budget Activity [BA] 1 through BA7) and Procurement (3010, 3011, 3020, 3021, and 3080) investment funds use the Comprehensive Cost and Requirement (CCaR) system to manage and execute program funds. Investment fund reporting is documented on the IML.

11.2.1.1. For investment funds, acquisition/PEO organizations use the CCaR system to manage and execute funds unless a waiver is granted from SAF/AQX.

11.2.1.2. 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 is reconciled and published to Executive CCaR to align with the MAR schedule.

11.2.1.3. CCaR use continues as long as investment dollar funding is available for execution.

11.2.1.4. Program Office must enter their approved and required budget across the FYDP. The approved budget is equal to the enacted appropriation adjusted for enacted rescissions and approved reprogramming.

11.2.2. All activities required to be listed on the IML are also required to enter basic program data into CCaR and Program Management Resource Tools (PMRT). The PM shall enter all mandatory data at initial entry onto the IML, through CCaR, and update prior to every major program MS and/or following any significant program change. The PM reviews, updates, and ensures consistency of program data in CCaR and PMRT at least twice per year prior to the 1st of March and October or upon request from SAF/AQX. The minimal data entry into the applicable Acquisition Data Systems includes:

11.2.2.1. Name, program description, PE, and Budget Program Activity Code (BPAC). Ensure consistent information between the AML/IML and the President's Budget (PB) submission.

11.2.2.2. Key Personnel (MDA, TEO or PEO, and PM).

11.2.2.3. Contract Data (contract number [including task or delivery order(s), if applicable], prime contractor name for each contract, and, business segment).

11.3. Investment Master List, AML, and AML-Exempt activities.

11.3.1. Investment Master List (IML). The IML includes both the AF AML and AML Exemptions. Investment funds will map to an IML activity. Program offices map RDT&E, Procurement investment funds, and program data by using the CCaR system to manage and

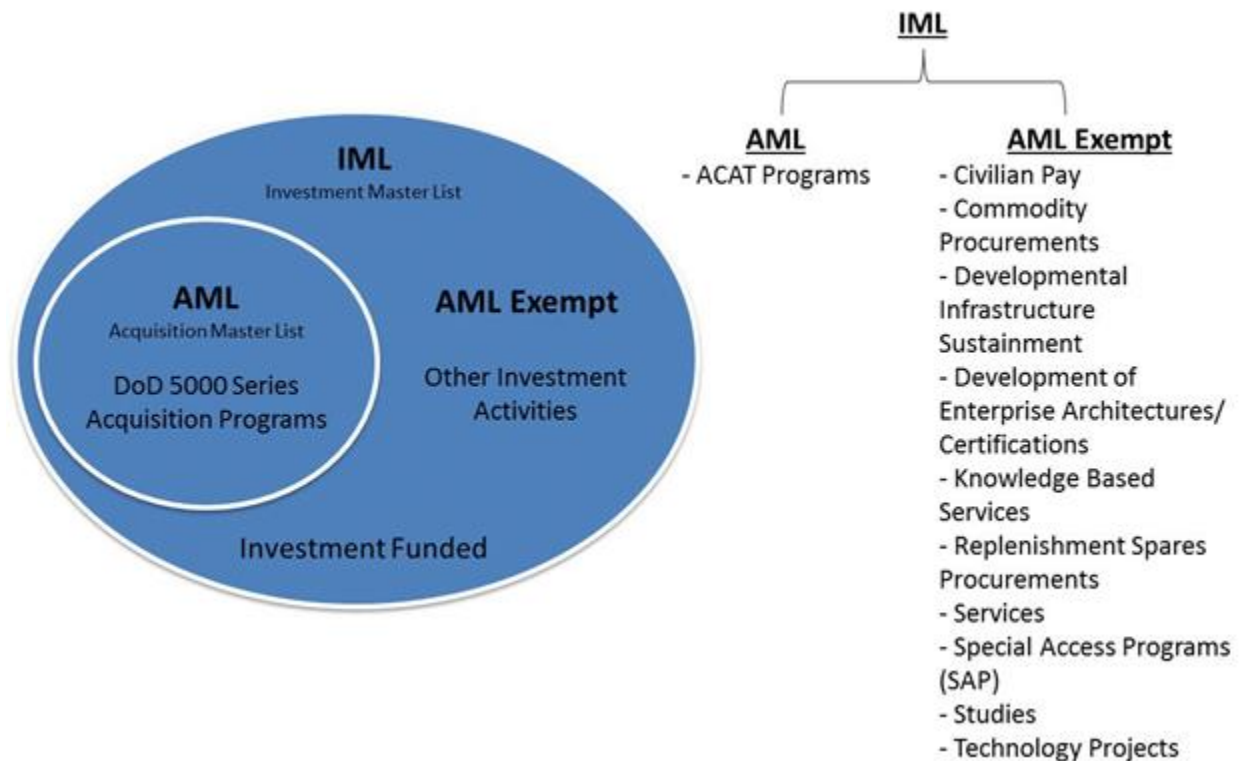
execute programs. Refer to [Figure 11.1](#) for information on the relationship between IML, AML, and AML-Exempt categorization.

11.3.1.1. IML Additions and Changes. Submit all IML updates, additions, changes, and exemption requests using the CCaR IML tool. SAF/AQX is the final approval authority for any IML additions. See *IML User Guide* for additional guidance.

11.3.1.2. IML Review. Any organization requiring a determination on an activity that could be considered either an AML or AML-Exempt activity should submit the activity to SAF/AQX for categorization. SAF/AQX will review the activity and determine categorization. Activities can be submitted for review at any phase in the program lifecycle; refer to the applicability section for how categorization will affect program requirements.

11.3.1.3. IML Categories. All activities on the IML are categorized as either active or inactive dependent upon whether investment funds are being executed. In addition, inactive AML programs are categorized as either open or closed dependent on phase and ACAT.

Figure 11.1. IML, AML, AML-Exempt Relationship.



11.3.2. AF Acquisition Master List (AML). The AML is the AF master list of all ACAT programs regardless of the ACAT level or life cycle phase. Programs will remain listed on the AML for all life cycle phases, but will be categorized dependent upon funding and whether or not the program still has to meet DoDI 5000.02 requirements. Inclusion on the AML does not constitute program new start approval and does not constitute authority to commit, obligate, or expend funds.

11.3.2.1. The PEO shall ensure efforts meeting the following requirements are included on the AML:

11.3.2.1.1. ACAT I, ACAT IA, ACAT II, ACAT III programs responding to an approved requirement; this includes an AF Form 1067 Modification Request, JUONs, JEONs, UONs, or top down directed QRC activities as identified in AFI 10-601.

11.3.2.1.2. Joint programs led by the AF or another DoD Component or Government Agency with AF participation.

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

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

11.3.2.1.5. Legacy ACAT programs in the O&S phase not previously on the AML.

11.3.2.2. Each system development, upgrade, or modification with a separate APB that meets the AML criteria is listed separately on the AML; however, activities with separate APBs or recurring activities (e.g., Lost Cost Modifications and Service Bulletins) that share a funding line may be combined into a single effort on the AML.

11.3.2.3. Modification programs are marked inactive once deployed and managed as part of the overall system with an existing AML record. O&S requirements in DoDI 5000.02 and this publication are met at the system level.

11.3.3. AML Exemptions. AML exemptions capture other legitimate AF investment activities that are not acquisition programs.

11.3.3.1. Exemptions can be granted for replenishment spares procurements, spares procurements, commodity procurements, capital equipment replacement, civilian pay, developmental infrastructure sustainment, development of enterprise architectures/certifications, technology projects, or as directed by SAF/AQX. SAF/AQX will review and approve each request for exemption on a case-by-case basis.

11.3.3.2. Acquisition SAPs and technology efforts managed IAW DoDD 5205.07, *SAP policy*, AFPD 16-7, *Special Access Programs*, and AFI 16-701 are exempt from posting to the AML and Investment Master List.

11.3.4. Investment-funded programs and activities are added to the AML/IML in conjunction with the timeframe established for MAR reporting contained in section 11.4.

11.4. Monthly Acquisition Report (MAR). The PM shall complete an MAR 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. The PM shall complete an MAR 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. MAR reporting refers to both monthly and quarterly reports, depending on ACAT designation.

11.4.1. For pre-MS A (ACAT I and ACAT II) AML programs and ACAT III AML programs that meet reporting thresholds, MARs are required quarterly. Initiate reporting once PB documents are submitted to Congress (e.g., FY2020 activities justified in FY2020

PB documents). MAR submissions for pre-MS A programs are only required to include the program assessment and top issues in preparation for program initiation.

11.4.2. For post-MS A ACAT I and ACAT II AML programs, complete MARs as required. Initiate monthly reporting the month following MDA MS approval, or designation by the MDA at MDD that the next MS is MS B.

11.4.3. ACAT I and II program MARs include: Program Assessment and Top Issues (should be no more than 10); APB Data - Cost, Schedule, and Performance including PM estimate; Funding Execution Data; Contract Information; Additional Assessments; Program Schedule and Unconstrained 1537. ACAT III program MARs consist of the same data with the exception of the Unconstrained 1537 (unless requested by SAF/AQX).

11.4.4. The PEO or equivalent decision authority will review and approve each MAR in their portfolio by the 10th working day of each month.

11.4.5. Programs may only terminate or waive MAR reporting with the approval of SAF/AQX. In CCaRs, programs can submit a change request for termination of MAR reporting when 90 percent of items are delivered or 90 percent of the investment funds (RDT&E and Procurement) funding is expended. DBS efforts should submit change requests for termination prior to reaching FDD (or equivalent MS); they are not required to submit a MAR after FDD.

11.5. Urgent Capability Acquisition Reporting. All JUON, JEON, UON, and top-down directed QRC efforts will complete periodic MARs, regardless of dollar value.

11.6. Modification Management Reporting.

11.6.1. Report and Monitor Program Status. The PM initiates and maintains modification data to include, at a minimum, cost, schedule, performance, test, logistics, contracts, finance, risk, and earned value (as applicable) and report periodically through the ILCM chain of authority. All modifications managed as an ACAT will comply with the baseline and documentation requirements specified in AFI 10-601 and this AFI.

11.6.2. Permanent modifications are financed with investment funds per AFI 65-601, Vol. 1 and managed as ACAT programs. Required ACAT life cycle management documentation and acquisition reporting (e.g., ADM, SEP, PPP, LCSP, MAR, IUID Implementation Plan, etc.) is either generated and/or updated to incorporate the modification effort as described within this instruction. Where practical, all existing documentation is updated to reflect modification efforts rather than generating separate documentation.

11.6.3. Temporary modifications, whether for a mission or for test and evaluation, will be appropriately documented in the equipment status forms (AFTO 781-series or 244-series) and appropriate historical records (AFTO Form 95). Annotation will be in the active portion (the AFTO Form 781A for instance) of the records. The temporary modification annotation will remain there and be active until the equipment is returned to the original configuration. Refer to TO 00-20-2, *Maintenance Data Documentation*, for additional guidance on documentation requirements.

11.7. Will-Cost and Should-Cost Reporting. Will-Cost Management and Should-Cost Management will be reported for all ACAT programs. CCaRs and Executive CCaRs are the

authoritative data sources for AF Will-Cost/Should-Cost Management. See section 4.14.3.3. for exemptions to Service Bulletins and Low Cost Modifications.

11.7.1. All ACAT programs are required to report on their Should-Cost Management in CCaRs.

11.7.2. Should-Cost reporting is accomplished for MS reviews, Defense Acquisition Executive Summary (DAES) reviews, DAB reviews, quarterly reports to the SAE, quarterly OSD Business Senior Integration Group (BSIG) reviews, and other designated reviews.

11.7.2.1. At MS A, B, and C Reviews, the PM will present Should-Cost initiatives and should be prepared to present projected and realized Should-Cost Savings.

11.7.2.2. Selected PMs and PEOs report Should-Cost initiatives at DAES and BSIG reviews. The PM will include in their presentations Plans of Action and MSs for major Should-Cost initiatives with projected and realized Should-Cost Savings by FY.

11.7.2.3. SAF/AQXE provides a comprehensive AF quarterly report to the SAE, which is the basis for the quarterly OSD BSIG review.

