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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 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 Office of Management and Budget Circular A-11, *Preparation, Submission, and Execution of the Budget*; Department of Defense Instruction (DoDI) 2000.25, *DoD Procedures for Reviewing and Monitoring Transactions Filed with the Committee on Foreign Investment in the United States (CFIUS)*; DoDI 3020.41, *Operational Contract Support (OCS)*; DoDI 3200.19, *Non-Lethal Weapons (NLW) Human Effects Characterization*; DoDI 3200.20, *Scientific and Engineering Integrity*; DoDI 4151.19, *Serialized Item Management 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 for Materiel Maintenance*; DoDI 4245.14, *DoD Value Engineering (VE) Program*; DoDI 5000.02, *Operation of the Adaptive Acquisition Framework,* DoDI 5000.02T, *Operation of the Defense Acquisition System*; DoDI 5000.60, *Defense Industrial Base Assessments*; 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*; DoDI 5134.16, *Deputy Assistant Secretary of Defense for Systems Engineering (DASD(SE))*; 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 DoDI 8320.06, *Organization Unique Identification (OUID) Standards for Unique Identification of External Department of Defense Business Partners.* This publication also implements DoDI 5000.85, *Major Capability Acquisition* and DoDI 5000.88, *Engineering of Defense Systems*

This instruction applies to the United States Space Force (USSF) unless and until such time as separate service guidance is published. In this event, USSF guidance shall prevail in application to the USSF. Note: All references to United States Air Force (USAF) terminology, units, grades, and positions will also apply to the equivalent in the USSF, as appropriate. For example, references to Airmen will also apply to Guardians. References to MAJCOMs or NAFs will also apply to field commands. References to wings will also apply to deltas/garrisons. Air Staff roles and responsibilities (e.g., AF/A1, etc.) may also apply to the equivalent Office of the Chief of Space Operations (Space Staff) position or office (e.g., SF/S1, etc.), as deemed appropriate. Tier waiver authority is addressed in **Chapter 1, paragraph 1.3**.

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 the 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 Forms 847 from the field through functional chain of command. This instruction requires the collection and maintenance of information protected by the Privacy Act of 1974 authorized by Title 10 United States Code (USC), Section 9013, *Secretary of the Air Force.* The applicable System of Record Notices (SORNs) F036 AF PC Q, *Personnel Data System* and F036 AF PC C, *Military Personnel Records System*, are available at: **https://dpcld.defense.gov/Privacy/SORNs/**. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, *Records Management and Information Governance Program*, and disposed of

in accordance with the AF Records Disposition Schedule located in the AF Records Information Management System.

(AETC) AFI 63-101/20-101, *Integrate Life Cycle Management*, is supplemented as follows: This publication contains command specific guidance and information necessary to manage and approve modification proposals within Air Education and Training Command (AETC). This publication is applicable to AETC personnel, Air National Guard (ANG) and Air Force Reserve Command (AFRC) when classically associated. This supplement does not apply to the United States Space Force. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication*; route DAF Form 847 from the field through the appropriate functional chain of command. Users of this instruction must notify HQ AETC/A5RF of conflicts between this instruction and other directives, instructions, or technical orders. Request for waivers to this supplement for non-tiered compliance items must be submitted through the chain of command to AETC/A5R for review and coordination and approval by AETC A5/8. This publication may not be supplemented or further implemented/extended. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFI 33-322, *Records Management and Information Governance Program*, and disposed of IAW Air Force Records Information Management System Records Disposition Schedule. Contact supporting records managers as required.

SUMMARY OF CHANGES

Interim Change (IC) #1 reflects (1) Secretary of Defense exportability requirements, (2) reliability audit findings, (3) Adaptive Acquisition Framework (AAF) alignment, (4) new Diminishing Manufacturing Sources and Material Shortages, (5) Independent Technical Risk Assessment direction, (6) updates to human system interface references, (7) updates to product support guidance and (8) changes to acquisition master list criteria. A margin bar (|) indicates newly revised material.

(AETC) This document has been revised and should be completely reviewed. Changes include changes to office symbols (i.e. AETC/A5X to AETC/A5R).

Chapter 1

INTEGRATED LIFE CYCLE MANAGEMENT

1.1. Purpose. Purpose of AFI 63-101/20-101, *Integrated Life Cycle Management*, contains directive overarching processes and procedures required to deliver and sustain warfighting capabilities. Integrated Life Cycle Management 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 or user requirements. This publication was written to be used with the non-directive best practices and procedures provided in Air Force Pamphlet (AFPAM) 63-128, *Integrated Life Cycle Management* and AFPAM 63-129, *Air System Development and Sustainment Engineering Processes and Procedures*.

1.1.1. The management of systems throughout their lifecycle involves a multi-functional collaborative effort among the requirements, acquisition and sustainment, test, information operations, and intelligence communities.

1.1.2. Details on key acquisition and sustainment activities can be found in the body of this document, referenced supporting documentation, or by using the AF Acquisition Process Model tool.

1.2. Applicability. This instruction applies to the management of acquisition programs and activities to include weapons, weapons systems, national security systems and all investment-funded activities, in any phase of the lifecycle. This instruction applies to acquisition programs using any pathway in the adaptive acquisition framework defined in DoDI 5000.02 and shown in **Figure 1.1** except as specified in this publication or the publication implementing the pathway. AF acquisition programs begin by utilizing investment funding (i.e. Research, Development, Test and Evaluation (RDT&E) or procurement) to satisfy a validated need.

Figure 1.1. Adaptive Acquisition Framework.
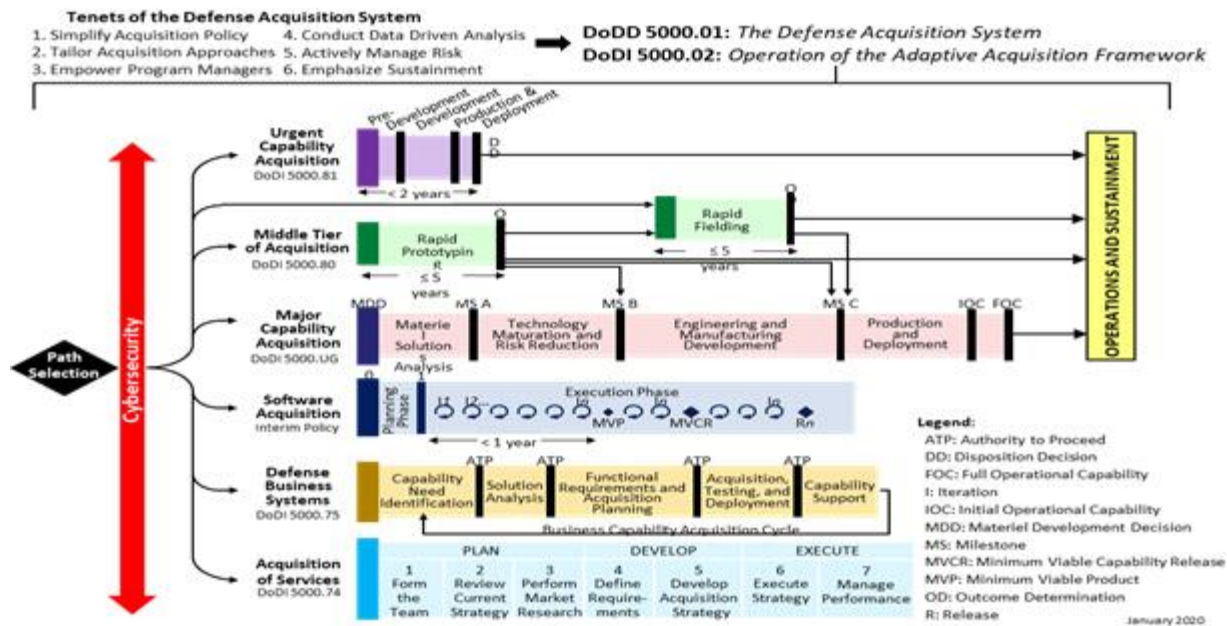
1.2.1. Major Capability (Acquisition Category (ACAT)) Programs. Guidance for ACAT programs, also known as Major Capability Acquisition (MCA) programs, is in this AFI and DoDI 5000.85, *Major Capability Acquisition*. DoDI 5000.85 defines and provides the criteria for ACAT programs. Programs retain their ACAT designation through sustainment, until demilitarized, disposed of or terminated, and are categorized on the Acquisition Master List (AML) and the 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 MCA programs not included within ACAT I, and II.

1.2.2. Sustainment Activities. This publication provides guidance for programs in the Operation and Support Phase including programs or systems utilizing Operations and Maintenance (O&M) funding. Systems in the Operation and Support 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 to include the following:

1.2.2.1. Modifications. Modifications to systems are addressed in **Chapter 9**. Permanent modifications to an operational capability may result in a new acquisition program and DoDI 5000.02 and this AFI would apply.

1.2.2.2. Maintenance Activities. Maintenance activities for existing programs that are not considered a permanent modifications and do not utilize investment funding, are not required to be managed as a new acquisition program. Maintenance activities are managed in accordance with maintenance and program processes. This instruction does not apply to the following modification activities:

1.2.2.2.1. Replacement interchangeable items which do not involve the alteration of an existing asset. MIL-HDBK-61A, *Configuration Management Guidance*, considers 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.

1.2.2.2.2. O&M funded actions that keep a previously established level of performance through routine, recurring work correction of product quality deficiencies, restoration of the functional baseline or performance specification, and do not extend service life of the equipment or alter form, fit, function, or interface.

1.2.2.2.2.1. This includes depot-level maintenance as defined in Title 10 USC Section 2460 and maintenance actions such as the materiel repair, overhaul, rebuilding of parts, assemblies, subassemblies, and the testing and reclamation of equipment to correct a deficient condition in the originally designed functionality.

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

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

1.2.2.2.2.4. 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.

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

1.2.2.2.3. Sustainment activities that utilize investment funding should be categorized as either an AML or AML-Exempt program and report funding in accordance with this AFI (see **Chapter 11**).

1.2.3. Defense Business Systems (DBS). DBS follow guidance in DoDI 5000.75, *Business Systems Requirements and Acquisition*; and AFMAN 63-144, *Business Capability Requirements, Compliance, and System Acquisition*, for the acquisition of the system. DBS programs are subject to Investment Master List (IML) categorization and acquisition reporting detailed in **Chapter 11** of this AFI. The functional sponsor uses the Program Executive Officer (PEO) Portfolio Assignment Process for assignment of a DBS to the appropriate PEO.

1.2.4. The Middle Tier of Acquisition (Rapid Prototyping and Rapid Fielding). Middle Tier of Acquisition programs follow DoDI 5000.80, *Operation of the Middle Tier of Acquisition (MTA)*; Air Force Guidance Memorandum (AFGM) 2019-63-01, *Rapid Acquisition Activities*; or subsequent AF guidance for Middle Tier Acquisition programs.