11.7.2.4. Key aspects of Should-Cost Management which the PM and PEO should be prepared to address during any/all reviews.

11.7.2.4.1. Open initiatives, including projected Should-Cost Savings, plans of action, MSs for achievement, and their reinvestment plan.

11.7.2.4.2. Closed initiatives, including actions taken and associated outcomes, realized Should-Cost Savings, and their reinvestment report.

11.7.2.4.3. Realized and projected Should-Cost Savings by FY, across the FYDP, and post-FYDP.

11.7.2.4.4. Examples of successful and/or unsuccessful initiatives, including actions taken and associated outcomes as well as personnel involved.

11.8. Should-Schedule Reporting. RESERVED

11.9. Logistics Health Assessment (LHA) Reporting. See [Chapter 7](#).

11.10. Test and Evaluation (T&E) Reporting. Refer to AFI 99-103, [Chapter 7](#).

Chapter 12

ACQUISITION INDUSTRIAL PREPAREDNESS

12.1. Acquisition Industrial Preparedness Overview. 10 U.S.C. §2535, *Defense Industrial Reserve*, and DoD Directive 4275.5, *Acquisition and Management of Industrial Resources*, addresses the acquisition, modernization, expansion, construction, and use of both severable and non-severable property as well as the retention, maintenance, and modernization of DoD-owned real property and plant equipment. These responsibilities are assigned to USD (AT&L) and the Military Service Secretaries. Government Owned Contractor Operated (GOCO) AF Plants are considered Industrial Facilities (as opposed to Military Installations) and consist of AF-controlled industrial property that may be operated in whole or in part by a contractor per AFI 32-9005, *Real Property Accountability and Reporting*. Per AFPD 32-90, SAF/IE has overall responsibility and oversight of AF-controlled real property. This responsibility excludes the acquisition and management of industrial facilities which are the responsibility of the SAF/AQ, reference HAF MD 1-10. SAF/AQ responsibility for industrial facilities is delegated to AFMC/CC, who can further delegate this authority. AFMC executes this authority through AFLCMC's Acquisition Environmental and Industrial Facilities Division. This section addresses the requirements of DoDD 4275.5 as it applies to acquiring, managing, and disposing of the AF-owned industrial facilities defense contractors use to support Government contracts. AF Reserve and National Guard industrial preparedness activities are not addressed here.

12.2. Industrial Facilities. For the purposes of this Chapter, Industrial Facilities are any AF owned, leased, or controlled real property that is sustained for current or future contractor use to fulfill government research, development, test, evaluation, production, maintenance, or modification contracts, or to store production machinery and equipment in support of such activity. This includes all property (other than material, special tooling, military property, and special test equipment), such as real property, buildings, structures, improvements, and plant equipment. Real property includes land, buildings, structures, utility systems, improvements, and appurtenances thereto. It includes equipment attached to and made part of buildings and structures (such as heating systems) but not movable equipment (such as plant equipment). Note: Industrial Facilities are a subset of all AF-controlled real property; however, the term "real property" is used to describe types of industrial facilities.

12.2.1. AFMC/CC has the responsibility of managing all AF-owned industrial facilities. AFMC helps other MAJCOMs acquire, manage, and dispose of AF-owned industrial facilities in conjunction with SAF/AQX determination of which industrial facilities the AF needs to support its acquisition programs under the industrial property account.

12.2.2. Funding for Air Force industrial facilities follows the guidance provided in the current version of the DoD Financial Management Regulations. Other types of funding including proceeds from the sale of excess industrial facilities may be used for the upkeep of industrial facilities. Lead Commands or other AFP users will budget and fund weapon system specific requirements needed at the AFPs.

12.2.3. Consistent with the practice established in DoD issuances concerning upkeep of real property, most AF directives dealing with real property upkeep (for example, the 32 series of AFIs) specifically exclude property classified as industrial facilities. However, AF

procedures for the upkeep of industrial facilities should be consistent with those established for other categories of AF real property.

12.3. Additional Responsibilities and Authorities.

12.3.1. AFMC/CC, or through their delegated authority (AFLCMC's Acquisition Environmental and Industrial Facilities Division), will:

12.3.1.1. Function as the OPR for Planning, Programming, Budgeting and Execution of industrial facilities. (Tier-1).

12.3.1.2. Approve capital type rehabilitation, construction, modernization or environmental compliance at AFPs with an estimated cost at or below \$10M. Submit projects with estimated cost in excess of \$10M to USD(AT&L) for approval, IAW DoDD 4275.5. (Tier-0).

12.3.1.3. Ensure AFP requirements are prioritized, coordinated between program offices, contractor operators and facilities management personnel and that proposed requirements are evaluated against DoDD 4275.5 criteria. (Tier-0).

12.3.1.4. Maintain accountability of Government property IAW DoDI 5000.64 and approves the disposal of AFPs using AFI 32-9004 as a guide. (Tier-0).

12.3.1.5. Approve requests for facility leases and staffs them to the SECAF and coordinates with SAF/AQX on all legislative initiatives involving AFPs. (Tier-1).

12.3.1.6. Ensure facilities PCO negotiates facilities contracts or leases per FAR requirements. (Tier-0).

12.3.1.7. Ensure environmental impact analysis completion and that the environmental protection program is implemented to obtain compliance with all applicable federal, state, and local laws and regulations. (Tier-0).

12.3.1.8. Provides oversight of physical security and protection of AFPs ensuring antiterrorism and security surveys are conducted IAW AF guidance for contract/lease agreements. (Tier-1).

12.3.2. SAF/AQX will:

12.3.2.1. Review and staff projects, proposed facility expansion packages, and other efforts requiring SECAF, USD/AT&L approval and/or Congressional notification as submitted by AFPEO/ACS.

12.3.2.2. Screen excess facilities with other DoD components for non-industrial requirements; and when necessary, develop and coordinate disposal reports for the House and Senate Armed Services Committees for identified excess facilities using AFI 32-9004 as a guide.

12.3.2.3. Review and approve budget and procurement documentation (P Series) prepared by AFMC/CC, or their delegated authority (AFLCMC's Acquisition Environmental and Industrial Facilities Division).

12.3.2.4. Conduct continuous surveillance over the current use and future requirements for all Government-owned industrial real property and plant equipment to maximize utilization, facilitate proper allocation and to ensure proper and timely disposal

arrangement for excess facilities and facilities for which continued Government ownership is no longer necessary.

12.3.2.5. Approves the annual Financial Plan (FIN Plan) and delegates, to the responsible organization, the authority to approve changes to projects in the FIN Plan.

12.3.3. The AF Civil Engineer Office (HQ USAF/A4C) will:

12.3.3.1. Provide civil engineering assistance and advice regarding the AFPs and approves Installation Characteristic Report per AFI 32-9005.

12.3.3.2. Provide a copy of the report to the Assistant Secretary of the Air Force for Installations, Environment, and Energy (SAF/IE) and to SAF/AQXE.

12.3.4. The AF Civil Engineer Center (AFCEC) will:

12.3.4.1. Provide civil engineering/environmental engineering/real property advisory service, industrial property disposal processing and environmental restoration support services at current and former AFPs. (Tier-1).

12.3.4.2. Process orders using AFI 32-9005 as a guide to record actual disposal and adjust the industrial real property record after the AFP is disposed. (Tier-1).

12.3.4.3. Coordinate on the Installation Characteristics Report and forwards it to AF/A4 for approval. (Tier-1).

12.3.4.4. Validate the Automated Civil Engineer System (ACES) Real Property (RP)/NexGen-TRIRIGA year-end closeout report for industrial facilities and forward it to SAF/IE with a copy to SAF/AQXE. (Tier-1).

12.3.4.5. Conduct and lead the Environmental Restoration Program at each active and divested facility using Environmental Restoration Account funding and IAW AFI 32-7020, *The Environmental Restoration Program*. (Tier-1).

12.3.4.6. Delegate fire protection authority for an AFP or AFPs to an AFMC certified fire protection engineer. (Tier-2).

12.4. Permissible Funding. AFMC/CC, or through their delegated authority (AFLCMC's Acquisition Environmental and Industrial Facilities Division), executes financial management of assigned AFPs. The Air Force Industrial preparedness Program, PE 0708011F is the primary funding mechanism for AF industrial facilities with lease revenues, proceeds from the sale of industrial facilities, and development or acquisition programs using AFPs also used as contributing sources. Funding for restoration projects at AF industrial facilities is provided by Environmental Restoration PE 078008F.

12.5. Leases. 10 U.S.C. §2667 provides the SECAF authority to lease non-excess real or personal property. This is a tool used to manage, maintain and sustain the industrial base capability of AFPs. Such leases may provide for the alteration, repair or improvement of the property by the lessee as payment of part or all the consideration for the lease. The AF uses this provision to ensure AFPs remain safe, suitable and effective facilities for their intended purpose.

DARLENE J. COSTELLO
Principal Deputy, Assistant Secretary of the Air
Force
(Acquisition & Logistics)

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

- AF/A5R Requirements Development Guidebook*, Volume 1, Version 7, 15 Nov 2016
- AFFARS, Air Force Federal Acquisition Regulation Supplement*
- AFH 23-123, Materiel Management Handbook Volume One, Materiel Management Reference Information*, 08 Aug 2013
- AFI 10-245, *Antiterrorism (AT)*, 25 Jun 2015
- AFI 10-601, *Operational Capability Requirements Development*, 06 Nov 2013
- AFI 10-701, *Operations Security (OPSEC)*, 08 Jun 2011
- AFI 10-703, *Electronic Warfare Integrated Reprogramming*, 04 Jun 2014
- AFI 10-1211, *Space Launch Operations*, 17 Jul 2006
- AFI 10-2801, *Force Development Concepts*, 23 Oct 2014
- AFI 11-215, *USAF Flight Manuals Program (FMP)*, 22 Dec 2008
- AFI 13-204, Vol. 3, *Airfield Operations Procedures and Programs*, 01 Sep 2010
- AFI 14-111, *Intelligence Support to the Acquisition Life Cycle*, 18 May 2012
- AFI 14-205, *Geospatial Information and Services*, 15 Jan 2015
- AFI 16-110, *US Air Force Participation in International Armaments Cooperation (IAC) Programs*, 13 May 2013
- AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*, 30 May 2013
- AFI 16-601, *Implementation of, and Compliance With, International Arms Control and Nonproliferation Agreements*, 18 Feb 2011
- AFI 16-608, *Implementation of and Compliance with the New Start Treaty*, 31 May 2016
- AFI 16-701, *Management, Administration and Oversight of Special Access Programs (SAP)*, 18 Feb 2014
- AFI 16-1001, *Verification, Validation and Accreditation (VV&A)*, 22 Jun 2016
- AFI 16-1005, *Modeling & Simulation Management*, 23 Jun 2016
- AFI 16-1404, *Air Force Information Security Program*, 29 May 2015
- AFI 16-1406, *Air Force Industrial Security Program*, 25 Aug 2015
- AFI 17-100, *Air Force Information Technology (IT) Service Management*, 16 Sep 2014
- AFI 17-101, *Risk Management Framework (RMF) for Air Force Information Technology (IT)*, 02 Feb 2017
- AFI 17-110, *Information Technology Portfolio Management and IT Investment*, 23 Dec 2008

AFI 17-120, *Management of Cyberspace Support Activities*, 30 Nov 2011

AFI 17-130, *Cybersecurity Program Management*, 31 Aug 2015

AFI 17-140, *Air Force Architecting*, 17 May 2011

AFI 17-220, *Spectrum Management*, 16 Mar 2017

AFI 20-110, *Nuclear Weapons-Related Materiel Management*, Change 1, 20 Apr 2016

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 21 May 2015

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 16 Dec 2016

AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Management*, 03 Jun 2016

AFI 21-204, *Nuclear Weapons Maintenance Procedures*, 17 Dec 2015

AFI 23-101, *Air Force Materiel Management*, 12 Dec 2016

AFI 23-111, *Management of Government Property in Possession of the Air Force*, 29 Oct 2013

AFI 32-7020, *The Environmental Restoration Program*, 07 Nov 2014

AFI 32-9004, *Disposition of Real Property*, 21 Jul 1994

AFI 32-9005, *Real Property Accountability and Reporting*, 04 Mar 2015

AFI 33-332, *Air Force Privacy and Civil Liberties Program*, 12 Jan 2015

AFI 33-360, *Publications and Forms Management*, 01 Dec 2015

AFI 33-393, *Electronic and Information Technology Accessible to Individuals with Disabilities*, Section 508, 10 Apr 2013

AFI 36-2251, *Management of Air Force Training Systems*, 05 Jun 2009

AFI 51-402, *Legal Reviews of Weapons and Cyber Capabilities*, 27 Jul 2011

AFI 60-101, *Materiel Standardization*, 30 Sep 2014

AFI 60-106, *International Military Standardization (IMS) Program*, 30 Sep 2014

AFI 61-101, *Management of Science and Technology*, 14 Mar 2013

AFI 61-102, *Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs*, 16 Nov 2012

AFI 61-201, *Management of Scientific and Technical Information (STINFO)*, 29 Jan 2016

AFI 62-601, *USAF Airworthiness*, 11 June 2010

AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management*, 24 Sep 2008

AFI 63-104, *The SEEK EAGLE Program*, 21 Jan 2005

AFI 63-125, *Nuclear Certification Program*, 08 Aug 2012

AFI 63-138, *Acquisition of Services*, 21 May 2013

AFI 64-201, *Air Force Small Business Programs*, 01 Jan 1997

AFI 63-145, *Manufacturing and Quality Management*, 30 Sep 2016

AFI 65-501, *Economic Analysis*, 29 Aug 2011

AFI 65-508, *Cost Analysis Guidance and Procedures*, 06 Jun 2012

AFI 65-509, *Business Case Analysis*, 19 Sep 2008

AFI 65-601, Vol. 1, *Budget Guidance and Procedures*, 16 Aug 2012

AFI 90-802, *Risk Management*, 11 Feb 2013

AFI 90-1603, *Air Force Studies Management and Registration*, 31 Dec 2015

AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 15 Aug 2014

AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, 24 Mar 2016

AFI 91-104, *Nuclear Surety Tamper Control and Detection Programs*, 23 Apr 2013

AFI 91-202, *The US Air Force Mishap Prevention Program*, 24 Jun 2015

AFI 91-205, *Non-Nuclear Munitions Safety Board*, 12 Apr 2012

AFI 91-217, *Space Safety and Mishap Prevention Program*, 11 Apr 2014

AFI 91-225, *Aviation Safety Programs*, 26 Jan 2015

AFI 99-103, *Capabilities-Based Test and Evaluation*, 06 Apr 2017

AFMAN 16-101, *International Affairs and Security Assistance Management*, 15 Feb 2011

AFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*, 19 Mar 2014

AFMAN 17-1402, *Air Force Clinger-Cohen Act (CCA) Compliance Guide*, 24 Oct 2012

AFMAN 33-363, *Management of Records*, 01 Mar 2008

AFMAN 33-402, *Service Development and Delivery Process (SDDP)*, 25 Sep 2014

AFMAN 63-119, *Certification of System Readiness for Dedicated Operational Test and Evaluation*, 19 Feb 2016

AFMAN 63-143, *Centralized Asset Management Procedures*, 12 Aug 2015

AFMAN 65-506, *Economic Analysis*, 29 Aug 2011

AFMAN 65-510, *Business Case Analysis Procedures*, 22 Sep 2008

AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems*, 08 Mar 2007

AFPD 16-4, *Accounting for Units, Installations and Aerospace Vehicles*, 01 Jul 2014

AFPD 16-7, *Special Access Programs*, 19 Feb 2014

AFPD 23-1, *Materiel Management*, 30 Sep 2016

AFPD 17-1, *Information Dominance Governance and Management*, 12 Apr 2016

AFPD 61-2, *Management of Scientific and Technical Information*, 28 Mar 2014

AFPD 62-6, *USAF Airworthiness*, 11 Jun 2010

AFPD 63-1/20-1, *Integrated Life Cycle Management*, 03 Jun 2016

AFPD 65-5, *Cost and Economics*, 05 Aug 2008

AFPAM 63-113, *Program Protection Planning for Life Cycle Management*, 17 Oct 2013

AFPAM 63-128, *Integrated Life Cycle Management*, 10 Jul 2014

Air Force Acquisition Excellence & Change Office (AQXC) Schedule Risk Assessment (SRA) Process, Version 2.0., 18 Jan 2012

Air Force Integrated Baseline Review (IBR) Process Guide, Version 3.0, 20 Sep 2012

Arms Export Control Act, 22 U.S.C. §2751, et seq.

ASD-S1000D, *International Specification for Technical Publications Utilizing a Common Source Database*

CJCSI 3170.01I, *Joint Capabilities Integration and Development System*, 23 Jan 2015

DIAI 5000.002, *Intelligence Threat Support for Major Defense Acquisition Programs*, 01 Feb 2013

DFARS, *Defense Federal Acquisition Regulation Supplement*

Defense Logistics Manual 4000.25, Volume 2, 13 June 2012

DNA-H-93-140, *Military Handbook for Hardness Assurance, Maintenance and Surveillance (HAMS)*, 01 Feb 1995

DoD Corrosion Prevention and Control Planning Guidebook for Military Systems and Equipment, Spiral 4, 14 Jan 2015

DoD Diminishing Manufacturing Sources and Material Shortages (DMSMS) Guidebook (SD-22), Sep 2009

DoD Guide for Achieving Reliability, Availability, and Maintainability, 03 Aug 2005

DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide, Version 0.9, 21 Oct 2005

DoD Open Systems Architecture Contract Guidebook for Program Managers (v. 1.1), May 2013

DoD Reliability, Availability, Maintainability, and Cost Rationale Report Manual, 01 Jun 2009

DoD Technology Readiness Assessment (TRA) Guidance, Apr 2011

DoD 7000.14-R, *Department of Defense Financial Management Regulation (FMR)*, date varies by volume

DoDD 2040.3, *End Use Certificates (EUCS)*, 14 Nov 1991

DoDD 3000.09, *Autonomy in Weapon Systems*, 21 Nov 2012

DoDD 3020.49, *Orchestrating, Synchronizing, and Integrating Program Management of Contingency Acquisition Planning and Its Operational Execution*, 24 Mar 2009

DoDD 3150.01, *Joint DOD-Department of Energy/National Nuclear Security Administration (DOD-DOD/NNSA) Nuclear Weapon Life Cycle Activities*, 4 Aug 2016

DoDD 3150.02, *DOD Nuclear Weapons Surety Program*, Ch. 2, 12 May 2016

DoDD 4275.5, *Acquisition and Management of Industrial Resources*, 15 Mar 2005

DoDD 5000.01, *The Defense Acquisition System*, 12 May 2003

DoDD 5000.52, *Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program*, 12 Jan 2005

DoDD 5000.71, *Rapid Fulfillment of Combatant Commander Urgent Operation Needs*, 24 Aug 2012

DoDD 5200.47E, *Anti-Tamper (AT)*, 04 Sep 2015

DoDD 5205.07, *Special Access Program (SAP) Policy*, 01 Jul 2010

DoDD 5230.24, *Distribution Statements on Technical Documents*, 23 Aug 2012

DoDD 5230.25, *Withholding of Unclassified Technical Data from Public Disclosure*, Ch. 1, 18 Aug 95

DoDD 5250.01, *Management of Intelligence Mission Data (IMD) in DoD Acquisitions*, 22 Jan 2013

DoDI 1100.22, *Policy and Procedures for Determining Workforce Mix*, 12 Apr 2010

DoDI 2010.06, *Material Interoperability and Standardization with Allies and Coalition Partners*, 29 Jul 2009

DoDI 3020.41, *Operational Contract Support (OCS)*, 20 Dec 2011

DoDI 3100.08, *The Technical Cooperation Program (TTCP)*, 07 Aug 2012

DoDI 3150.09, *The Chemical, Biological, Radiological, and Nuclear (CBRN) Survivability Policy*, 08 Apr 2015

DoDI 3200.19, *Non-Lethal Weapons (NLW) Human Effects Characterization*, 17 May 2012

DoDI 3200.12, *DoD Scientific and Technical Information (STI) Program (STIP)*, 22 Aug 2013

DoDI 3200.20, *Scientific and Engineering Integrity*, 26 Jul 2012

DoDI 3222.03, *DoD Electromagnetic Environmental Effects (E3) Program*, 08 Jan 2015

DoDI 4120.24, *DoD Standardization Program (DSP)*, 13 Jul 2011

DoDI 4140.01, *Supply Chain Materiel Management*, 14 Dec 2011

DoDI 4151.19, *Serialized Item Management (SIM) for Life Cycle Management of Materiel*, 09 Jan 2014

DoDI 4151.20, *Depot Maintenance Core Capabilities Determination Process*, 05 Jan 2007

DoDI 4151.21, *Public-Private Partnerships for Product Support*, 17 Feb 2017

DoDI 4151.22, *Condition Based Maintenance Plus (CBM+) for Materiel Maintenance*, 16 Oct 2012

DoDI 4205.01, *DoD Small Business Programs (SBP)*, 8 Jun 2016

DoDI 4245.14, *DoD Value Engineering (VE) Program*, 26 Oct 2012

DoDI 4630.09, *Communications Waveform Management and Standardization*, 15 Jul 2015

- DoDI 4650.01, *Policy and Procedures for Management and Use of the Electromagnetic Spectrum*, 09 Jan 2009
- DoDI 4650.08, *Positioning, Navigation, and Timing (PNT) and Navigation Warfare*, 5 Feb 2015
- DoDI 5000.02, *Operation of the Defense Acquisition System, Change 2*, 02 Feb 2017
- DoDI 5000.64, *Accountability and Management of DoD-Owned Equipment and Other Accountable Property*, 19 May 2011
- DoDI 5000.66, *Operation of the Defense Acquisition, Technology and Logistics Workforce Education, Training, and Career Development Program*, 21 Dec 2005
- DoDI 5000.67, *Prevention and Mitigation of Corrosion on DoD Military Equipment and Infrastructure*, 01 Feb 2010
- DoDI 5000.69, *DoD Joint Services Weapon and Laser System Safety Review Process*, 09 Nov 2011
- DoDI 5000.74, *Defense Acquisition of Services*, 05 Jan 2015
- DoDI 5000.75, *Business Systems Requirements and Acquisition*, 02 Feb 2017
- DoDI 5030.55, *DoD Procedures for Joint DoD-DOE Nuclear Weapon Life Cycle Activities*, 25 Jan 2006
- DoDI 5200.39, *Critical Program Information (CPI) Identification and Protection within Research, Development, Test, and Evaluation (RDT&E)*, 28 May 2015
- DoDI 5200.44, *Protection of Mission Critical Functions to Achieve Trusted Systems and Networks (TSN)*, 05 Nov 2012
- DoDI 5205.11, *Management, Administration, and Oversight of DOD Special Access Programs (SAPS)*, 06 Feb 2013
- DoDI 5220.22, *National Industrial Security Program (NISP)*, 18 Mar 2011
- DoDI 5240.24, *Counterintelligence (CI) Activities Supporting Research, Development, and Acquisition (RDA)*, 08 Jun 2011
- DoDI 6055.07, *Mishap Notification, Investigation, Reporting, and Record Keeping*, 6 Jun 2011
- DoDI 8320.03, *Unique Identification (UID) Standards for a Net-Centric Department of Defense*, 04 Nov 2015
- DoDI 8320.04, *Item Unique Identification (IUID) Standards for Tangible Personal Property*, 03 Sep 2015
- DoDI 8330.01, *Interoperability of Information Technology and National Security Systems (IT/NSS)*, 21 May 2014
- DoDI 8500.01, *Cybersecurity*, 14 Mar 2014
- DoDI 8510.01, *Risk Management Framework for DoD IT*, 12 Mar 2014
- DoDM 3200.14, *Principles and Operational Parameters of the DoD Scientific and Technical Information Program, Vol. 1*, 14 Mar 2014
- DoDM 4120.24, *DoD Standardization Program (DSP) Procedures*, 24 Sep 2014