1.2.5. Acquisition of Services. Acquisition of services are Acquisition Master List-Exempt investment activities and follow the guidance in DoDI 5000.74, *Defense Acquisition of Services* and AFI 63-138, *Acquisition of Services*.

1.2.6. Other Acquisition Master List-Exempt Investment Activities. Acquisition Master List-Exempt investment activities are not considered acquisition pathway programs and are not

required to follow DoDD 5000.01, *The Defense Acquisition System* guidance related to the management of acquisition programs. All investment activities are required to report investment funding and be categorized as Acquisition Master List-Exempt per **Chapter 11**. Investment activities are required to comply with Federal Acquisition Regulation (FAR) and financial management requirements as defined. Additional AML-Exempt investment activities include:

1.2.6.1. 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, *Capabilities-Based Test and Evaluation* and AFI 91-202, *The US Air Force Mishap Prevention Program*.

1.2.6.2. Studies. Studies are required to follow this AFI, **Chapter 11**, as well as AFI 90-1603, *Studies Management and Registration*.

1.2.6.3. Technology Projects. The management procedures of this AFI do not apply to science and technology programs, demonstrations, experiments or projects managed using AFI 61-101, *Management of Science and Technology*.

1.2.7. Special Access Program (SAP).

1.2.7.1. The Assistant Secretary of the Air Force for Acquisition, Directorate of Special Programs (SAF/AQL) will assess all acquisition policy and instructions for application to SAPs and establish acquisition policy specific to SAPs in accordance with AFI 16-701, *Management, Administration and Oversight of Special Access Programs*. Collateral programs with acknowledged SAP elements are required to follow the guidance in this AFI unless otherwise exempt. SAF/AQL in coordination with the Director, Security, Special Programs Oversight and Information Protection (SAF/AAZ), is responsible for these activities.

1.2.7.2. SAF/AAZ reviews Committee on Foreign Investment in the United States transactions received from DoD Special Access Program Central Office and is the Air Force responsible party as the Cognizant Security Authority pursuant to DoDI 5205.11, *Management, Administration, and Oversight of DoD Special Access Programs (SAPs)*.

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

1.2.8.1. Security Cooperation and FMS acquisition programs are executed in accordance with the *Arms Export Control Act*, 22 USC § 2751; Defense Security Cooperation Agency 5105.38-M, *Security Assistance Management Manual*; DoD Financial Management Regulation 7000.14-R, *Department of Defense Financial Management Regulation*; and AFMAN 16-101, *Security Cooperation (SC) and Security Assistance (SA) Management*.

1.2.8.2. FMS programs are implemented based on the direction in the DoD 5000 acquisition series, DoD 5200 series, 99-series test AFIs, 62-series engineering AF publications, 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.

1.2.8.3. FMS program requirements are 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.

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

1.2.8.3.2. Collaboration with the user 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 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.

1.3. Waiver Authority (Tiering) and Tailoring.

1.3.1. Waivers. A waiver is a statement to relinquish or provide exceptions to a specific statutory or regulatory requirement.

1.3.1.1. The authorities to waive wing or unit level requirements that are outside of the acquisition execution chain in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander for non-tiered, non-acquisition execution compliance items.

1.3.1.2. Mandates to the acquisition execution chain defined in this AFI, including mandates to the PEO, Milestone Decision Authority (MDA), Program Manager (PM) or other program office members, are not elevated through the organizational chain of authority; therefore, tiering in accordance with AFI 33-360, is not applied and the waiver authority is as specified or if not specified, through the acquisition execution chain of authority.

1.3.1.3. Approval authority for this AFI is the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) (SAF/AQ); signature authority for waivers to is delegated to SAF/AQX. Where the course of action, as approved and documented through the acquisition execution chain of authority, conflicts with this AFI, the PM submits a notification via memorandum to the publication office of primary responsibility (SAF/AQX) for action. The office of primary responsibility takes appropriate action to either provide direction to comply with policy, obtain a waiver to requirements, or initiate changes to resolve the conflict. Conflicts are resolved by the appropriate Headquarters Air Force (HAF) functional.

1.3.1.4. If there is a clear conflict between an approved course of action and a Department level issuance that cannot be addressed through tailoring, SAF/AQ will request waivers from the appropriate DoD office regardless of the program's ACAT level. If a waiver is

required, the waiver request should be submitted to the office of primary responsibility of the AF publication implementing the Department level issuance for appropriate staffing and approval.

1.3.1.5. Waivers for SAPs are submitted through the relevant Major Commands (MAJCOM) SAP management office for submission to the appropriate HAF organizations for adjudication.

1.3.2. 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 or user 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, DoDI 5000.02T and AFPAM 63-128 for more information on tailoring.

1.3.2.1. Tailoring is documented, including the supporting rationale and citation to the applicable statute or regulation. The PM identifies the tailoring strategy in the Acquisition Strategy or Acquisition Decision Memorandum (can be waived by the MDA). The MDA approves the tailoring strategy as part of the documentation approval.

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

1.3.3. Non-Value Activities. 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 acquisition execution chain of authority up to the MDA; however, the burden of proof lies with the proponent.

1.4. Acquisition Execution Chain of Authority. The AF acquisition chain of authority reflects the management structure from the Service Acquisition Executive (SAE) through the PEO to the accountable PM. The acquisition chain of authority should be streamlined and characterized by short, clearly defined lines of responsibility, authority, and accountability and minimize levels of review between the PM and the MDA. Only those in the acquisition execution chain of authority exercise decision-making authority on programmatic matters. The PM documents the acquisition execution chain of authority in the Acquisition Strategy. The acquisition chain of authority should be streamlined and characterized by short, clearly defined lines of responsibility, authority, and accountability and minimize levels of review between the PM and the MDA. Only those in the acquisition execution chain of authority exercise decision-making authority on programmatic matters. The acquisition chain of authority includes the following:

1.4.1. 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 criteria, and is accountable for cost, schedule, and performance reporting to higher authority, including Congress. 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 *Acquisition of*

Services. **Note**: References to Milestone Decision Authority in this publication apply to the person with program decision authority regardless of pathway.

1.4.1.1. The Defense Acquisition Executive (DAE) is the MDA in accordance with the guidelines specified in DoDI 5000.02T for ACAT ID and IAM programs.

1.4.1.2. The Service Acquisition Executive SAE is the MDA for ACAT IB, IC, ACAT IAC, and special interest programs. The SAE is the MDA for Middle Tier and software pathway programs meeting the criteria of a Major Defense Acquisition Program (MDAP) unless delegated.

1.4.1.2.1. MDA responsibilities for ACAT II and ACAT III programs are delegated to a PEO by this instruction and documented in the PEO assignment memorandum. MDA responsibilities for Middle Tier and software pathway programs not meeting the criteria of a Major Defense Acquisition Program (MDAP) are delegated to a PEO by this instruction and documented in the PEO assignment memorandum.

1.4.1.2.2. PEOs may delegate ACAT II and III MDA authorities, and Middle Tier or software programs not meeting the criteria of an MDAP, to any individual and should delegate to the lowest level. The SAE has the authority to rescind delegations. Delegations are in writing (can be waived by SAE) and no further delegation is allowed.

1.4.1.2.3. Program Executive Officers will notify the SAE and the Deputy Assistant Secretary (Acquisition Integration) of all MDA delegations and update applicable reporting systems (can be waived by SAE).

Table 1.1. Milestone Decision Authority (MDA) Delegation.

ACAT[1]	Designation Authority	MDA
ID	DAE	DAE
IB[2]	SAE	SAE
IC	DAE	SAE
IAM	DAE	DAE
IAC	DAE	SAE
Middle Tier meeting MDAP criteria	SAE[3]	SAE
Software Pathway meeting MDAP criteria	SAE[4]	SAE[4] or as delegated
II	SAE	PEO or as delegated to any individual

III	SAE	PEO or as delegated to any individual
MTA or software not meeting MDAP criteria	SAE	PEO or as delegated to any individual

Notes: 1) Refer to DoDI 5000.02T *Operation of the Defense Acquisition System* for ACAT descriptions.

2) SAE designated the MDA for all MDAP programs entering Milestone A after October 1, 2016 unless the Secretary of Defense designates an alternate MDA (reference Section 825 of Public Law 114–92 and paragraph **3.9**).

3) Use of MTA for MDAP level requires pre-approval from DAE. (reference DoDI 5000.80)

4) Unless designated Special Interest by the DAE

1.4.2. Program Executive Officer (PEO). The PEO is responsible for and has authority to accomplish assigned portfolio objectives and ensures collaboration across the Integrated Life Cycle Management framework. The PEO identifies a Director of Engineering to be accountable to the PEO for oversight of the portfolio's engineering functional support.

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

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

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

1.4.3.1. All programs on the AML, to include programs using MCA Pathway (i.e. ACATs), MTA Pathway, Urgent Capabilities Acquisition (UCA) Pathway, Defense Business Systems (DBS) Pathway (Business Category (BCATs)), or Software Acquisition (SWA) Pathway and, weapons systems identified by DAFPD 10-9, *Lead Command Designation and Responsibilities for Weapons Systems*, have only one clearly identified and documented Program Manager (PM). A waiver is required to be submitted to the SAE if no single PM is identified.

1.4.3.2. 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.

1.4.4. Program Support Personnel. 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 or part time basis, take program direction from the PM for program-related activities. The PM identifies and defines the roles and responsibilities of the principal support functions critical to the successful execution of the PM's responsibilities: the Chief Engineer, the Product Support Manager, and the Chief Developmental Tester (Test

Manager). 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 life cycle. Other functional positions are included at the PM's discretion.

1.4.4.1. Chief Engineer. The Chief Engineer is identified as soon as possible following the assignment of the PM. **Note**: The AF term "Chief Engineer" is synonymous with the DoDI 5000.02T term "Lead Systems Engineer."

1.4.4.2. Product Support Manager (PSM). The PEO ensures a PSM is assigned to all ACAT I and II programs, MTA programs, and weapon systems identified by DAFPD 10-9. **(T-0)** For ACAT I and II programs in the Operation and Sustainment Phase, all ACAT III, and MTA 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 Product Support Manager position is established to support the Major Defense Acquisition Program Product Support Manager. The Service Product Support Manager reports directly to the AF organization assigned responsibility for supporting the Joint Program Office. The PSM is assigned simultaneously with the PM.

1.4.4.3. Chief Developmental Tester (or Test Manager). All MDAPs require a Chief Developmental Tester which is designated as a Key Leadership Position in accordance with AFI 36-1301. A Test Manager is identified for all other ACAT programs. While the Test Manager does not need to meet the more stringent workforce qualifications of the Chief Developmental Tester, the Test Manager must be able to perform the Chief Developmental Tester or Test Manager responsibilities as detailed in AFI 99-103, *Capabilities-Based Test and Evaluation*. **(T-1)**

1.4.4.4. Other Program Support. Other program support consists of resources performing program execution activities. 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, program protection, security, and meteorological analysis.

1.4.5. Staff Organizations. Councils, committees, advisory groups, panels and staffs at all levels provide advice and recommendations to the PM, PEO, MDA, SAE, and 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 opportunity to successfully execute the program. Staff organizations provide objective inputs, such as legal or engineering to the program decision process. Staff organizations cannot exercise or imply decision-making authority on programmatic matters unless explicitly delegated.

1.5. PEO Portfolio Assignment or Transfer.

1.5.1. PEO Portfolio Assignment. During the requirements validation process, the requirements sponsor informs SAF/AQ of the potential program **(T-1)** Information provided contains proposed program description, estimated dollar value, funding status and anticipated ACAT. With input from the implementing command, SAF/AQ assigns the effort to a PEO and includes confirmation of proposed ACAT level and the MDA. The lead command or sponsor

submits a request for PEO assignment once funding is identified and the Air Force budget and program requirements have been developed and submitted to the appropriate requirements approval authority.

1.5.1.1. 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 PEO has received the candidate 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.

1.5.1.2. For existing systems or systems transitioning from another agency, the sponsor provides 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 assigns the effort to a PEO and determines the MDA.

1.5.1.3. 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 are revalidated on an annual basis (may be waived by SAF/AQ) and may be transitioned to a permanent assignment based on confirmation of a validated requirements document in coordination with the implementing command.

1.5.2. PEO Portfolio Transfer. Coordinate transfer of ACAT programs between PEO portfolios through the implementing command(s) for approval by SAF/AQ. The impacted organizations prepare a joint request providing rationale and justification for the proposed transfer **(T-1)** Send PEO Portfolio Assignment requests to SAF/AQ.

1.5.3. Basing Actions. Basing actions include the activation, inactivation, or adjustment, that result in the increase, decrease, or movement of AF and non-AF units, missions, manpower authorizations, or weapon systems to AF and non AF locations.

1.5.3.1. Depot actions that exceed the scope of Depot Source of Repair processes may be considered basing actions.

1.5.3.2. In general, PEO portfolio assignment and transfers activities will not result in a strategic basing action. However, for actions meeting the following criteria, the implementing command, with support from the PM, will provide a summary of the action to SAF/IE for review (may be waived by SAF/IE) and may require processing as a basing action:

1.5.3.2.1. The movement of personnel across MAJCOMs.

1.5.3.2.2. Facility requirements with construction that require the use of Military Construction (MILCON) funding or government leased space.

1.5.3.2.3. New work that brings 100 or more military or government personnel to a base.

1.5.3.2.4. Action may result in total installation growth greater than 1000 personnel, including military, civilian, and contractor personnel.

1.5.3.2.5. Special interest or Congressional actions regardless of size or scope.

1.5.3.2.6. Refer to AFI 10-503, *Strategic Basing*, for guidance on the basing process.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Purpose. This chapter defines roles and responsibilities and 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 and other publications referenced in **Attachment 1**. Responsibilities of headquarters staff are located in mission directives; the responsibilities of SAF/AQ staff are included in HAF mission directive (MD) 1-10, *Assistant Secretary of the Air Force (Acquisition)*. **Note**: Roles and responsibilities related to acquisition industrial preparedness are explained in **Chapter 12**.

2.2. Service Acquisition Executive (SAE). The AF SAE is the Assistant Secretary for the Air Force for Acquisition, Technology & Logistics (SAF/AQ). The SAE has overall authority for the management of AF acquisition programs. The SAE is responsible to:

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 service programs from entry into the defense acquisition system to 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 modifications, are properly defined and justified in budget documentation.

2.2.3. Execute Title 10 USC § 2464, Core Logistics Capabilities, and Title 10 USC § 2466, Limitations on the performance of depot-level maintenance of materiel. Ensure implementation across acquisition programs for compliance with Core and organic requirements **(T-0)**

2.2.4. Assign PEOs to programs per DoDI 5000.02T **(T-0)**

2.3. Senior Procurement Executive. The AF Senior Procurement Executive is the Assistant Secretary for the Air Force for Acquisition Technology & Logistics (SAF/AQ). The Senior Procurement Executive is the senior official responsible for management direction of the Service procurement system, including implementation of unique procurement policies, regulations, and standards in accordance with 41 USC § 1702. The Senior Procurement Executive for all non-Service DoD Components is the Under Secretary of Defense, Acquisition and Sustainment (USD(A&S)).

2.4. Milestone Decision Authority (MDA). The MDA is responsible to:

2.4.1. Maintain overall responsibility for a program.

2.4.2. 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 regulation.

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

2.4.4. Ensure that when a program enters the acquisition system at a point other than pre-Milestone A, all phase-specific criteria relating to a skipped milestone are reviewed for applicability and completed as determined appropriate by the MDA. Reference DoDI 5000.02T and the Defense Acquisition Guidebook for milestone criteria.

2.4.5. Comply with all program milestone certification requirements as prescribed by statute or DoD policy.

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

2.5. Program Executive Officer (PEO). The PEO is responsible to:

2.5.1. Accomplish assigned portfolio or program objectives for development, production, sustainment, and disposal of the assigned portfolio including assigned ACAT programs and their modifications. The PEO interacts with other PEOs with similar program content or contractor and 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 to secure necessary funding in time to meet portfolio or program objectives.

2.5.2. 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.

2.5.3. 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.

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

2.5.5. Maintain cognizance of, and leverage, pertinent science and technology activities and advancements to achieve program objectives.

2.5.6. Ensure programs within their portfolio receive appropriate support to include acquisition intelligence, facilities and other resources in collaboration with the implementing command.

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

2.6. Program Manager (PM). The PM is responsible to:

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

2.6.2. Be responsible for program execution, sponsor or user support with development of 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 regulatory and statutory guidance to include developing and maintaining appropriate programmatic documentation.

2.6.4. Develop tailored and executable program strategies and documentation, appropriate for program risk and approved by the MDA.

2.6.5. Propose waivers and deviations as needed to streamline, tailor, and execute the assigned program.

2.6.6. Ensure systems and end items meet the warfighter's sustainment and capability needs.

2.6.7. Design, build, test, and continuously update systems to address acquisition security considerations.

2.6.8. Ensure operational systems maintain a current Interim Authority to Test or Authority to Operate if applicable per AFI 17-101, *Risk Management Framework (RMF) for Air Force Information Technology (IT)*.

2.6.9. Identify infrastructure and supporting requirements to the appropriate MAJCOM. Coordinate Air Force plant expansion or construction efforts per **Chapter 12** of this AFI.

2.6.10. Utilize Product Groups 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 and sustainment considerations.

2.6.11. 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.

2.6.12. Coordinate and receive approval from AFLCMC/HNC prior to any Communications Security/Controlled Cryptographic Item (COMSEC/CCI) development, acquisition, modernization, sustainment, disposal, or action affecting controlled cryptographic item inventory balances. Program offices are not authorized to bypass centralized procurement of controlled cryptographic item without approval of AFLCMC/HNC or the Deputy Chief Information Officer (SAF/CN).

2.6.13. Identify and satisfy external certifications, reviews, and approvals, applicable to the system.

2.7. Product Support Manager. The Product Support Manager takes program direction from the PM and is responsible to:

2.7.1. Be accountable for all product support matters regarding program cost, schedule, performance and supportability. Additionally, the Product Support Manager ensures the program's product support strategy incorporates logistics, mishap, intelligence supportability and ESOH risk data; integrated product support elements, and aligns to overarching AF enterprise priorities.

2.7.2. Be accountable for leading program office 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.

2.7.4. Continually assess reliability and maintainability of the weapon system and its subcomponents throughout its lifecycle.

2.8. Chief Engineer. The Chief Engineer takes program direction from the PM and is responsible to:

2.8.1. Develop and implement a comprehensive systems engineering strategy that addresses the total life cycle of the system and documents the strategy.

2.8.2. Be accountable for leading program office engineering execution throughout the system life cycle in accordance with:

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.

2.8.2.3. Any engineering or technical authorities assigned or delegated to the Chief Engineer by specific certification authorities or AF policy.

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

2.8.3.1. While Chief Engineers 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. The Chief Engineer ensures the delivered product design data satisfies Technical Data Package and Model-based Technical Data Package requirements.

2.8.3.2.4. 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.

2.8.3.2.5. AFPAM 63-129, provides information and recommended procedures for implementing engineering development and sustainment processes and procedures for the procurement of air systems.

2.8.3.2.6. AFPAM 63-113, *Program Protection Planning for Life Cycle Management*, provides information and recommended protection planning activities for the integrated management of system security risks by applying system security engineering best practices and processes.

2.9. Chief Developmental Tester (Test Manager). The Chief Developmental Tester (could also referred to as the Test Manager) takes program direction from the PM and is responsible to:

2.9.1. Coordinate the planning, management, and oversight of Developmental Test and Evaluation activities. See AFI 99-103 for more detailed information on Chief Developmental Tester or Test Manager requirements and responsibilities.

2.9.2. Maintain oversight of program contractor, government, and other program-related Developmental Test and Evaluation activities. Coordinate with the Operational Test Organization to establish integrated testing where feasible and practicable.

2.9.3. Advise the PM on all Developmental Test and Evaluation activities including contractor testing and help PM make technically informed, objective judgements regarding Developmental Test and Evaluation results.

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

2.10. Implementing Commanders. Implementing commanders which include Commander AF Materiel Command (AFMC/CC) and Chief of Space Operations, US Space Force (USSF) or delegate, are responsible to:

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

2.10.2. Provide pertinent science and technology 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 life cycle sustainment strategies.

2.10.4. Support all domestic, international, and security cooperation (including foreign military sales) programs in which the AF participates in accordance with a signed agreement.

2.10.5. Ensure timely and accurate intelligence analysis, information, and support is provided to and integrated into the acquisition process; this includes designating an intelligence focal point. 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 USC § 2464 and 10 USC § 2466 information. Maintain depot maintenance 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 Headquarters AF upon request. Establish a central repository for depot activation requirements data, to include associated rationale and impacts.

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

2.10.9. Charter and appoint Product Group 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 *Air Force Federal Acquisition Regulation Supplement (AFFARS)*, Mandatory Procedure (MP) 5306.502).

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. The Authorizing Official formally assumes responsibility for operating Information Systems and Platform Information Technology (PIT) systems at an acceptable level of risk. The Authorizing Official makes specific decisions for systems under their purview in accordance with DoDI 8510.01, *Risk Management Framework (RMF) for DoD Information Technology*; AFI 17-101 and AFI 17-130, *Cybersecurity Program Management*.

2.11.1. DoD Information Systems and Platform Information Technology systems are not permitted to operate on or connect to external networks without Authorizing Official approval.

2.11.2. The Authorizing Official makes decisions for all AF Sensitive Compartmented Information (SCI) assets and data; Intelligence, Surveillance, and Reconnaissance (ISR) mission assets and data (regardless of classification) under Intelligence Community Directive 503, *Intelligence Community Information Technology Systems Security Risk Management, Certification, and Accreditation*.