DoDM 4140.01, *DoD Supply Chain Materiel Management Procedures*, 10 Feb 2014

DoD 4151.22M, *Reliability Centered Maintenance (RCM)*, 30 June 2011

DoDM 4160.28, *Defense Demilitarization*, 07 Jun 2011

DoDM 5010.12, *Procedures for the Acquisition and Management of Technical Data*, 14 May 1993

DoDM 5200.01, Vol. 1-4, *DoD Information Security Program*, (dates vary per volume)

DoDM 5205.02, *DoD Operations Security (OPSEC) Program Manual*, 3 Nov 2008

DoDM 5220.22, Vol. 3, *National Industrial Security Program Operating Manual*, Change 2, 18 May 2016

DSCA 5105.38-M, *Security Assistance Management Manual (SAMM)*, 30 Apr 2012

E.O. 12114, *Environmental Effects Abroad of Major Federal Actions*, 04 Jan 1979

E.O. 13693, *Planning for Federal Sustainability in the Next Decade*, 19 Mar 2015

FAR, *Federal Acquisition Regulation*

GEIA-STD-0009, *Reliability Program Standard for Systems Design, Development, and Manufacturing*, 20 Aug 2009

Investment Master List (IML) User Guide, Aug 2016

Integrated Product Support Element Guidebook, 2011

Intelligence Community Directive 503, Intelligence Community Information Technology Systems Security Risk Management, Certification and Accreditation, 15 Sep 2008

ISO 10303-239, Application Protocol 239, *Product Life Cycle Support*, Version 1.2

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, 16 Feb 2001

MIL-HDBK-61A, *Configuration Management Guidance*, Rev A, 07 Feb 2001

MIL-HDBK-423, Vol. 1-2, *High-Altitude Electromagnetic Pulse Protection for Ground-Based C4I Facilities*, (dates vary per volume)

MIL-HDBK-513, *Low Observable Integrity Program*, 30 Sep 2010

MIL-HDBK-515, *Weapon System Integrity Guide (WSIG)*, 29 Jun 2007

MIL-HDBK-502A, *Product Support Analysis*, 08 Mar 2013

MIL-HDBK-520, *Systems Requirements Document Guidance*, Revision A, 19 Dec 2011

MIL-HDBK-525, *Electrical Wiring Interconnect System (EWIS) Integrity Program*, 25 July 2013

MIL-HDBK-896A, *Manufacturing Management Program Guide*, 25 Aug 2016

MIL-STD-130N, *Identification Marking of U.S. Military Property*, Change 1, 16 Nov 2012

MIL-STD-188-125, Part 1-2, *High-Altitude Electromagnetic Pulse Protection (Ground-Based C4I Facilities Performing Critical, Time Urgent Missions and Transportable Systems)*, (dates vary per part)

MIL-STD-461, *Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment*, 10 Dec 2007

MIL-STD-464, *Electromagnetic Environmental Effects*, Revision C 1 Dec 2010

MIL-STD-881, *Work Breakdown Structures for Defense Materiel Items*, 03 Oct 2011

MIL-STD-882E, *DoD Standard Practice for System Safety*, 11 May 2012

MIL-STD-1472, *DoD Design Criteria Standard: Human Engineering*, 11 Jan 12

MIL-STD-1822, *Nuclear Compatibility Certification of Nuclear Weapon Systems, Subsystems, and Support Equipment*, 1 February 2013

MIL-STD-3023, *High-Altitude Electromagnetic Pulse Protection for Military Aircraft*, 21 Nov 2011

MIL-STD-3024, *Propulsion System Integrity Program*, Change 1, 13 Jul 2015

MIL-STD-3048, *Air Force Business Rules for the implementation of S1000D*, Change 1, 29 April 2016

MIL-STD-31000, *Technical Data Packages*, Revision A, 26 February 2013

MIL-STD-46855, *DoD Standard Practice for Human Engineering Requirements for Military Systems, Equipment, and Facilities*, 24 May 2011

NIST SP 800-53 Revision 4, *Security and Privacy Controls for Federal Information Systems and Organizations*, 30 April 2013

Office of Management and Budget Circular A-11, *Preparation, Submission and Execution of the Budget*, (Updated Annually)

OFPP 11-01, *Performance of Inherently Governmental and Critical Functions*, 12 Oct 2011

OSD Cost Assessment and Program Evaluation (CAPE) Operating and Support Cost-Estimating Guide, Mar 2014

Process Guide for Accountability of Government Furnished Equipment (GFE), Version 1.0b, 17 Feb 16

Product Support Manager Guidebook, Apr 2016

S1000D, *International Specification for Technical Publications*

SAE-GEIA-STD-0007, *Logistics Product Data*, 15 Oct 08

SAE TA-HB-0009, *Reliability Program Handbook*, 05 May 2013

SAF/AQ Business Rules for *Should Cost*, 19 Aug 2016

SD-22, *Diminishing Manufacturing Sources and Material Shortages Guidebook*

TA-STD-0017, *Product Support Analysis*, 01 Nov 2012

The Joint Capabilities Integration and Development System (JCIDS) Manual

TO 00-5-1, *AF Technical Order System*

TO 00-5-3, *AF Technical Order Life Cycle Management*

TO 00-5-15, *Air Force Time Compliance Technical Order Process*

TO 00-5-16, *Technical Manual - Methods and Procedures Software Managers and Users Manual for the USAF Automated Computer Program Identification Number System (ACPINS)*

TO 00-5-19, *Security Assistance Technical Order Program (SATOP)*, 1 Jan 2016

TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*

Prescribed Forms

AF Form 1067, *Modification Proposal*

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

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*

Abbreviations and Acronyms

ACAT—Acquisition Category

ACE—Acquisition Center of Excellence

ACES—Automated Civil Engineer System

ACPINS—Automated Computer Program Identification Number System

ACWP—Actual Cost Work Performed

ADM—Acquisition Decision Memorandum

AETC—Air Education and Training Command

AF—(US) Air Force

AF/A2—Deputy Chief of Staff, Intelligence, Surveillance and Reconnaissance

AF/A3—Deputy Chief of Staff, Operations, Plans and Requirements

AF/A4—Deputy Chief of Staff, Logistics, Engineering, and Force Protection

AF/A5/8—HQ AF, Strategic Plans and Programs

AF/A10—Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration

AF/SE—Air Force Chief of Safety

AF/TE—Directorate of Air Force Test and Evaluation

AF-NNSA—Air Force-National Nuclear Security Administration

AFCAP—Air Force Certification and Accreditation Program
AFCEC—Air Force Civil Engineer Center
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
AFSC—Air Force Specialty Code
AFSPC—Air Force Space Command
AIR—Acquisition Information Repository
AIS—Automated Information Systems
AIT—Automatic Identification Technology
AoA—Analysis of Alternatives
AML—Acquisition Master List
ANG—Air National Guard
APB—Acquisition Program Baseline
APDP—Acquisition Professional Development Program
APM—Acquisition Process Model
APSR—Accountable Property Systems of Record
AS—Acquisition Strategy
ASIP—Aircraft Structural Integrity Program
ASP—Acquisition Strategy Panel
ASR—Acquisition and Sustainment Reviews
AT—Anti-Tamper
AT&L—Acquisition, Technology and Logistics

ATCALS—Air Traffic Control and Landing Systems
ATE—Automatic Test Equipment
ATO—Authority to Operate
ATOS—Automated Technical Orders System
BEA—Business Enterprise Architecture
BPAC—Budget Program Activity Code
CAM—Centralized Asset Management
CAP—Critical Acquisition Position
CAPE—Cost Assessment and Program Evaluation
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 and Prevention Executive
CCT—Capability Collaboration Teams
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
CE—Chief Engineer
CFL—Core Function Lead
CFO—Chief Financial Officer
CFSR—Contract Funds Status Report
CI—Counterintelligence
CIO—Chief Information Officer
CIP—Critical Intelligence Parameter
CIR—Capital Investment Report
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
CM—Configuration Management
COTS—Commercial Off-the-Shelf
CPCP—Corrosion Prevention and Control Plan
CPD—Capability Production Document
CPI—Critical Program Information
CS—Cybersecurity Strategy
CSAF—Chief of Staff of the Air Force
CSB—Configuration Steering Board
CSCI—Computer Software Configuration Items
CV—Vice Commander
DAES—Defense Acquisition Executive Summary
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
DAU—Defense Acquisition University
DAWIA—Defense Acquisition Workforce Improvement Act
DBS—Defense Business System
DBSMC—Defense Business Systems Management Committee
DCAPE—Director of Cost Assessment and Program Evaluation
DCMA—Defense Contract Management Agency
DCPDS—Defense Civilian Personnel Data System
DFARS—Defense Federal Acquisition Regulation Supplement
DISA—Defense Information Systems Agency
DISR—DoD (Department of Defense) Information Technology Standards Registry
DLA—Defense Logistics Agency

DMSMS—Diminishing Manufacturing Sources/Material Shortages
DoD (or DD)—Department of Defense
DoDD—Department of Defense Directive
DoDI—Department of Defense Instruction
DOT&E—Director, Operational Test and Evaluation
DP—Development Planning
DRU—Direct Reporting Unit
DSA—Direct Sales Agreement
DSCA—Defense Security Cooperation Agency
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
ERM—Environmental Resources Manager
ESOH—Environment, Safety, and Occupational Health
ETM—Electronic Technical Manual
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
FDD—Full Deployment Decision
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
GOCO—Government Owned Contractor Operated
GTG-F—Global Information Grid Technical Guidance Federation
HAF—Headquarters Air Force
HAMS—Hardness Assurance, Maintenance, and Surveillance
HCA—Head of Contracting Activity (or Agency)
HCSP—Human Capital Strategic Plan
HEMP—High Altitude Electromagnetic Pulse
HM/HS—Hardness Maintenance / Hardness Surveillance
HPT—High Performance Team
HQ—Headquarters
HSI—Human Systems Integration
IA—Information Assurance
IATT—Interim Authority to Test
IAW—In Accordance With
IBR—Integrated Baseline Review
ICD—Initial Capabilities Document
IC—Intelligence Community
ICS—Interim Contractor Support
IGF—Inherently Governmental Function

ILCM—Integrated Life Cycle Management
IMD—Intelligence Mission Data
IMP—Integrated Master Plan
IMS—Integrated Master Schedule
IOC—Initial Operational Capability
IOT&E—Initial Operational Test and Evaluation
IP—Intellectual Property
IPA—Independent Program Assessment
IPMR—Integrated 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
ITAB—Information Technology Acquisition Board
ITT—Integrated Test Team
IUID—Item Unique Identification
IUS—Internal Use Software
JCB—Joint Capabilities Board
JCIDS—Joint Capability Integration and Development System
JEON—Joint Emergent Operational Need
JP—Joint Publication
JRAC—Joint Rapid Acquisition Cell
JROC—Joint Requirements Oversight Council
JS—Joint Staff
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
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
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
NC3—Nuclear Command, Control, Communications
NDAA—National Defense Authorization Act
NDI—Non-Developmental Item
NEPA—National Environmental Policy Act
NGREA—National Guard and Reserve Equipment Account
NID—National Interest Determination
NSN—National Stock Number
NSS—National Security System
NWRM—Nuclear Weapons Related Materiel
OA—Operational Assessment
O&S—Operation and Support

OFP—Operational Flight Program
OMB—Office of Management and Budget
OPR—Office of Primary Responsibility
OSD—Office of the Secretary of Defense
OT&E—Operational Test and Evaluation
OTB—Over Target Baseline
OTD—Open Technology Development
OTI—Operational Training Infrastructure
OTS—Over Target Schedule
OUSD—Office of the Under Secretary of Defense
PA—Program Authorization
PB—President’s Budget
PBL—Performance-Based Logistics
PCO—Procuring Contracting Officer
PDM—Programmed Depot Maintenance
PDR—Preliminary Design Review
PE—Program Element
PEM—Program Element Monitor
PEO—Program Executive Officer
PESHE—Programmatic Environment, Safety, and Occupational Health Evaluation
PG—Product Group
PGI—Procedures, Guidance and Information
PIA—Privacy Impact Assessment
PIR—Post-Implementation Review
PIT—Platform Information Technology
PM—Program Manager
PMB—Performance Measurement Baseline
PMRT—Program Management Resource Tools
POC—Point of Contact
POE—Program Office Estimate
POM—Program Objectives Memorandum
PPP—Program Protection Plan