2.12. Operational Command, Direct Reporting Unit (DRU), and Field Operating Agency (FOA) Commanders. Operational Commands ("lead command" or "using command") including, but not limited to, Air Combat Command (ACC), Air Mobility Command (AMC), AF Special Operations Command (AFSOC), Air Education and Training Command (AETC), Air Force Global Strike Command (AFGSC), USSF and FOAs Commanders, or delegate are responsible to:

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 **(T-2)**

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 **(T-2)**

2.12.1.2. Submit requests to the implementing command for materiel resources in support of early program planning to meet operational capability needs **(T-2)**

2.12.1.3. Coordinate with the PM on opportunities to trade between capability and system cost **(T-1)**

2.12.2. Establish standardized procedures to review, validate, certify, prioritize, and implement modification proposals **(T-2)** Ensure validated modification proposals are coordinated with the appropriate PM and Chief Engineer for systems engineering, program planning, testing, and cost estimation consideration **(T-1)** As required by the PM, Operational Commands, Direct Reporting Units and Field Operating Agencies provide appropriate funding

to support these activities. **Note**: Time Compliance Technical Order kits are managed as prescribed by AFI 23-101, *Air Force Materiel Management*; AFMAN 23-122, *Materiel Management Procedures*; and TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

2.12.2.1. **(Added-AETC)** HQ AETC responsibilities:

2.12.2.1.1. **(Added-AETC)** HQ AETC Director of Plans, Programs, and Requirements (A5/8) is the HQ AETC command approval authority for system modification requirements (T-1, T-2, and permanent) for which HQ AETC is the lead command. The HQ AETC/A5/8 may delegate this authority to HQ AETC Capability Requirements Division (A5R) or designated representatives. IAW **Attachment 2**.

2.12.2.2. **(Added-AETC)** HQ AETC/A5R will:

2.12.2.2.1. **(Added-AETC)** Serve as the Policy and Process Manager for the AETC Modification Management, AF Form 1067, *Modification Proposal*, process.

2.12.2.2.2. **(Added-AETC)** Assume responsibility for the MAJCOM supplement and annual review.

2.12.2.2.3. **(Added-AETC)** Assign/track   MAJCOM   (Lead   Command/Using Command) control numbers and maintain a digital copy of all completed AF Form 1067s.

2.12.2.2.4. **(Added-AETC)** In conjunction with AETC A3/6, A5/8, SE, 2AF, and 19AF Action Officers (AO), assign OPR and OCRs for submitted modification proposals (subject matter applicable).

2.12.2.2.5. **(Added-AETC)** Forward   completed/approved   command modification/rescission directives and AF Form 1067 to appropriate agencies listed in **Attachment 2**, **paragraph A2.5.1.3**.

2.12.2.3. **(Added-AETC)** Designated Action Officers in AETC A3/6, A5/8, A9, SE, 2AF, and 19AF will:

2.12.2.3.1. **(Added-AETC)** Track assigned AF Form 1067s for AETC.

2.12.2.3.2. **(Added-AETC)** Serve as the OPR or OCR for the affected system and be assigned for each proposed modification reviewed by HQ AETC.

2.12.2.3.3. **(Added-AETC)** Be responsible for coordination of the proposed modification within their assigned unit/agency and provide a validation/approval recommendation to PART II, PART III, or PART V validation/approval authority. Coordination includes staffing, reviewing, evaluating, tracking, and preparing modification proposal packages.

2.12.2.3.4. **(Added-AETC)** In conjunction with the AF Form 1067 coordination process, ensure the Single Manager (SM), System Program Manager (PM)/Weapons System Program Manager, provides engineering/cost review and preliminary implementation strategy for the proposed modification as described in **paragraph 2.12.2** and **Attachment 2**, **paragraph A2.5.1.3**.

2.12.2.3.5. **(Added-AETC)** Provide changes in modification proposal status to HQ AETC/A5RF and the submitting organization.

2.12.2.4. **(Added-AETC)** General Guidance specific to HQ AETC

2.12.2.4.1. **(Added-AETC)** Prepare, coordinate, digitally endorse and distribute AF Forms 1067 as an electronic form.

2.12.2.4.2. **(Added-AETC)** HQ AETC will review modification proposals considered unique to a single using command. However, the review shall not impede using command processing (research, staffing, coordination) of modification management proposals.

2.12.2.4.3. **(Added-AETC)** HQ AETC A5/8 shall provide advocacy for those proposals approved by HQ AETC for implementation and for those where AETC has lead command responsibility.

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 **(T-1)**

2.12.4. Generate use, cost, and maintenance data to support sustainment metric reporting **(T-1)**

2.12.5. Establish policy to assure the preservation of baselined characteristics to a system or end-item **(T-2)** Ensure any configuration modification or maintenance procedure change is approved by the PM **(T-1)** Ensure any new operational change or degradation of baselined characteristics to a system or end-item is coordinated with and assessed by the PM **(T-1)**

2.12.6. Nominate a MAJCOM Competition and Commercial Advocate and Alternate (reference AFFARS MP 5306.502) **(T-2)**

2.12.7. Plan and advocate for programming and budgeting for the life cycle of the systems, to include materiel modification requirements **(T-2)**

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 **(T-2)** System operations concepts updated with planned modifications and upgrades allow the acquisition, logistics, and test communities to better understand the intended use of the system.

2.13. National Air and Space Intelligence Center Commander. National Air and Space Intelligence Center Commander is responsible to:

2.13.1. Act as the Air Force validation authority for Acquisition Category (ACAT) IB, IC, IA, II and III authoritative threat documents **(T-1)**

2.13.2. Chair or Co-chair Threat Steering Groups in accordance with Defense Intelligence Agency Instruction (DIAI) 5000.002, *Intelligence Threat support for Major Defense Acquisition Programs* **(T-0)**

2.13.3. Review threat and life cycle intelligence mission data plans, documents, studies, and assessments prior to milestone review and per the request of the customer **(T-1)**

2.13.4. In the event of an Air Force Critical Intelligence Parameter Breach, notify Air Force organizations to include, but not limited to: AF/A2 SAF/AQ, AF/A5, sponsor MAJCOM or Agency, implementing MAJCOM/A2, AFOTEC/A2, and supported program office **(T-1)**

2.13.5. Provide support to Critical Intelligence Parameter development through the Threat Steering Group process, during threat documentation development and validation, and capability document development and reviews **(T-2)**

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 AFI 10-601, *Operational Capability Requirements Development*, CJCSI 5123.01H, *Charter of the Joint Requirements Oversight Council (JROC) and Implementation of the Joint Capabilities Integration and Development System (JCIDS)*, other applicable 10-series Air Force Publications, and the AF/A5R *Requirements Development Guidebooks, Vol 1-5*, located on the AF Portal.

3.1.1. For ACAT I and ACAT IA programs, SAF/AQX and the implementing command attest to the SECAF that the Capability Development Document, concurrent to the document validation staffing portion of the Air Force operational capability requirements process, endorses the following:

3.1.1.1. The Capability Development Document performance attributes can be clearly and unambiguously translated for evaluation in a source selection.

3.1.1.2. The Capability Development Document capabilities are prioritized, if appropriate, and organized into feasible increments. 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 ACAT II programs and below, implementing commands attest that the capability requirements as described in all Capability Development Documents are feasible. Complete the attestation concurrent with document validation staffing through the Air Force operational capability requirements process.

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

3.2.1. Milestone A Determination. The MDA (without the authority to delegate) for an MDAP, along with the SECAF and CSAF or their designee(s), assess the programs concurrence with cost, schedule, technical feasibility, and performance trade-offs, and sign a determination memorandum prior to Milestone A approval. The MDA completes the determination using a memorandum for record that addresses the requirements in Title 10 USC § 2366a (b). **(T-0)**

3.2.2. Milestone B Certification. The MDA (without the authority to delegate) for an MDAP, along with the SECAF and CSAF or their designee(s), assess the program's concurrence with cost, schedule, technical feasibility, and performance trade-offs, and sign a certification memorandum prior to Milestone B approval. **(T-0)** In the certification memorandum, the MDA must ensure the determination requirements in 10 USC § 2366b (a) have been addressed. If the program is initiated later than Milestone B, the MDA prepares a similar certification memorandum and submits it to the Congressional defense committees with the first Selected Acquisition Report submitted after completion of the certification. **(T-0)**

3.3. Air Force Review Boards and Acquisition Strategy Panels. Reviews are integral to a deliberative process that supports AF leadership in making informed milestone decisions and in performing their acquisition execution responsibilities.

3.3.1. AF Review Boards.

3.3.1.1. AF Review Boards 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, AF Review Boards are used to develop the AF corporate consensus prior to an Office of the Secretary Defense (OSD) Defense Acquisition Board (pre-Defense Acquisition Board within AF) or Information Technology Acquisition Board. The AF Review Board should be conducted prior to OSD Integrated Product Team reviews. The SAE, or as delegated, determines if an ACAT ID or ACAT IAM program requires an AF Review Board.

3.3.1.3. The AF Review Board process is mandatory for all ACAT IB, ACAT IC, ACAT IAC, and special interest programs. The PEO may recommend what type of AF Review Board is necessary: full, mini (tailored attendance), or paper. AF Review Board templates and more information can be found at the AF Portal at the "SAF/AQXE - Execution/Oversight" page in the Secretariat/Air Force Review Board section.

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

3.3.2. Acquisition Strategy Panel.

3.3.2.1. The Acquisition Strategy Panel supports the MDA. Acquisition Strategy Panels are forums to evaluate proposed acquisition strategies to ensure all alternatives have been considered and the best recommendation is provided to the program's MDA for approval. Unless delegated in writing, the MDA is the Acquisition Strategy Panel 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 holds an Acquisition Strategy Panel with the MDA for all ACAT programs presenting a new strategy or a significant revision to an approved strategy.

3.3.2.3. Information concerning Acquisition Strategy Panels, 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/ Acquisition Strategy Panel section. Additionally, similar information pertaining to non-SAE chaired Acquisition Strategy Panels can be found by contacting the Field Acquisition Centers of Excellence.

3.4. Configuration Steering Board. The Configuration Steering Board 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 Configuration Steering Board also provides the PM the opportunity to propose changes, with supporting rationale addressing operational implications that may be necessary to achieve affordability or will result in a more cost effective product. For more information reference DoDI 5000.02T.

3.4.1. Configuration Steering Boards typically are conducted for ACAT I and IA programs in development starting at Milestone A.

3.4.1.1. Annual Configuration Steering Board reviews may be conducted with the annual PEO Portfolio and Program Management Reviews.

3.4.1.2. Out-of-cycle Configuration Steering Board may be conducted to address specific events. These events include:

3.4.1.2.1. Critical Intelligence Parameter breach.

3.4.1.2.2. Proposed changes to program requirements expected to result in significant technical configuration changes that could result in cost (estimated greater than $100 million) and schedule impacts (estimated delay of over six months).

3.4.1.3. Participants for the ACAT I and IA Configuration Steering Board include: SAF/AQ (Chair), OUSD(A&S) (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. Additional Configuration Steering Board attendees may include: SAF/AQX, SAF/AQC, SAF/AQR, SAF/AQI, SAF/AQP, SAF/AQL, SAF/AQQ, SAF/AQS, AFMC/CC/CV/CA, USSF/CC/CV/CA, SAF/GCQ, AF/A8P, SAF/FMC, SAF/CIO A6, SAF/SB, SAF/AQD, AF/A2, AF/A4, AF/JAQ, AF/SE, AF/TE, AFOTEC, and Director, Operational Test and Evaluation (DOT&E).

3.4.1.4. Configuration Steering Board 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 ensures the intent of the Configuration Steering Board is met for 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 having the potential to result in cost and schedule impacts to the program. This process includes appropriate stakeholders from the lead command and using command or agency, HAF, and the acquisition execution chain of authority.

3.4.2.2. Considering a program change or termination recommendation if a Critical Intelligence Parameter 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 will result in a more cost effective product.

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

3.5.1. PEOs provide identified portfolio needs and associated or recommended technology solutions to the AF Technology Executive Officer.

3.5.2. PEOs can use Capability Collaboration Teams comprised of Subject Matter Experts from MAJCOMs, Centers and PEOs, and the Technology Executive Officer to work collaboratively to fully understand MAJCOM and Core Function Leads-documented capability needs.

3.5.3. PMs and Chief Engineers participate in Capability Collaboration Teams and other planning efforts to identify potential materiel solutions derived from MAJCOM-documented capability needs and associated technology enablers.

3.5.4. During transition from science and technology effort to an acquisition program, the PM should coordinate with the science and technology project lead to capture information developed during the science and technology 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. Science and technology 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 Chief Engineers consider the use of Small Business Innovation Research and Small Business Technology Transfer when practicable. See AFI 61-102, *Small Business Innovation Research and Small Business Technology Transfer (STTR) Programs*, for more information.

3.6. Materiel Development Decision. All potential programs proceed through a Materiel Development Decision review when entering the acquisition life cycle framework. The Materiel Development Decision review is the formal entry into the acquisition process. Conduct ACAT I, IA and II Materiel Development Decision reviews using the appropriate Defense Acquisition Board or AF Review Board process. The Materiel Development Decision review ensures that a complete analysis or 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 a new acquisition program has been initiated. For additional information, see DoDI 5000.02T.

3.6.1. The MDA chairs and approves all Materiel Development Decisions.

3.6.2. At a minimum, conducting a Materiel Development Decision approval is dependent upon a validated Initial Capabilities Document, an Air Force operational capability process approved requirements document, or an approved AF Form 1067, *Modification Proposal*, for modifications.

3.6.3. The Director of Cost Assessment and Program Evaluation or lead command presents the Analysis of Alternatives Study Guidance and Analysis of Alternatives Study Plan or alternative analysis or supporting guidance for MDA approval. The Analysis of Alternatives should be based on market research giving consideration to maximum practicable small business utilization.

3.6.4. Document the Materiel Development Decision in an Acquisition Decision Memorandum (e.g., phase of entry with phase-specific exit criteria for next program milestone, Analysis of Alternatives Study Guidance and Analysis of Alternatives Study Plan approval, AF organization, termination or temporary suspension of the effort). Provide Acquisition Decision Memorandum, Analysis of Alternatives Study Guidance, and Analysis of Alternatives Study Plan or alternative analysis or supporting analysis guidance to lead DoD Component or appropriate Capability Director.

3.7. Coordination of Requirements Document Submitted with Request for Proposals (RFP). The acquisition or systems requirements document used with an RFP is coordinated with the requiring lead command prior to the release of the final RFP on all acquisition programs. 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:

3.7.1. ACAT I, IA – PEO to Commander, lead command.

3.7.2. ACAT II – PEO to Vice Commander, lead command.

3.7.3. ACAT III – PM to Director of Requirements, lead command.

3.7.4. The PM coordinates acquisition or systems requirements document to the lead command and supporting documentation to aid requirements traceability to the Request for RFPs. If the acquisition or systems requirements document submitted with the final RFP has previously been coordinated with the requiring lead command at the appropriate level, there is no need to re-accomplish coordination.

3.7.5. Use a Systems Requirements Document whenever warfighter or user capabilities and requirements are translated into acquisition or systems requirements for a new contract in support of a system or sub-system specification.

3.7.6. Changes to the acquisition or systems requirements documents affecting the scope of a non-foreign military sales undefinitized contract action and delay definitization, are approved by the SAE and the Head of the Contracting Activity.

3.8. Development RFP Release Decision. To meet the intent and criteria of the Development RFP Release Decision, ACAT ID and ACAT IAM programs do not have a separate AF Review Board and Acquisition Strategy Panel for programs where OSD is the MDA. The AF conducts a combined Acquisition Strategy Panel and AF Review Board 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 RFP template can be found on the AF Portal at the "SAF/AQXE - Execution/Oversight" page in the Secretariat/Air Force Review Board section. Other than the Acquisition Strategy, planning documentation may be in approved draft format, per **Chapter 4**, for this review.

3.9. 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(A&S). The request identifies the reasons for the reduction in ACAT level.

3.9.1. The PM notifies the PEO and the SAE when it is necessary to raise the ACAT category to a higher-level. For programs that may result in reclassification to ACAT I, notification is made when program's cost is within 10 percent of the minimum of the ACAT I category level in accordance with DoDI 5000.02T **(T-0)** For other programs, notification is made immediately upon determining the program meets the criteria of the higher category as defined in DoDI 5000.02T.

3.9.2. If the program qualifies as an ACAT I program, the program is assumed to be an ACAT IB unless USD(A&S) requests the program be categorized as an ACAT ID per 10 USC § 2430(d).

3.9.3. The PM notifies the DAE for ACAT I programs reclassified as special interest.

3.10. Program Work Breakdown Structure. The PM develops and tailors a Program Work Breakdown Structure. Detailed guidance on the work breakdown structures for defense materiel items is located in Military Standard (MIL-STD)-881D, *Work Breakdown Structures for Defense Materiel Items*.

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

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

3.13. Earned Value Management. Earned Value Management is a key integrating process in the management and oversight of acquisition programs including information technology programs. The qualities and operating characteristics of the Earned Value Management Systems are described in American National Standards Institute/Electronic Industries Alliance (ANSI/EIA) Standard 748, *Earned Value Management Systems*. The Defense Contract Management Agency is responsible for Earned Value Management Systems compliance and ensuring the integrity and application effectiveness of the contractor's Earned Value Management Systems.

3.13.1. PMs will employ Earned Value Management and Earned Value Management Systems per *Defense Federal Acquisition Regulation Supplement* (DFARS) subpart 234.2, current edition and DoDI 5000.02T **(T-0)**

3.13.1.1. Waiving Earned Value Management or Earned Value Management System use requires SAE and implementing command Senior Contracting Official (SCO) approval per AFFARS Subpart 5301.4 and DoDI 5000.02T **(T-0)** Coordinate requests for tailoring or waiving Earned Value Management and Earned Value Management System requirements for MDAPs with SAF/AQX who, in turn, coordinates with the Performance Assessments and Root Cause Analyses (PARCA) Earned Value Management Division. SAE waivers should be obtained prior to implementing DFARS deviations.

3.13.1.2. Include Earned Value Management applicability with reference to authorizing documents (regulations, policies, instructions), waivers, and business case or cost benefit analysis (if applicable) in the program acquisition documents submitted to the MDA.

3.13.2. Where Earned Value Management System is required, the PM or PEO ensures that:

3.13.2.1. The solicitation and contract contains the appropriate DFARS provisions or clauses: DFARS 252.234-7001and 252.234-7002 (Earned Value Management) and DFARS clause 252.242-7005 (Contractor Business Systems) **(T-0)**

3.13.2.2. The Integrated Master Plan is prepared based on the latest version of the *DoD Integrated Master Plan and Integrated Schedule Preparation and Use Guide* **(T-0)**

3.13.2.3. Earned Value Management is reported in accordance with DoDI 5000.02T. **(T-0)**

3.13.2.4. Integrated Baseline Reviews are conducted in accordance with DoDI 5000.02T and DFARS clause 252.234-7002. For additional information, see the *Air Force Integrated Baseline Review Process Guide*. **(T-0)**

3.13.3. Earned Value Management 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 Earned Value Management analysis and reporting (reference DoDI 5000.02T):

3.13.3.1. Validate compliance of Integrated Program Management Report (or Contract Performance Report on older contracts) and Contract Funds Status Report, which include reconciliation between the Integrated Program Management Report and Contract Funds Status Report, with the Contract Data Requirements List. For contracts requiring submission to the OSD Earned Value Management Central Repository, acceptance or rejection of each document is in accordance with Earned Value Management - Central Repository requirements. **(T-0)**

3.13.3.2. Earned Value Management performance analysis (cost or schedule variance, indices, schedule margins, critical or near critical path, risks, Performance Measurement Baseline integrity, etc.) to ensure continuing progress and program applicability. Based on this analysis, the PM develops a risk based independent Estimate at Completion.

3.13.3.3. Prior month level-one data along with the PM's independent estimate at completion for each contract is reported in Acquisition Data Systems for inclusion in the Monthly Acquisition Report. See **Chapter 11** for more information.

3.13.4. Earned Value Management requirements for Over Target Baselines or Over Target Schedules.

3.13.4.1. An Over Target Baseline is defined as an Earned Value Management baseline that exceeds contract value. An Over Target Schedule is defined as a schedule that exceeds the contractually required delivery dates.

3.13.4.2. The PM ensures SAF/AQ is notified through the Monthly Acquisition Report of any Over Target Baseline or Over Target Schedule prior to implementation and upon completion.

3.13.4.3. Contractor 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 is reported during the Over Target Baseline or Over Target Schedule in Format 1 of the Integrated Program Management Report (or Contract Performance Report on older contracts).

3.13.4.4. Programs implementing an Over Target Baseline or Over Target Schedule need to conduct a subsequent Integrated Baseline Review on the revised baseline.

3.13.5. Single Point Adjustment. Single Point Adjustment (SPA), sometimes referred to as re-baselining, refers to eliminating cumulative performance variances (setting cost 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 Over Target Baseline formal reprogramming action or PEO authorization with coordination by SAF/AQX.

3.14. Affordability Analysis. All ACAT programs require an Affordability Analysis. See DoDI 5000.02T, for additional information.

3.14.1. ACAT I and IA. Affordability constraints (goals and caps) are documented in an Enterprise Affordability Assessment 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 enterprise affordability assessments 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.

3.14.2. ACAT II and III. The analysis completed as part of the budget planning 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 commands or functional sponsor's current portfolio plans and strategies, includes approved Configuration Steering Board changes, and addresses resource implications beyond the FYDP.