PRR—Production Readiness Review
PS-BCA—Product Support Business Case Analysis
PSI—Product Support Integrator
PSM—Product Support Manager
PSMP—Product Support Management Plan
PSP—Product Support Provider
PTO—Preliminary Technical Order
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
RSR—Requirements Strategy Review
S&T—Science and Technology
SAE—Service Acquisition Executive
SAF—Secretary of the Air Force
SAF/AQ—Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics)
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)
SAO—Security Assistance Organizations
SAP—Special Access Program
SATOP—Security Assistance Technical Order Program
SB—Small Business
SBIR—Small Business Innovation Research

SD—Standardization Document
SCI—Sensitive Compartmented Information
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
SIPC—Service Intelligence Production Centers
SLIN—Sub-Line Item Number
SME—Subject Matter Expert
SOCOM—Special Operations Command
SOR—Source of Repair
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
STTR—Small Business Technology Transfer
T&E—Test and Evaluation
TAA—Technical Airworthiness Authority
TCTO—Time Compliance Technical Order
TEMP—Test and Evaluation Master Plan
TEO—Technology Executive Officers

TM—Test Manager

TMCR—Technical Manual Contract Requirements

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

TPS—Test Program Set

TRA—Technology Readiness Assessment

TRL—Technology Readiness Level

TS—Top Secret

TTCP—The Technology Cooperation Program

UID—Unique Identification

UIF—Unfavorable Information File

UII—Unique Item Identifier

UON—Urgent Operational Need

US—United States

USAF—United States Air Force

U.S.C—United States Code

USD(AT&L)—Under Secretary of Defense (Acquisition, Technology and Logistics)

V&V—Verification and Validation

VOLT—Validated Online Lifecycle Threat

WBS—Work Breakdown Structure

WRAP—Warfighter Rapid Acquisition Process

WSER—Weapon System Enterprise Reviews

WSIG—Weapon System Integrity Guide

Note:—Refer to AFPAM 63-128 for a list of Acquisition Terms with Definitions

Attachment 2

MODIFICATION PROPOSAL PROCESS AND AF FORM 1067 DESCRIPTIONS

A2.1. Modification Proposal Process Overview. The AF Form 1067, Modification Proposal Process starts with identification and documentation of a modification requirement and ends when the proposal is certified and approved as described by AFI 10-601, the AF/A5R Requirements Development Guidebook, and this AFI. See [Table A2.1](#), *AF Form 1067 Process Flow* for the modification proposal process. A modification proposal is the document or combination of documents needed for approval to initiate a modification action. The modification proposal process consists of four steps: 1) request for action and organization validation, 2) Lead and Using Command validation, 3) The PM reviews and approves the technical requirements and solution, and 4) lead command certification and subsequent approval by the approval authority specified in AFI 10-601.

A2.2. Step 1, Request for Action and Organization Validation. In this step the modification requirements are defined and validated by the organization. Individuals (Program Offices, Operational Units, Sustainment activities, etc.) initiate a modification proposal by completing Sections 1 through 10 of the AF Form 1067. Temporary modifications requirements included in Section 10 of the AF Form 1067: number of units to be modified, total duration of the installed temporary modification, and description of the user's/PM's /Lead Command's plan for converting the temporary modification into a permanent capability, or their plan for removing the modification from affected articles. Modification proposals developed in response to a QRC will include this statement in Section 9 of the AF Form 1067 "This modification is needed to address a Quick Reaction Capability" if the ADM is not attached. Depending on the nature of the need and local procedures, the initiator may recommend a solution in Section 10 of the AF Form 1067. After completing sections 1-10, the initiator submits the AF Form 1067 to the organization-level authority for validation. The organization-level validation authority completes Section 11 using procedures established by the parent MAJCOM/FOA/DRU and/or local instructions. The organization forwards the validated AF Form 1067 to the parent MAJCOM/FOA/DRU for further review and action. Permanent capability modifications require a KPP and KSA Table IAW applicable 10-series AFIs or the *AF/A5R Requirements Development Guidebook*.

A2.3. Step 2, Using Command and Lead Command/CFL Validation. In this step, the using and lead commands/FOA/DRU state the modification requirement is a valid need that can be met by a materiel solution. Commands may comment on a proposed solution if one is provided, however validation of the need is not approval for a proposed materiel solution and does not authorize implementation.

A2.3.1. The initiator's parent MAJCOM/FOA/DRU headquarters makes a validation recommendation of the proposal on AF Form 1067 Section 12 IAW established MAJCOM/FOA/DRU procedures. The Using Command forwards the validated AF Form 1067 to the applicable lead MAJCOM/FOA/DRU or other AFPD 10-9 identified organization for further review and action. The Lead Command/FOA/DRU or AFPD 10-9 identified organization makes a validation recommendation of the proposal. The Lead Command coordinates the modification proposal with all affected using commands and supporting organizations, such as training and logistics support units. Lead Commands/organizations forward all proposed safety modifications to the Chief of AF

Safety for coordination and approval of the safety designation. Once validated, the Lead Command prioritizes the modification proposal for funding and implementation. The Lead Command completes Sections 13 through 22 of the AF Form 1067 and forwards modification proposals designated for funding and implementation to the applicable PM for initial technical evaluation, implementation planning, and cost estimation.

A2.3.2. For modifications involving multiple mission variants within a given asset design-series that are assigned to multiple Using Commands (e.g., AC/C/EC/MC/HC/WC-130, C/KC/RC/WC-135), each Using Command validates the modification proposal against assigned assets, and the Lead/Using Command responsible for the largest number of assets within the given design-series will have overall responsibility for validating and approving the modification proposal. If the modification proposal is ultimately approved, each Using Command determines whether or not to implement the modification on its assigned assets. Each Using Command attaches supporting documentation to the AF Form 1067 to record their decisions and to provide an audit trail for configuration control purposes.

A2.4. Step 3, Program Manager Review and Approval of Technical Requirements and Solution. The PM initiates a technical evaluation. The CE, in support of the PM, determines preliminary technical impacts and systems engineering-related requirements to implement the proposed modification. Supporting documentation is attached to the form. Such evaluations will include determination of the impacts to the host weapon system/component's technical baseline, as well as any operating certifications or restrictions associated with the host weapon system/component, such as airworthiness certifications; munitions carriage/employment certifications; ESOH requirements, risks, and certifications; security certifications; Cybersecurity; SEEK EAGLE; etc. This evaluation will also determine the potential impacts to, and any corollary modification requirements for, training systems/devices and intelligence or information-related systems and networks that may be required to operate, maintain compatibility with, or sustain the proposed modification.

A2.4.1. The PM also determines the sustainment support needs associated with the proposed modification, including system/product reliability, availability, maintainability, and supportability impacts and requirements. The PM conducts life cycle risk and environment, safety, and occupational health (ESOH) risk assessments for the proposed modification and identify any necessary risk acceptance documentation, safety certifications, or statements that must accompany the modification IAW DoDI 5000.02, MIL-STD-882E and this instruction. Refer to AFPAM 63-128, *Integrated Life Cycle Management*, for guidance on life cycle risk management.

A2.4.2. The PM determines if the modification will involve or produce CPI; if CPI is identified, update the PPP and Acquisition Security Database. The PM ensures this initial technical evaluation encompasses all configuration items and external interfaces whose functional/product baselines may be affected by the proposed modification. The PM coordinates these initial technical and programmatic requirements with other affected system/product management entities, such as Air Logistics Complex (ALC), training program offices, technology development organizations, etc. The PM denotes the modification category (i.e. capability or sustainment modification) in Section 39 of the AF Form 1067 and in applicable modification program plans. As part of the initial technical evaluation of a proposed modification and in coordination with the lead command, the PM develops a preliminary strategy to implement the modification. This strategy will address the

management approach to implementing the modification and include, at a minimum, a top-level description of how the modification should be funded, developed, tested, produced, fielded, and supported; and an estimated schedule for implementing the modification. The PM coordinates with the cognizant contracting officer and small business professional to evaluate any impact to contracts.

A2.4.3. The PM develops formal cost estimates to implement the proposed modification IAW procedures prescribed in AFD 65-5, *Cost and Economics*, as well as the AFI/AFMAN 65-500 series publications and approved AFMC/AFSPC cost estimating techniques. This estimate includes all should costs and affordability costs associated with the development, operation, and sustainment of modification throughout its expected life cycle. Any cost estimates provided by commercial vendors or other government agencies will be validated by the PM. For temporary modifications, this estimate should include costs for host system demodification and disposal (as applicable). Additional cost estimating requirements are prescribed in AFD 65-5, applicable AFI/AFMAN 65-500 series publications, and this instruction.

A2.4.4. The PM attests to the feasibility of the proposed modification requirement by including/appendixing the following statement in Section 39 of the AF Form 1067 “The capability requirement(s) described in this modification proposal is (are) technically achievable and executable within the estimated schedule and costs identified herein.”

A2.4.5. The PM completes Sections 23 through 42 of the AF Form 1067 to provide the completed technical evaluation, preliminary implementation strategy and schedule, and cost estimates. The information is forwarded to the lead command and the SAF/AQ Capability Directorate PEM to initiate/ensure appropriate funding actions are taken. The PM also provides the lead command with any other specific recommendations concerning the development, production, installation, testing, and sustainment requirements associated with proposed modification. Depending on the complexity of the modification, the maturity and availability of critical technology elements of the modification, and other external factors such as the availability of funding, the PM may provide the lead command with implementation courses of action that offer alternative or evolutionary approaches to satisfy the operational requirement or stated need.

A2.5. Step 4, Lead Command Certification and Approval of Modification Proposal (AF Form 1067, Part V). The Lead Command reviews the PM’s initial technical evaluation, implementation strategy and schedule, and cost estimates, and then either approves the modification or returns it to the PM with recommendation for changes to the proposed mod package. The Lead Command checks the appropriate blocks in Part V and completes Sections 43 through 45 of the AF Form 1067. The Lead Command obtains approval for temporary and permanent modifications in both the capability and sustainment categories as specified in AFI 10-601. Once the modification is fully approved, funded, and designated for implementation, the Lead Command and PM revise and coordinate a final implementation strategy with affected Using Commands, support/sustainment organizations and other stakeholders associated with the modification. Once all management reviews and approvals are completed, the modification proposal will be catalogued and maintained IAW applicable records management requirements. Modification proposal documents shall be maintained to record the user’s requirement and configuration control throughout the modified asset’s life cycle.

A2.5.1. Lead Commands coordinate the financing for validated/approved modification proposals with the PM and SAF/AQ capability directorate PEM with cognizance over the affected system, subsystem, or item. The Lead Command, PM, and SAF/AQ capability directorate PEM shall ensure modification requirements are funded as prescribed in AFI 65-601V1 and as documented in approved Research, Development, Test and Evaluation (RDT&E) Program Budget Exhibits (R-1), Procurement Program Budget Exhibits (P-1/P-3A). Refer to AFRCI 10-601 for additional guidance on AF Reserve Command requirements.

A2.5.2. Modification requirements financed with investment funds described in AFI 65-601V1 include but are not limited to development engineering data, modification engineering data, and installation engineering data; procurement and installation of modification kits; support equipment required to sustain the modified configuration; modification of equipment owned by an RDT&E organization used in RDT&E; and embedded information processing equipment and software.

A2.5.3. Modification programs may involve the use of multiple appropriation types in order to implement the modification. Different appropriations may be necessary to fund separate and distinct tasks associated with the modification. For instance, RDT&E funds will often be necessary to design and test the modification, while procurement funds are often required to produce and install the modification. Modification programs will comply with full funding policy detailed in AFI 65-601V1 and DoD 7000.14-R, Vol. 2A, Ch. 1.

A2.5.4. Any modification program or project that has not been previously justified to and approved by Congress during the appropriations process for the fiscal year involved is considered a new start. When a determination has been made that a modification proposal meets new start criteria, Congress must be notified via either a letter of notification or a completed Department of Defense Form 1415-1, Prior Approval Reprogramming Action. Modifications that result from FAA-issued Service Bulletins are also considered new starts if they are not consistent with the "Service Bulletin" budget line item materials provided to Congress. Refer to AFI 65-601V1 and DoD 7000.14-R, Vol. 3, Ch. 6 for specific requirements, processes, and stipulations associated with new start notifications.