3.14.3. National Guard and Reserve Equipment Account Funded. A PM executing, and MDAs reviewing, FYDP plus 5 year roadmaps for AFRC, ANG, and National Guard and Reserve Equipment Account 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 National Guard and Reserve Equipment Account appropriations.

3.15. Post Implementation Review. Post Implementation Reviews are executed in accordance with DoDI 5000.02T. For more information, refer to AFMAN 17-1402, *Air Force Clinger-Cohen Act (CCA) Compliance Guide*.

3.16. Independent Reviews. The PEO and implementing command/CCs, with SAF/AQ coordination, may conduct independent reviews (e.g., Weapon System Enterprise Reviews or Acquisition and Sustainment Reviews) 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.

3.17. Legal Reviews. The PM ensures that reviews for legality are accomplished for weapons and cyber capabilities in accordance with AFI 51-401, *The Law of War*, for all applicable acquisition and modification programs.

3.18. 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 is approved by the MDA and documented in an Acquisition Decision Memorandum. 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*.

3.18.1. The PM notifies the Head of Contracting Activity and SAF/AQC of all ACAT program terminations upon the termination decision. The PM also notifies SAF/SB if termination

involves small businesses. The Head of Contracting Activity or SAF/AQC notifies OSD when applicable and coordinate with SAF/FMBL and SAF/LL to make Congressional notifications prior to termination actions.

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

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

3.19. Exportability Reviews. The PM will review at each milestone the feasibility of exportable and interoperable configurations based on an analysis of the current and future international market and mission needs. **(T-0)** The PM for MTA pathway programs will review the feasibility of exportable and interoperable configurations as part of transition planning. **(T-0)** PMs opting for a U.S.-only design will comply with approval and reporting guidance in DoDI 5000.85, *Major Capability Acquisition*, paragraph 3C.4.a.(1). **(T-0)**

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. 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 IB, 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. Additional documentation and certification requirements should be reviewed for applicability.

4.2.2.1. When the SAE is the MDA, the SAF/AQ military or principal deputy has signature authority for MDA approved documentation, unless a statute, regulation, or instruction restricts delegation.

4.2.2.2. If draft documentation is required for a review, the document is approved at the level below the approval authority. For example, if the SAE is the approval authority, then the document is 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 also coordinates with outside organizations 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 other HAF, MAJCOM, or other organizations 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 is coordinated in accordance with OSD direction. Offices need to expedite coordination within the time specified by the MDA, PEO, or PM and either "concur" or "non-concur." Concurrence and coordination by 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 an 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. The PM coordinates 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 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. The Acquisition Information Repository also meets the requirement for official electronic records management. The PM will submit all signed Acquisition Decision Memoranda and final milestone documents for MDAPs and special interest programs to the Acquisition Information Repository within 5 business days of document approval **(T-0)**

Table 4.1. Document Approval Authority.

AS: Approve & Final Signature; A: Required Approval	Governance	ACAT IC/IAC/IB							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	MDA
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		
Corrosion Prevention Control Plan	Regulatory						AS					AS						AS
Cybersecurity Strategy	Statutory					AS					AS					AS		
Information Support Plan (ISP) (All IT- including NSS)	Regulatory					A		AS			A		AS			A		AS
IUID Implementation Plan	Regulatory						AS					AS						AS
IT & NSS Joint Interoperability Test Cert (All IT- including NSS)	Regulatory					AS					AS					AS		
Life Cycle Sustainment Plan (LCSP) - (see section 7.7.4)	Regulatory	A							A			AS		A				AS
Life Cycle Mission Data Plan	Regulatory							AS				AS						AS
Materiel Fielding Plan	AF Reg							AS				AS						AS
Post PDR Report Assessment	Regulatory							AS				AS						AS
Post Implementation Review	Stat./Reg.					AS		A			AS		A			AS		A
Prog Env Safety Occ Health Eval (PESHE)	Statutory							AS				AS						AS
Program Protection Plan	Regulatory							AS				AS						AS
Spectrum Supportability Determination	Regulatory					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. The Acquisition Strategy is the overall life cycle strategy for the system. The PM develops an Acquisition Strategy that documents the life cycle strategies necessary to satisfy statutory and regulatory requirements under DoDI 5000.02T. For more information, refer to AFPAM 63-128.

    4.3.1. The MDA approves the Acquisition Strategy prior to release of a formal solicitation.

4.3.2. The PM ensures the strategy is documented in sufficient detail to meet the information criteria of the OSD approved Acquisition Strategy outline or as tailored by the MDA.

4.3.3. At the discretion of the MDA, the Acquisition Strategy for a modification may be an annex to the existing and approved system strategy.

4.3.4. Fact-of-life changes, such as updates to schedule and funding adjustments, do not require a re-coordination of the Acquisition Strategy unless they drive a significant change (e.g., change in contract type, change in quantities) in the approved strategies or Acquisition Program Baseline.

4.3.5. Existing programs that do not currently have a strategy transition to an Acquisition Strategy when the program enters a new milestone.

4.4. Acquisition Program Baseline. The PM ensures each program or increment has an Acquisition Program Baseline 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 **(T-0)** Refer to 10 USC § 2433 and 10 USC § 2435.

4.4.1. The original Acquisition Program Baseline is prepared prior to the program entering Engineering and Manufacturing Development or program initiation, whichever occurs later. Review the Acquisition Program Baseline at each subsequent milestone decision and full rate production to determine if updates or changes are necessary. Update the Acquisition Program Baseline at significant or critical 10 USC § 2433 (Nunn-McCurdy) cost breaches. The Acquisition Program Baseline is approved by the MDA.

4.4.2. ACAT II and III programs are required to establish an Acquisition Program Baseline. All approved Acquisition Program Baselines will be stored in the central repository per **paragraph 4.2.4** of this AFI. See **Chapter 11** of this AFI, or AFPAM 63-128 for additional information.

4.5. Program Management Agreement. The Program Management Agreement 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. Program Management Agreements are required for ACAT I and IA PMs in accordance with DoDI 5000.02T **(T-0)** Program Management Agreements are encouraged for ACAT II and III PMs.

4.5.2. The Program Management Agreement is established between the PM and the PM's immediate supervisor within 6 months of assignment and kept current throughout the life of the program. The Program Management Agreement covers the period of the PMs tenure agreement or assignment. The Program Management Agreement 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. Program Management Agreement format is at the PEO's discretion, but is required to include and address certain mandatory elements **(T-0)** The agreement will include the PMs obligation to object to the addition of new program requirements not approved by the Configuration Steering Board, and the responsibility to recommend reduced requirements to the Configuration Steering Board. It must be consistent with Milestone B parameters unless

approved by the Configuration Steering Board. Reference DoDI 5000.02T for additional information **(T-0)**

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

4.6.1. The PM prepares a risk management plan 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 risk management plan addresses how the program is performing and integrating risk-based source selection, system safety, test and evaluation, threat, acquisition security, supply chain, ESOH, human systems integration and supply chain risk management. Additionally it addresses cost, schedule, technical, product support, operational, and system security risks. The risk management plan for space programs addresses risk-based performance for space debris mitigation assessments and documentation for space and launch systems per AFI 91-202. It also describes the responsibilities of cross-functional risk management integrated product team or equivalent. The risk management plan can be incorporated into the Acquisition Strategy or other appropriate planning document. Link the risk management plan to 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 uses the likelihood criteria, consequence criteria, and 5x5 risk matrix provided in **Attachment 3**, **Figure A3.1**, **Figure A3.2**, and Tables **A3.1**-**A3.4**, 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 program's risks, the PM may tailor the criteria, if approved by the MDA, in accordance with the tailoring guidance in **Chapter 1**. Reference AFPAM 63-128 for more information.

4.6.1.2. The PM will prepare risk handling and mitigation plans for all identified 5x5 risk matrix high, moderate, and selected low risks unless waived by the MDA. The PM ensures a mechanism is in place to track and archive all risks and handling and 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 milestone 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 and mitigation plans. The PM includes all High and Serious ESOH and technical program risks identified using MIL-STD-882E, *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 Authorizing Official prior to decision reviews. The PM identifies if there is a risk of the Authorizing Official non-concurring at the decision review.

4.6.2. Risk-based Source Selection. The source selection approach, as part of the Acquisition Strategy, 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 and uncertainties, or market research. Identify uncertainty feeding the overall programs' costs from the risks and risk handling and 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 to achieve life cycle cost objectives. A program's cost estimator has the responsibility for supporting the PM's integrated cost risk management efforts, utilizing methods and cost management principles outlined in AFPD 65-5, *Cost and Economics*; and AFI 65-508, *Cost Analysis Guidance and Procedures*.

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 or impediments, uncertainty in work, software development, 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.

4.6.5. Technical Risk Management. The Chief Engineer, 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. It also considers design, manufacturing, technology maturity, intelligence mission data, cybersecurity risks, software development, ESOH risks, nuclear surety, integration, interoperability and supportability, testing risks, and threats to mission critical functionality and critical program information.

   4.6.5.1. The Chief Engineer, in support of the PM, should identify and track risks associated with achieving the appropriate Technology Readiness Levels of all critical technologies. **Note**: Technical Readiness Levels 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 Technical Readiness Levels.

   4.6.5.2. The Chief Engineer ensures that relevant engineering information and recommendations, including underlying assumptions and risks, are made available to the PM and senior leaders in the acquisition execution chain of authority in accordance with DoDI 3200.20 **(T-0)**

   4.6.5.3. ESOH Risk Management. RESERVED. Please contact SAF/AQR for current guidance.

4.6.6. Independent Technical Risk Assessments (ITRA). ITRAs provide a view of program technical risk, independent of the program and the chain of command leading to the MDA. ITRAs are conducted on all MDAPs before approval of Milestone A, Milestone B, and any decision to enter into low-rate initial production or full-rate production.

4.6.6.1. ITRAs are conducted and approved by the OUSD(R&E) on all ACAT ID programs in accordance with DoDI 5000.88. **(T-0)**

4.6.6.2. SAF/AQR conducts ITRAs for ACAT IB/IC programs in accordance with Department of the Air Force (DAF) *Independent Technical Assessment Guidebook* with support from center-level engineering functional offices. **(T-1)**

4.6.6.3. The PM will support ITRA execution by:

4.6.6.3.1. Planning ITRAs as a life cycle event in the program plans, including but not limited to Acquisition Strategy, Systems Engineering Plan (SEP), and Integrated Master Schedule. **(T-1)**

4.6.6.3.2. Providing access to programmatic and technical information and facilitating ITRA team visits to the program office, product centers, test centers, and contractor(s) facilities **(T-1)**

4.6.6.3.3. Referencing the DAF Independent Technical Assessment Guidebook for comprehensive guidance.

4.6.7. Product Support Risk Management. The PM, with support from the Product Support Manager, 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.

4.6.8. Information Technology (IT) Risk Management. The Risk Management Framework for DoD IT defines the process to determine and manage the residual cybersecurity risk to the AF created by the vulnerabilities and threats associated with objectives in military, intelligence, and business operations. Reference AFI 17-101 for additional information.