A2.5.5. Individual modifications funded in the Low Cost Modification line generally satisfy an unforeseen requirement for the entire weapon system inventory/fleet that is estimated to complete within one year. Total funding for Low Cost Modifications are consistent with AFI 65-601.

A2.6. AF Form 1067 Description.

A2.6.1. PART I, REQUEST FOR ACTION. Sections 1-11 are required and will be completed prior to forwarding the modification proposal to using command validation authority. Sections 1-10 are completed by the initiator and Section 11 is completed by the submitting organization's approval authority.

Page: Enter the appropriate number pages (total) in the submission.

Date: Enter the date of form initiation.

Section 1 Initiator Information: Enter the name, grade, office symbol, mailing address and Defense Switching Network (DSN) number of the initiating individual.

Section 2 Initiator's POC Organization Information: Enter the mailing address and DSN of the submitting organization's point of contact (POC) for AF Forms 1067 (normally the unit product improvement manager).

Section 3 Using Command HQ POC Information: Enter the office symbol, mailing address, and DSN of the initiators Using Command/agency headquarters (HQ) POC for processing AF Forms 1067.

Section 4 Title: Enter the title that best defines/describes the addressed need/requirement.

Section 5 Organization Control Number: Enter the control number assigned by the submitting organization's POC. If none, leave blank.

Section 6 Other Numbers: Use this block to enter any other identifying number. If none, leave blank. (Note: time compliance technical order (TCTO), material improvement program (MIP), engineering change proposal (ECP) and modification (Mod) numbers are entered in Section 24.)

Section 7 Affected Configured Item/Systems:

A. Enter the Mission Design Series (MDS), Type Mission Series (TMS), or the Configured End Item Identification (CEII) for other weapon systems (e.g., AN/APN-59, or Computer Program Identification Number [CPIN]).

1. If all series of the system are affected, cite only the Mission and Design: (e.g., F-15)

2. If all MDS's will not fit, show the one with the highest logistic support priority (LSP) in this block and list all other MDS on an attached continuation page.

3. If the modification affects multi-systems, enter the system that has the highest LSP and list all other weapon systems or end items affected by the modification on an attached continuation page.

B. Enter work unit code (WUC) of affected Configuration Item.

C. Enter NSN of affected Configuration Item.

D. Enter standard reporting designator code (SRD), as applicable.

E. Enter nomenclature (NOUN) of affected Configuration Item.

F. Use other to specify any additional identifier as needed.

Section 8 Purpose: State the deficiency to be corrected or the need to be satisfied by the proposal and what the expected result will/should be. If known by field level initiators or if form is initiated by SM personnel, include:

A. Current and projected mean time before maintenance actions (MTBMA)-Mission Essentiality Identification Code (MEIC) for all affected line replaceable units (LRU) (For engines: MEIC for all recoverable items affected by modification at highest indenture level below engine.) (MEIC is applicable to all but structural modifications.)

B. Number of mission capable (MICAP) hours, both current and projected, if applicable.

C. Current unscheduled removal rate of equipment, and projected removal rate after modification, if applicable.

D. Current or projected mission aborts (before flight aborts, in flight aborts, or total aborts - per assigned MDS sortie generation requirements).

E. If unmodified system LRUs are resulting in excessive maintenance hours and/or extravagant spares requirements, show estimated number of maintenance hours being expended (with dollar value of those hours shown in parenthesis) and/or dollar value of excess spares requirement, to include one year's demand history to reflect increased spares consumption.

Note: Much of this data can be found in existing automated data systems (e.g., Integrated Maintenance Data Systems, reliability maintainability information systems [REMIS] or G081).

F. Ensure that your words support your requirement.

G. Show the numerical equivalent (how many, how much, how often). Avoid the use of such terms as: excessive, enormous, numerous, many, frequent, several, few, moderate, considerable, often, seldom, appear, - when describing either the extent of the deficiency/problem or when relaying the degree of improvement expected or the anticipated benefits to be derived from the modification.

Section 9 Impact: State the impact of not correcting the deficiency or satisfying the need specified in Section 8.

Section 10 Constraints/Assumptions/Proposed Solutions: State proposed solutions, constraints and/or assumptions and recommend modification type (Permanent, Safety, T-1, or T-2). Attach technical/engineering data package documentation including but not limited to sketches, drawings, diagrams, etc. If being completed by SM personnel, the following information should be included. For temporary modifications, identify the total number of units to be modified and the duration/date the units will be returned to their original configuration. (You are not limited to just this information.):

A. Development Status - If an ECP has been received, give date received or if an operational change proposal (OCP) is being developed, give status. If product reliability and maintainability (PRAM) related engineering has been accomplished, explain here. If no ECP/OCP required, state why. State whether flight test is required and, if required, anticipated length of time required.

B. Contracting Requirements - State whether modification will be contractually procured or organically assembled or a combination of the two. If contract will be sole source, give contractor's name.

C. Risk Factor - Identify areas of risk associated with the proposed requirement with emphasis on highest risk.

D. Section 11 Organization Validation: After the individual designated/authorized to validate the proposal performs a quality review of the AF Form 1067 to ensure all initiator required blocks are complete, the validation authority will check the appropriate block (A through C), and completes blocks D through F.

DATE RECEIVED: Enter the date the proposal is received by the organization for validation request approved, forward for Using Command validation.

B. Proposed request disapproved, forward to initiator POC.

C. Proposal returned to initiator POC for additional information.

D. Enter the date signed.

E. Type or print name, grade, title, DSN of validating official or designated representative.

F. Signature of organization validating official or designated representative.

A2.6.2. PART II, USING COMMAND VALIDATION: Section 12 is to be completed by Using Command/Air National Guard (ANG) or equivalent agency headquarters personnel. If the Using Command/agency is the Lead Command, proceed to Part III, Section 13.

DATE RECEIVED: Enter the date the proposal is received from the initiating organization.

Section 12 Using Command Validation: The individual designated/authorized to validate the proposal for further processing will check the appropriate block (A through C) and complete blocks D through H.

A. Proposed request approved, forward for Using Command/agency validation.

B. Proposed request disapproved. If disapproved, rationale for this decision must be returned to the originating organization.

- C. Proposal returned to initiator POC for additional information.
- D. If the Using Command/agency is not the Lead Command for the affected weapon system/Configuration Item, check this block and forward to the appropriate Lead Command. See AFPD 10-9 for listing of assigned weapon system Lead Commands.
- E. Enter Using Command/Agency tracking number.
- F. Enter the date signed.
- G. Type or print name, grade, title, DSN of Using Command/agency designated validation authority.
- H. Signature of Using Command/agency designated validation authority.

A2.6.3. PART III – LEAD COMMAND VALIDATION: Sections 13 – 22 are required fields and completed by Lead Command Headquarters' personnel as follows.

DATE RECEIVED: Enter the date the proposal was received from the Using Command/agency.
 Section 13 Lead Command Action Officer: Enter the name, grade, office symbol, mailing address, and DSN of the evaluating action officer.

Section 14 Through (Optional Routing): Enter the mailing address for other Using Commands/agencies as applicable.

Section 15 Single Manager Office: Enter the office symbol, mailing address, and DSN of the Single Manager POC for processing AF Forms 1067.

Section 16 Modification Type: Mark one of the appropriate blocks to identify the proposed type of modification as defined in this AFI.

Section 17 Lead Command Control Number: Enter the tracking control number.

Section 18 Lead Command Remarks: Enter any known constraints or assumptions that must be addressed during the next level(s) of evaluation. For temporary modifications, address validation of the requirement in terms of the total number of units to be modified and the duration/date the units will be returned to their original configuration.

Section 19 Lead Command Validation Authority: The individual designated/authorized to validate the proposal will check the appropriate block.

A. Validated Request: Proposal is a valid need/requirement.

B. Disapproved Request: Proposal is not a valid need/requirement. If disapproved, rationale for this decision must be returned to the Using Command/agency or originating organization.

Section 20 Type or print name, grade, title, DSN of Lead Command designated validation authority.

Section 21 Signature of Lead Command designated validation authority.

Section 22 Enter the date signed.

A2.6.4. PART IV, SINGLE MANAGER REVIEW AND APPROVAL. Sections 23 - 42 are required fields and completed by the PM as follows:

Date Received: Enter the date the proposal was received from the Lead Command.

Section 23 SM Action Officer Info: Enter the name, grade, office symbol, mailing address and DSN of the SM evaluating action officer.

Section 24 Center Control Numbers: Enter assigned numbers, if applicable. If none assigned, leave blank. Enter any other applicable identifier(s) as a continuation of this block on an attached continuation page.

A. Center MIP No:

B. ECP No:

C. TCTO No:

Section 25 Total BP/EEIC: Enter the total estimated cost by appropriation budget codes. (Example: \$3.5M BP1100, \$4.5M BP2100, \$1.0M 3400, \$.5M 0350, EEIC 583, etc)

Section 26 Nr of CIS Affected: Enter the total number of configured items to be modified (i.e. black boxes, aircraft, etc.).

Section 27 Total Kits Needed: Enter the total number of kits or applicable units proposed, including spares.

Section 28 Also Affects: Check the appropriate block for each affected item (for permanent modifications only). Identify each affected supporting system on a continuation sheet (for example, when training aids are affected, provide trainer flight equipment number, maintenance trainer identifying number, and part number as applicable.). If "OTHER" is checked, identify any significant impacts not otherwise covered here and explain on a continuation sheet. When system-training devices (STDs) are affected, provide on a continuation sheet, the information needed as it relates to the modification of the applicable STDs.

Support Equipment:

Aircrew Training:

Training Devices/Visual Aids (Maint):

Tech Data:

Spares:

Software:

Other:

If STDs are not affected, include on continuation page the appropriate certification (indicate why modification to STDs is not desired or needed) and include certifying official's name, grade, and office symbol. Note: STD is an all-encompassing term. It refers to mission simulators, flight simulators, aircrew or missile crew or cockpit procedures trainers, as well as maintenance training devices, visual aids, simulation devices, operational support equipment, spares, and video tapes, etc.; included in mobile maintenance training sets used to support the field training detachments, and resident training equipment that must be maintained to reflect related weapon systems or equipment configuration. Complete staffing and coordination are required to determine if the supporting systems are affected.

Section 29 Kit or Unit cost: Enter the cost for a single kit (group A/B only).

Section 30 Total Cost: Enter the total estimated cost of the proposed solution as outlined in the BCI.

Section 31 Lead Time: Enter the estimated engineering and kit acquisition lead-time. Compute lead-time by totaling initial admin and initial production estimates: (Entries to be in months)

A. Initial Admin: The number of months from initiation of the requirement to production contract award date or obligation acceptance by the appropriate directorate. "Admin" in this case includes time for engineering and other acquisition processes.

B. Initial Production: The number of months from contract award date or document obligation/ acceptance date through the date of completion of the TCTO verification process.

Section 32 Installation: Begin and complete: Enter the dates, by FY and quarter (YYYY/QTR), for projected initiation of production installs and completion of final installations.

Section 33 Level of Accomplishment: Check the appropriate block indicating the recommended level of accomplishment (i.e., user (organizational), depot (organic or contract) or both (both is to be used if the commodity will be modified at depot level and installed into the aircraft or major end item by the user or organizational level). If the level of accomplishment is "OTHER" identify specifics in Section 39 or on attached continuation sheet.

Section 34 User Work Hrs: Enter the number of estimated user man-hours needed to perform the modification on one Configuration Item.

Section 35 Depot Work Hrs: Enter the number of estimated depot man-hours needed to perform the modification on one Configuration Item.

Section 36 Total Work Hrs: Enter the number of estimated man-hours needed to accomplish the modification on all Configuration Items.

Section 37 Manufacturer: Enter the name of the manufacturer. This normally applies when an ECP is involved, since the ECP is prepared by the manufacturer. If unknown, leave blank.

Section 38 Aircraft Breakout: Indicate number of Configuration Items broken down by Commands/agencies (i.e. AMC, ACC, AETC, AFSOC, AFRC, ANG, etc.)