4.6.8.1. DoD IT includes DoD information systems, platform information technology, information technology services, and products. This includes information technology supporting research, development, test and evaluation, and DoD-controlled information technology operated by a contractor or other entity on behalf of the DoD.

4.6.8.2. The PM ensures all systems with information technology implement risk management procedures aligned with DoD Risk Management Framework throughout all phases of the life cycle in accordance with DoDI 8500.01, *Cybersecurity*; DoDI 8510.01; AFPD 17-1, *Information Dominance Governance and Management*; and AFI 17-101 **(T-0)**

4.6.8.3. The PM coordinates risk management framework results with the Authorizing Official throughout all phases of the life cycle.

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

4.6.8.5. For all AF SCI assets and data, ISR mission assets and data (regardless of classification), and Guest SCI/ISR assets and data, risk management framework is implemented under Intelligence Community Directive 503.

4.6.9. Test and Evaluation Risk Management. The PM has execution responsibility for test and evaluation risk management, and utilizes both system engineering and test and evaluation

processes throughout the life cycle to manage program risks. Test and evaluation risk management considers test resources, test schedule, certifications, and technical risks (to include the PM's safety release) from a test and evaluation perspective. Refer to AFI 99-103 for more information on test and evaluation processes.

4.6.10. 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 and mitigation measures. Refer to AFI 90-802, *Risk Management*, for more information.

4.6.11. Threat Risk Management. The PM consolidates threat assessments and projections, including Critical Intelligence Parameters, related to the operational environment throughout the lifecycle of the program. The PM evaluates impacts using programmatic risk management processes in order to include threats into program risk decisions.

4.6.12. 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 system interfaces.

4.6.13. Human System Integration Risk Management. The PM ensures that risks associated with the human system integration 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 Strategy. The PM assesses long term intellectual property requirements and corresponding acquisition strategies prior to initiating a RFP to acquire systems, subsystems, or end-items to ensure they provide for rights, access, and delivery of intellectual property that the government requires for system sustainment and to maintain competition throughout the life cycle. The PM addresses and documents the intellectual property strategy, including the rationale for acquisition and/or non-acquisition of intellectual property at milestones, Acquisition Strategy panels, and reviews. Source selections require delivery of necessary technical data and computer software, and consider government rights to intellectual property and delivery of intellectual property. Include intellectual property pricing options that correspond to the recommended intellectual property rights in the strategy. The burden of proof for the appropriateness of any restrictions on the government's use of technical data or computer software lies with the contractor. If not acquiring technical data, computer software, or associated intellectual property rights for organic support, a summary of the business case analysis justifying the decision is approved by the MDA. The PM obtains legal counsel when addressing intellectual property issues. The PM reviews the government requirement for intellectual property throughout the life cycle of the system.

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

4.7.1.1. Organic source of repair and 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, airworthiness assessments, and configuration management.

4.7.1.5. Technical Orders.

4.7.1.6. Re-procurement, modification or upgrade.

4.7.1.7. Demilitarization and Disposal.

4.7.1.8. Modular open systems approach.

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. Intelligence Mission Data production.

4.7.1.15. Contractor Logistics Support.

4.7.1.16. Supply Chain Management.

4.7.1.17. Depot Level Reparable and consumables procurement.

4.7.1.18. Support Equipment procurement and maintenance.

4.7.1.19. Special Tools and 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; AFFARS Part 5301.602-2. For more information reference 10 USC § 2320 and § 2321.

4.7.3. Computer Software and Firmware. Computer software refers to 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, Unified Modeling Language (UML) use cases and processes, compilers, programming languages, flow charts and sequence diagrams, formulae, and related material that would enable the software system to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation. Firmware is a 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 read-only memory (ROM), erasable programmable read-only memory (EPROM), and flash.

4.7.3.1. The PM ensures that computer software, is delivered as an executable source code unless an exception is documented and approved by the MDA. When the contractor is unwilling to provide source code as a deliverable, the PM considers the impact on the

program and whether software escrow arrangements using mutually agreed to third-party escrow agents for commercial software or software developed exclusively at private expense would be in the government's interest.

4.7.3.2. Software Transition Plan. The PM provides the Procuring Contracting Officer 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 intellectual property strategy addresses the potential for changes in computer software sustainment over the life cycle of the system or subsystem. RFPs and contracts should contain certified 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 or requires delivery of contractor-generated digital product design data as part of the program's intellectual property strategy. The PM is responsible to:

4.7.4.1. Leverage the technical expertise of the Engineering Data Management Offices within the centers to ensure government (e.g. MIL-STD-31000B, *Technical Data Packages*) and non-government standards (e.g., ASME Y14.47, *Model Organization Practices*, etc.) are effectively represented in product data specifications for legacy technical data packages and digital engineering model-based technical data package contract requirements for deliverable product design data.

4.7.4.2. Provide digital product design data, during operations and support, to a DoD standardized product data management 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. The PM manages digital product design data using a DoD standardized product data management system that must be defined and justified within the Systems Engineering Plan and approved by the MDA.

4.7.4.3. Maintain updated digital product design data in the standardized system throughout operation and sustainment.

4.7.4.4. Document in the intellectual property strategy the rationale for deviations (if any) from the above technical data requirements.

4.8. Test Planning. The PM ensures the Chief Developmental Tester or Test Manager establishes an Integrated Test Team after Materiel Development Decision, develops and documents test planning and the level of test support required for the life cycle of the system, and conducts readiness reviews in accordance with AFI 99-103 and AFMAN 63-119, *Certification of Systems Readiness for Dedicated Operational Testing*. The PM should be aware of test and evaluation planning requirements and make provisions within contracts, reference OSD's guide *Incorporating Test and Evaluation into Department of Defense Acquisition Contracts* for more information.

4.8.1. Test and Evaluation Master Plan. The PM ensures the Chief Developmental Tester or Test Manager and the Integrated Test Team prepares a Test and Evaluation Master Plan prior to Milestone A for applicable programs in accordance with AFI 99-103. The Integrated Test Team forwards the final draft Test and Evaluation Master Plan to the PM and the Chief Engineer for review and for approval by the PM and assists with subsequent coordination to all required organizations below the Air Staff level.

4.8.1.1. The SAE will coordinate on and forward all Test and Evaluation Master Plans for all ACAT I, IA, and programs on the DOT&E oversight, DD (DT&E) engagement and the USD(A&S) special interest program lists to DOT&E for review and signature. Once this is completed, the PEO forwards the Test and Evaluation Master Plan to AF/TE and SAF/AQ for AF approval.

4.8.1.2. The MDA is the Test and Evaluation Master Plan approval authority for delegated ACAT II and ACAT III programs not on OSD test and evaluation oversight.

4.8.2. Live Fire Test and Evaluation. SAE recommends candidate systems to DOT&E for compliance with Live Fire Test and Evaluation legislation. PMs with a "covered system," as defined in 10 USC § 2366(e), will contact OSD/DOT&E's Live Fire Test and Evaluation office to determine live fire applicability **(T-0)** SAE approves agreed-upon Live Fire Test and Evaluation programs and allocate AF resources required to accomplish Live Fire Test and Evaluation plans. Additionally, the SAE forwards required Live Fire Test and Evaluation documentation and waivers (if appropriate) to OSD/DOT&E, which then go to USD(A&S) for approval.

4.8.3. Test and Evaluation Considerations. The PM ensures that DT&E and operational test and evaluation (OT&E) considerations are addressed throughout the life cycle. PMs, with the Chief Developmental Tester/Test Manager, establish a structured strategy for test and evaluation 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 certifies system readiness for Initial Operational Test and Evaluation. Refer to the AF/A5R *Requirements Development Guidebook, Vol 1-5* and AFI 99-103 for more information.

4.9. Modeling and Simulation. To satisfy the Air Force requirements to support the DoD mission engineering efforts to increase lethality through interoperability and the requirements in AFI 16-1005, *Modeling & Simulation Management*, Chapter 7, *Modeling & Simulation Standards and Architecture*, program offices are designated as the single authoritative source of truth for their systems' models for use in all appropriate modeling environments.

4.9.1. The PM ensures 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, *Verification, Validation and Accreditation (VV&A)*). The infrastructure necessary to support system design and integration includes government-owned centers for live, virtual, and constructive simulation, as well as contractor system integration facilities. To the maximum extent possible, the PM leverages existing live, virtual, and constructive assets.

4.9.2. The PM works with lead or using command, operational requirements advocate(s), developmental and operational testers, the intelligence community, the science and technology

community and other relevant organizations to develop and implement a modeling and simulation strategy leading to products that can be transitioned and used throughout the acquisition life cycle.

4.9.2.1. The PM documents the modeling and simulation strategy in the appropriate program documentation dependent upon the usage of modeling and simulation. The PM provides, or makes available, the program's systems models to support modeling and simulation capabilities. The system model(s) should support modeling and simulation requirements including, but not limited to, Live, Virtual, and Constructive- Operational Training and T&E requirements.

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

4.9.2.3. The modeling and simulation strategy should describe how the PM is to obtain sufficient 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 modeling and simulation agencies (e.g., Simulation and Analysis Facility within AFMC, National Air and Space Intelligence Center for threat modeling and simulation, and Air Force Research Laboratory (AFRL) Enterprise Modeling & Simulation) and the AF Agency for modeling and simulation to identify resources (e.g., capabilities, verification and validation status, and future plans) that can be utilized by the program instead of developing unique modeling and simulation 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 5000.02T, 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 equipment, IT assets, and Internal Use Software **(T-0)** The PM is responsible for the accountability and reporting of developed Internal Use Software in accordance with DoD 7000.14-R **(T-0)** For additional information regarding the accounting for and financial reporting of developed software costs, refer to AFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*.

4.10.3. The PM includes a General Equipment program description as part of the Acquisition Strategy (may be waived by the MDA). At Milestone C (or any other decision point that leads to production or procurement of end items to be used for operations) for any program, project, product, or system that has deliverable end items that meet the capitalization threshold, ensure the program's General Equipment description identifies the deliverables at a detail level consistent with level 2 of the program work breakdown structure (detailed guidance on the work breakdown structures for defense materiel items is located in MIL-STD-881D:

4.10.3.1. The assets meeting the capitalization thresholds.

4.10.3.2. The government furnished property or material included in the assets.

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), 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, *Accounting Policy*.

4.10.4.1. The PM ensures the gross book value of equipment assets and modification to those assets are provided in accordance with 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 in accordance with AFI 21-103.

4.10.5. The PM ensures the Chief Financial Officer 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 updates the Reliability and Maintainability Information System with Chief Financial Officer reporting data elements upon notification by the Aerospace Vehicle Distribution Officer when inventory items are added, removed, or adjusted as a result of modifications. The PM ensures the performance of monthly data reconciliations and automated attestation annually in the Reliability and Maintainability Information System for weapon system assets and qualified modifications. The Reliability and Maintainability System is the appropriate Chief Financial Officer compliant system to be used in military valuation and reporting through the Defense Finance and Accounting System. Refer to AFI 21-103 for additional guidance.