Section 39 Engineering review recommendation(s): Provide adequate justification appropriate with engineering evaluation decision. For proposals which have approved engineering solutions, the SM will provide enough detail for the lead command to make an assessment of the proposed solution for lead command certification. The SM or designated representative will check the appropriate block indicating approval or disapproval of the SM review. If disapproved, the SM shall provide the lead command with rational for this decision. Include the modification type (i.e. capability or sustainment) Note: SM approval does not constitute authorization to install the modification until funded and lead command approval to proceed (Sections 44 through 48).

Section 40 Type or print the name, grade, and title, DSN of the SM or designated representative.

Section 41 Signature of the PM or designated representative.

Section 42 Enter the date signed.

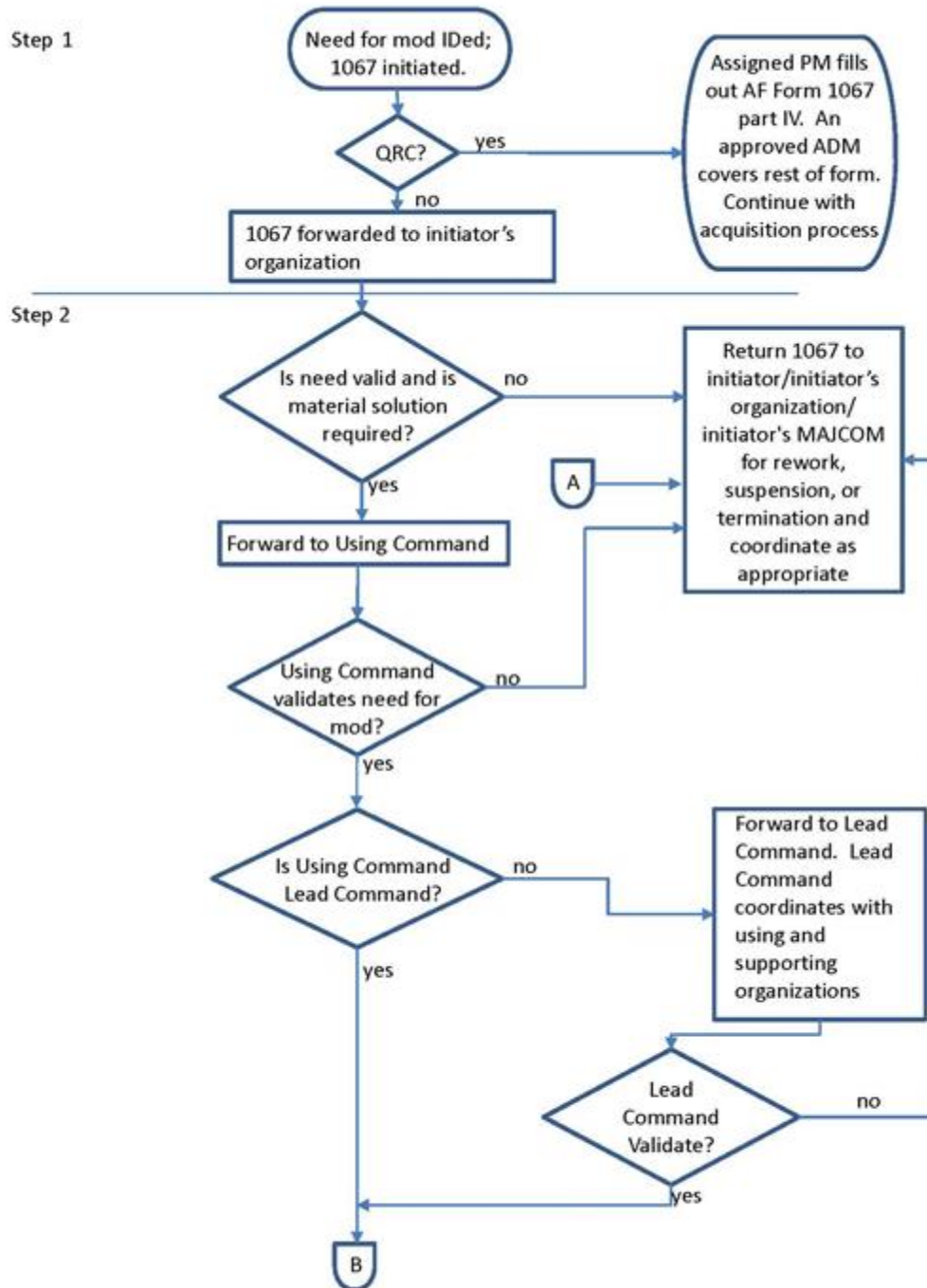
A2.6.5. PART V, LEAD COMMAND CERTIFICATION/APPROVAL. Sections 43 – 47 are required and completed by the Lead Command that is assigned the responsibility for the applicable affected configured item(s). The Lead Command designated certification/approval authority will check the appropriate block indicating Modification Approval”, “Disapproval”, or “MNS/ORD to be developed.” If approved, Using Command/agency (if applicable) or the originating organization shall coordinate with the PM for specific installation documentation and/or required certifications that accompany the modification. If disapproved, the Lead Command shall provide the Using Command/agency (if applicable) and the originating organization with the rational for this decision. Forward applicable Modification Proposals to AF/A5R as specified in applicable 10-series AFIs or the AF/A5R Requirements Development Guidebook.

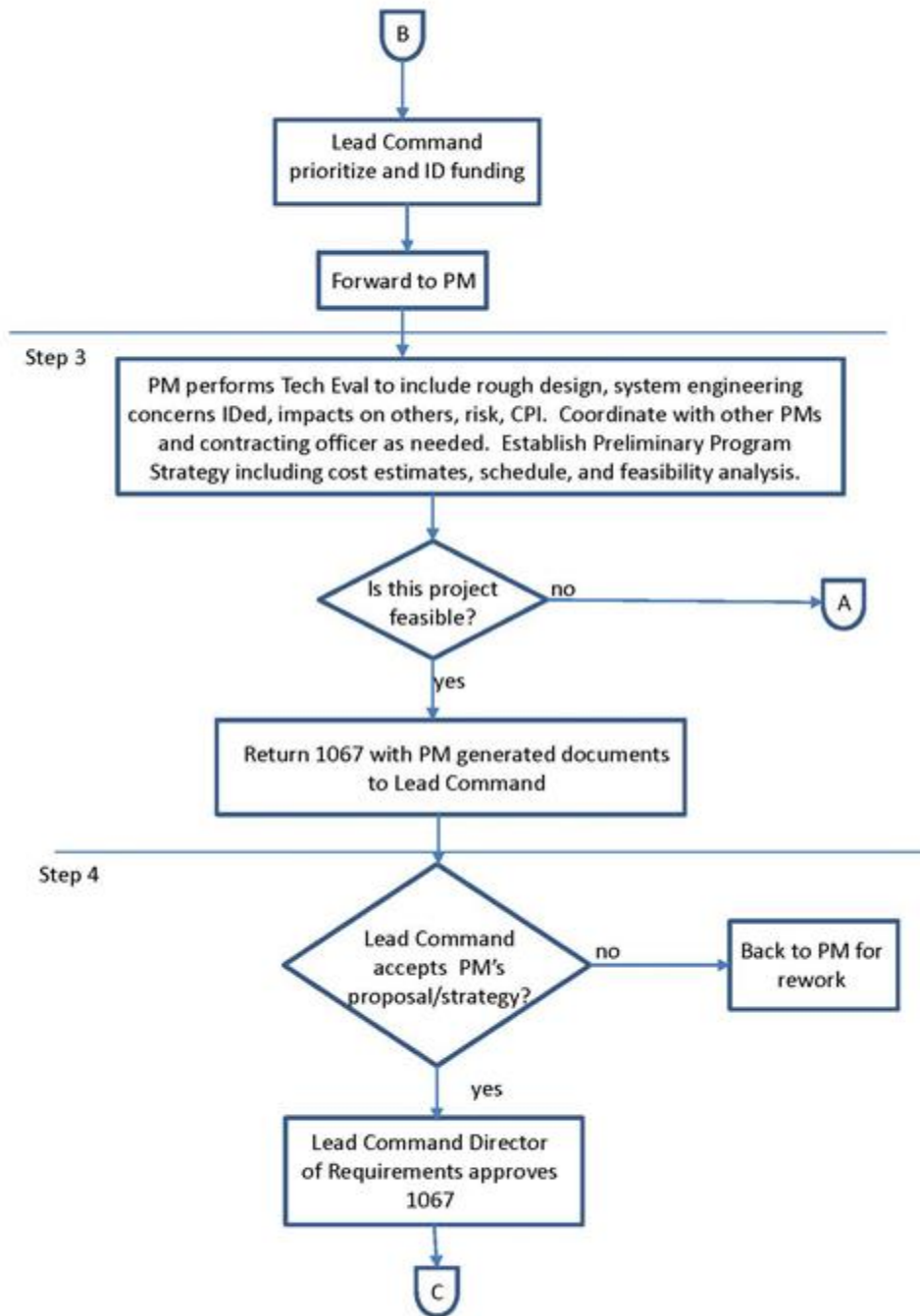
Section 43 Type or print name, grade, and title, DSN of the Lead Command designated certification/approval authority.

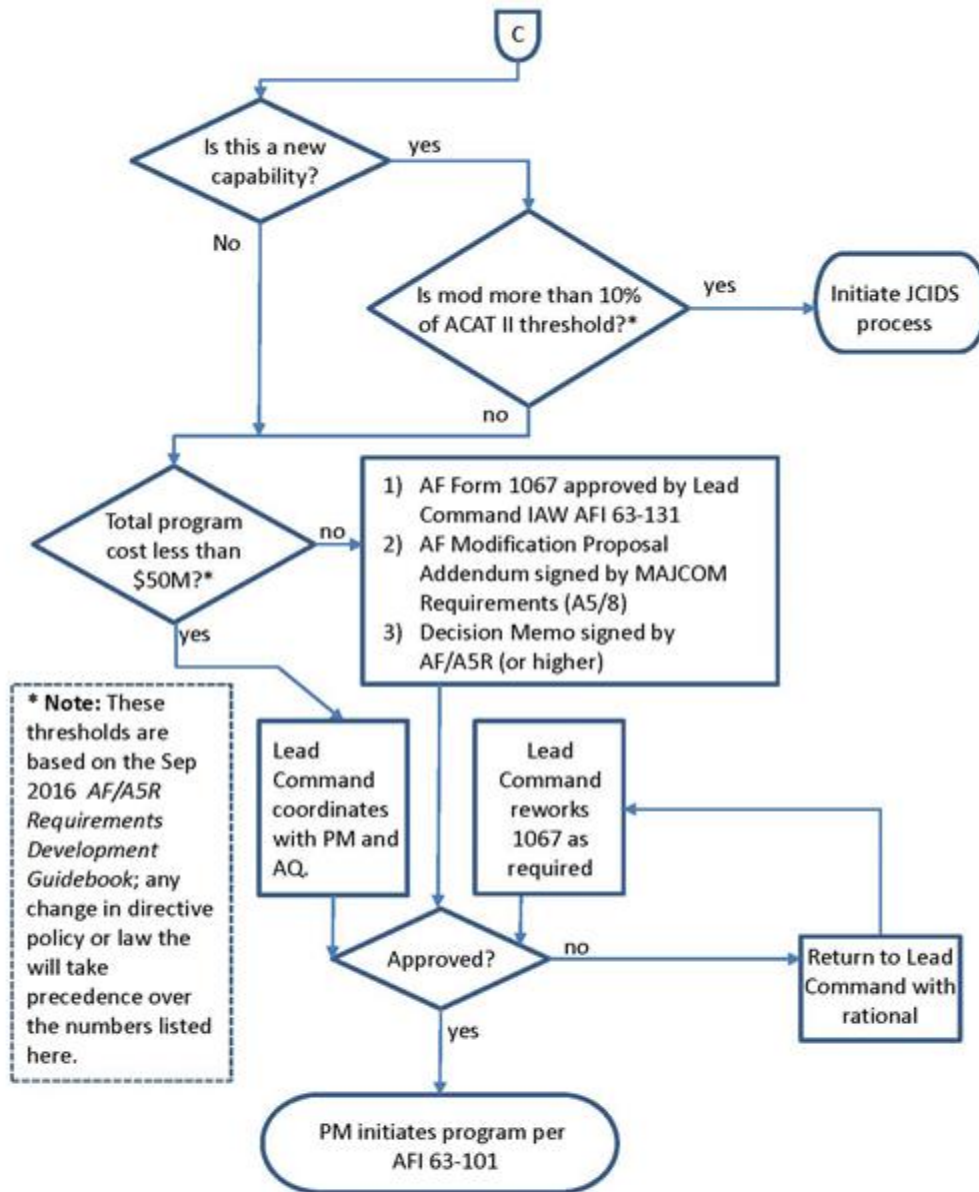
Section 44 Signature of the lead command designated certification/approval authority.

Section 45 Enter the date signed.

Table A2.1. AF Form 1067 Process Flow.







Attachment 3

LIFE CYCLE RISK MANAGEMENT PROCESS AND RISK MATRIX DEFINITION

Figure A3.1. AF LCRM Process.

Standardized Process Steps (at the Macro Level)
All steps occur throughout life cycle

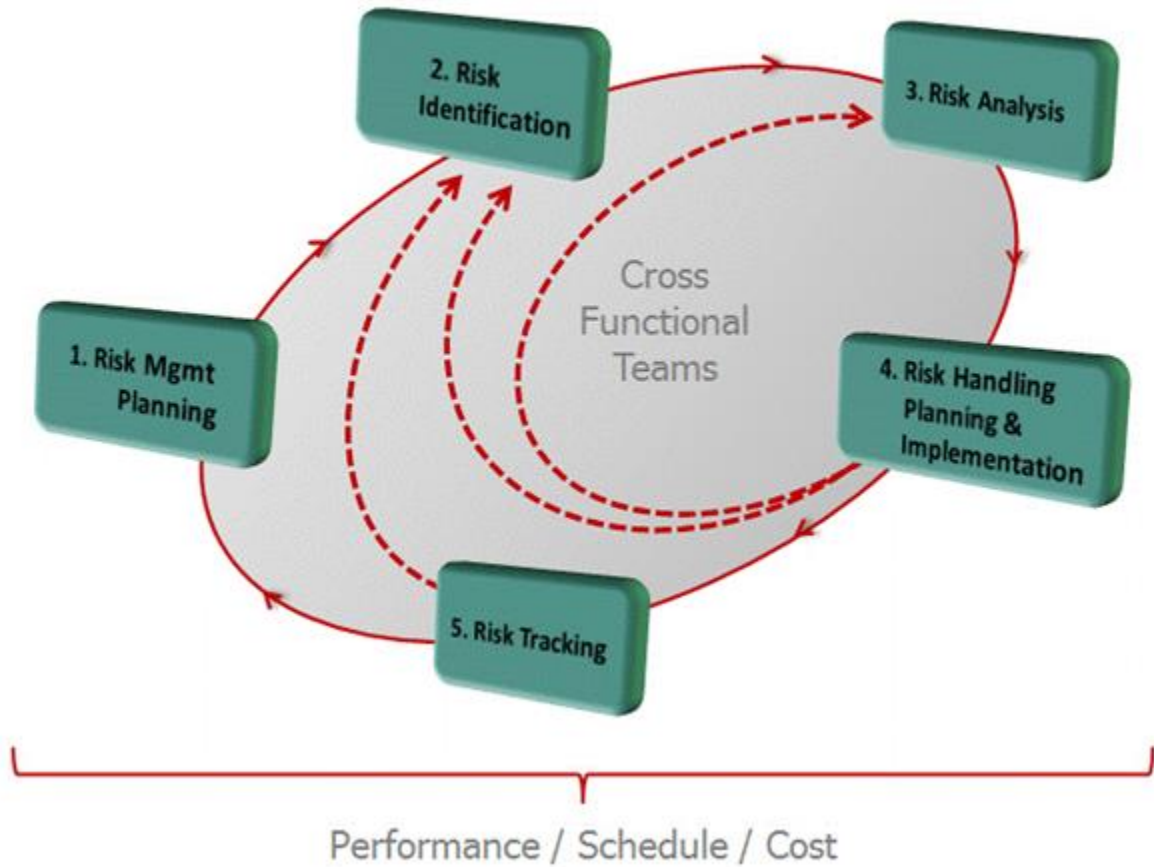


Figure A3.2. LCRM Risk Matrix.

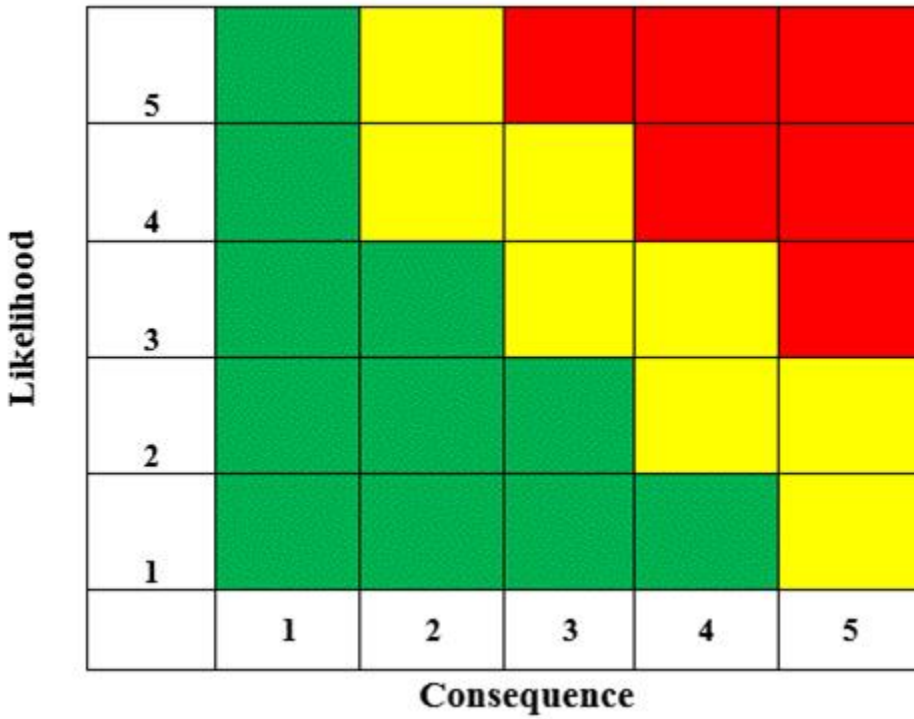


Table A3.1. Likelihood Criteria.

Level	Likelihood	Probability of Occurrence
5	Near Certainty	81%-99 %
4	Highly Likely	61%-80%
3	Likely	41%-60%
2	Low Likelihood	21%-40%
1	Not Likely	5%-20%

Table A3.2. Standard AF Consequence Criteria – Performance.

Level	Standard AF Consequence Criteria - Performance
1	Minimal consequence to technical performance or supportability but no overall impact to the program success. A successful outcome is not dependent on this issue; the technical performance goals or technical design margins will still be met.
2	Minor reduction in technical performance or supportability, can be tolerated with little impact on program success. Technical performance will be below the goal or technical design margins will be reduced, but within acceptable limits.
3	Moderate shortfall in technical performance or supportability with limited impact on program success. Technical performance will be below the goal, but approaching unacceptable limits; or, technical design margins are significantly reduced and jeopardize achieving the system performance threshold values.
4	Significant degradation in technical performance or major shortfall in supportability with a moderate impact on program success. Technical performance is unacceptably below the goal; or, no technical design margins available and system performance will be below threshold values.
5	Severe degradation in technical performance or supportability; will jeopardize program success; or will cause one of the triggers listed below (Note 1)
<p>Note 1: Any root cause that, when evaluated by the cross-functional team, has a likelihood of generating one of the following consequences is rated at Consequence Level 5 in Performance:</p> <ul style="list-style-type: none"> -Will not meet Key Performance Parameter (KPP) Threshold - Critical Technology Element (CTE) will not be at Technology Readiness Level (TRL) 4 at MS/ A - CTE will not be at TRL 6 at MS/ B - CTE will not be at TRL 7 at MS/ C - CTE will not be at TRL 8 at the Full-rate Production Decision point - Manufacturing Readiness Level (MRL)* will not be at 8 by MS C - MRL* will not be at 9 by Full-rate Production Decision point - System availability threshold will not be met <p>* MRLs will be calculated IAW the <i>DoD Manufacturing Readiness Assessment Deskbook</i>.</p>	

Table A3.3. Standard AF Consequence Criteria – Schedule.

Level	Standard AF Consequence Criteria - Schedule
1	Negligible program or project schedule slip
2	Schedule slip, but: Able to meet MS dates (e.g. A, B, and C) and other key dates (e.g. CDR, FRP, FOC) Does not significantly decrease program total float and Does not impact the critical path to program or project completion date
3	Schedule slip that requires closely monitoring the schedule due to the following: Impacting the ability, but still able to meet MS dates (e.g. A, B, and C) and/or other key dates (e.g. CDR, FRP, FOC) Significantly decreasing program total float Impacting the critical path to program or project completion date
4	Schedule slip that requires schedule changes due to the following:.* Significantly impacting the ability to meet MS dates (e.g. A, B, and C) and/or other key dates (e.g. CDR, FRP, FOC) Significantly impacting the ability to meet the program or project completion date
5	Schedule slip that requires a major schedule re-baselining due to the following:.* Failing to meet MS dates (e.g. A, B, and C) and/or other key dates (e.g. CDR, FRP, FOC) Failing to meet the program or project completion date
<p>* Exhibit awareness to exceeding Nunn-McCurdy threshold breach for schedule.</p> <p>Note: Impact varies based on 1) The schedule slip relative to the remaining duration in the program or major MSs; amount of remaining time to work-around the impact; 2) The impact of the slip with respect to key resources.</p>	

Table A3.4. Standard AF Consequence Criteria – Cost.

Level	Standard AF Consequence Criteria – Cost (A-B Refers to MS designation)
1	For A-B Programs: <1% increase from MS A or last approved Development or Production cost estimate. For Post-B and Other Programs: <1% increase from MS A or last approved Development or Production cost estimate.
2	For A-B Programs: 1% to <3% increase from MS A or last approved Development or Production cost estimate. For Post-B and Other Programs: 1% to <3% increase from MS A or last approved Development or Production cost estimate.
3	For A-B Programs: 3% to <5% increase from MS A or last approved Development or Production cost estimate. For Post-B and Other Programs: 3% to <5% increase in Development or >1.5% increase to Program Acquisition Unit Cost (PAUC) or Average Unit Procurement Cost (APUC) from last approved baseline estimate or >3% increase to PAUC or APUC from original baseline. (1/10 of Nunn-McCurdy ‘significant’ breach).
4	For A-B Programs: 5% to <10% increase from MS A or last approved Development or Production cost estimate. For Post-B and Other Programs: 5% to <10% increase in Development or >3% increase to PAUC or APUC from last approved baseline estimate or >6% increase to PAUC or APUC from original baseline. (1/5 of Nunn-McCurdy ‘significant’ breach).
5	For A-B Programs: >10% increase from MS A or last approved Development or Production cost estimate. For Post-B and Other Programs: >10% increase in Development or >5% increase to PAUC or APUC from last approved baseline estimate or >10% increase to PAUC or APUC from original baseline. (1/3 of Nunn-McCurdy ‘significant’ breach).

Figure A3.3. Translation of MIL-STD-882E Risk Matrix to the OSD Risk Management Guide Matrix.

DoD Acquisition Risk Management Guide

Likelihood	5		IVA		IIA	IA
	4		IVB	IIIA	IIB	IB
				IIIC		
	3		IVC	IIID	IIC	IC
					IID	ID
	2		IVD			IE
1		IVE				
		1	2	3	4	5
Consequence						

MIL-STD-882E

Probability	A				
	B				
	C				
	D				
	E				
			I	II	III
Severity					

Note: MIL-STD-882E includes probability level “F” for “eliminated” ESOH risks that are "incapable of occurrence." ESOH risks with probability level F should not be translated to the DoD Acquisition Risk Management program risk matrix.