4.10.6. The PM provides the Procuring Contracting Officer with the military evaluation requirements to assist in the creation of proper contract structure to reflect the distinction necessary to facilitate appropriate financial accounting.

4.10.7. The PM ensures all government property is accounted for in the correct Accountable Property Systems of Record in accordance with AFI 23-111, *Management of Government Property in Possession of the Air Force*, to support the program, to include COMSEC assets and property in the possession of the contractor. COMSEC assets found that are not in the correct Accountable Property System of Record are reported in accordance with AFMAN 17-1302-O, *Communications Security (COMSEC) Operations*, Chapter 9, and CNSSI No. 4003, *Reporting and Evaluating Communications Security (COMSEC) Incidents*.

4.10.8. Accountability for assets in which title has passed but delivery to the DoD has not yet occurred is 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 Accountable Property System of Record.

4.10.9. Upon delivery, accountable property records are established as appropriate in the Accountable Property System of Record. Coordinate accountability actions with the

appropriate Accountable Property Officer (e.g., Logistics Readiness Squadron Commander, Materiel Management Activity Accountable Officer, etc.).

4.11. Government Cost Estimates. The PM is responsible for updating life cycle cost estimates in accordance with AFPD 65-5; AFMAN 65-502, *Inflation*; AFI 65-508; and AFMAN 65-506, *Economic Analysis*. The PM compares cost estimates to the program budget to assess program executability. The PM ensures current technical and programmatic data is provided to cost estimators in support of life cycle cost estimates. See DoD 7000.14-R, Vol. 2A, *Budget Formulation and Presentation* for more details. **Note**: PM responses to external inquiries should use official cost estimates; consult AFI 65-508.

4.11.1. The PM provides cost estimates at the identified confidence level to the MDA during reviews. To the greatest extent possible, the PM identifies the total ownership cost 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.

4.11.2. 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, in accordance with AFI 65-508, the PM establishes a confidence level and documents it in the Acquisition Decision Memorandum and other deliverables 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 documents which request formal allocation of resources to programs. Program Authorization is issued at the line item level except for some shared lines. SAF/FMB issues Budget Authorization funding documents to MAJCOMs and other Air Force field activities (ref AFI 65-601, Vol. 1, *Budget Guidance and Procedures*).

4.12.1. PEO Chief Financial Officers submit requests for program authorization adjustments to SAF/AQX when authorizations are inconsistent with program requirements, or when necessary to meet critical requirements. SAF/AQX authorizes, via issuance of program authorization documents, execution-year adjustments to program funding, to include release/withdrawal of funds.

4.12.2. SAF/AQX coordinates on all investment New Start actions, Below Threshold Reprogramming, and Above Threshold Reprogramming 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 DD Form 1415-1, *Reprogramming* Action (Prior Approval Action). The methods of notification to be used are delineated in AFMAN 65-605, Vol. 1, *Budget Guidance and Technical Procedures*; and DoD 7000.14-R, Vol. 3, *Budget Execution – Availability and Use of Budgetary Resources*, **Chapter 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 Chief Financial Officer 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 AFMAN 65-605, 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 Program Element Monitor or Capability Director at the HAF to coordinate the initiation of the appropriate New Start Notification package (i.e., Letter of Notification/DD Form 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. Budget Activities. All Basic Research (code 6.1 activities), Applied Research (code 6.2 activities), and Advanced Technology Development (code 6.3 activities), 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 (RDT&E programs budget item justification exhibit, "Exhibit R-2"). These exemptions DO NOT include program elements 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 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. Operations and Maintenance funded efforts.

4.13.3. Reference AFMAN 65-605, Vol. 1 for details on the New Start Notification process, procedures, and reporting requirements. In addition, individuals can contact the SAF/AQXE

Workflow (**usaf.pentagon.saf-aq.list.rss-saf-aqxe@mail.mil**) and SAF/FMBI for additional guidance or help regarding New Starts specific issues.

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

4.14.1. Will-Cost and Should-Cost estimates are required at milestone 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 milestone 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 milestone 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 milestone decision. For ACAT II and III programs, the MDA has the authority to approve the use of the program office estimate 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 (PEO Picklists) that can be used (see **https://www.milsuite.mil/wiki/Portal:Air_Force_Engineering_Resource_Center/Standardization_Program**). Specific DoD policy on the use of specifications and standards and other methods to achieve objectives required by 10 USC § 2451-2457; DoDI 2010.06, *Materiel Interoperability and Standardization with Allies and Coalition Partners*; DoDD 5000.01, and DoDI 5000.02T are contained in DoDM 4120.24, *DoD Standardization Program (DSP) Procedures*. Additional guidance on the use of specifications and standards in architecting is contained in AFI 17-140, *Architecting*.

4.16. Intelligence Supportability. Informed by the relative degree of Intelligence-Sensitivity, the PM develops and documents requirements and level of intelligence support required for the life cycle of the intelligence-sensitive program. The PM uses the results of Intelligence Supportability Analysis to develop and document requirements to include critical intelligence parameters and intelligence mission data, 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 special access programs or 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. **Note**: Per applicability paragraph of this publication, special access programs are coordinated with SAF/AQL.

4.16.2. The PM develops the Life Cycle Mission Data Plan for each acquisition program dependent on intelligence mission data, in conjunction with the implementing command's intelligence focal point and operational MAJCOM beginning at Milestone A. DoDD 5250.01, *Management of Intelligence Mission Data (IMD) in DoD Acquisition*, requires the Life Cycle Mission Data Plan, previously known as the Life Cycle Signature Support Plan, in DoD Acquisitions **(T-0)**

4.16.3. Develop the Life Cycle Mission Data Plan to capture and address intelligence mission data production shortfalls identified by the intelligence community, the appropriate course(s) of action to mitigate risk, and manage risk associated with the remaining intelligence mission data shortfalls

4.16.3.1. The Life Cycle Mission Data Plan, developed for Milestone A and, at a minimum, updated at each milestone, is approved by the PEO for ACAT I and II programs or MDA for ACAT III or as delegated. The PM submits ACAT I Life Cycle Mission Data Plans to the SIPRnet Acquisition Information Repository which can be found at **https://dodtechipedia.smil.mil**. Special Access Programs and Top Secret/SCI Life Cycle Mission Data Plans are disseminated as identified in the Life Cycle Mission Data Plan outline through appropriate communications channels.

4.16.3.2. Intelligence mission data requirements are to be documented and submitted for intelligence community action via a production requirement through the designated intelligence focal point prior to each milestone decision. Program requirements communicated as part of a multi-program Intelligence Mission Data production request should not be duplicated or submitted independently from the multi-program requirement.

Furthermore, programs need to participate in the annual AF Intelligence Mission Data requirements prioritization process for inclusion in a consolidated AF Intelligence Mission Data priorities list. This list is formalized into a prioritized AF Intelligence Mission Data production request for action by Service Intelligence Production Centers. Prior to Life Cycle Mission Data Plan approval, the PM provides it to the implementing command, using command, HAF/A2 offices, and National Air and Space Intelligence Center. Life Cycle Mission Data Plan waiver authority resides with the MDA.

4.16.3.3. Intelligence products and services required for intelligence mission data-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 Acquisition Decision Memorandum. The PM ensures that the program is designed to use existing Intelligence Community defined data standards for intelligence mission data.

4.16.4. Critical Intelligence Parameter Processes. Critical Intelligence Parameters are factors defining the threshold performance of a foreign system or capability that could compromise the program or mission effectiveness of the US system. For additional information reference DIAI 5000.002 and CJCSI 5123.01H.

4.16.4.1. Defining Program Critical Intelligence Parameters. The PM ensures that the requirements sponsor, DoD component capability developer, and Intelligence Community representatives collaboratively establish program-specific Critical Intelligence Parameters for validated capability requirements and acquisition programs. Critical Intelligence Parameters should be characteristics of adversary threat and operational capabilities which are a factor in establishing capability requirements and associated initial objective performance values. Critical Intelligence Parameters should be objective, quantifiable, measurable, specific, and of high impact to the program, such that they influence system development and tradeoffs. Critical Intelligence Parameters should be developed as early as possible in the capability's life cycle when it can be determined which Key Performance Parameters and Key System Attributes are threat sensitive. The lead and implementing command collaboratively define their Critical Intelligence Parameter reporting thresholds for threat-sensitive Key Performance Parameters and Key System Attributes of the planned capability. The PM ensures Critical Intelligence Parameters, once developed, are tasked for monitoring by the intelligence community through National Air and Space Intelligence Center Commander as the AF's Service Intelligence Center or by the appropriate SAP intelligence production organization.

4.16.4.2. Critical Intelligence Parameter Breach. If a Critical Intelligence Parameter is breached at any point in the program's life cycle, all materiel and non-materiel (i.e., Doctrine, Organization, Training, Leadership and Education, Personnel, Facilities, or Policy) impacts are reviewed to determine appropriate responses and risk mitigation efforts. The program will likely require additional time and funds to adjust (i.e., "re-baseline"), and spiral or increment thresholds, objectives, Key Performance Parameters, Key System Attributes, etc. may require adjustment or modification. The PM notifies the PEO, MDA, and implementing command's intelligence focal point if a Critical Intelligence Parameter threshold is reported as breached by the appropriate supporting Service Intelligence Center (e.g., National Air and Space Intelligence Center). A Configuration Steering Board, as detailed in **Chapter 3**, determines if any follow-on action is required.

4.16.5. The PM, working with the implementing command intelligence focal point, requests a Validated Online Lifecycle Threat document from National Air and Space Intelligence Center in support of the Materiel Development Decision, Milestone A, Development RFP Release, Milestone C, and FRP/FD Decision in accordance with DoDI 5000.02T. National Air and Space Intelligence Center will produce ACAT ID/IAM Validated Online Lifecycle Threat documents for AF-led programs using DIA-validated threat data in accordance with DIAI 5000.002 **(T-0)**

4.16.6. If program is intelligence mission data-dependent, collaborate with intelligence focal point and operational MAJCOM to identify intelligence mission data production requirements to be submitted in the Air Force annual intelligence mission data requirements process. Notify AF/A2 for intelligence mission data production requirements ad-hoc submission.

4.16.7. The PM collaborates with the local acquisition intelligence focal point to provide the National Air and Space Intelligence Commander and the Threat Steering Group a description that describes the system in detail to assess which threats could jeopardize mission performance.

4.16.8. Intelligence Certification. [RESERVED].

4.17. Arms Control Compliance. The PM ensures all activities within the acquisition life cycle are compliant with all US Government arms control obligations in accordance with AFI 16-601, *Implementation of, and Compliance With, International Arms Control and Nonproliferation Agreements* and AFI 16-608, *Implementation of, and Compliance with, Treaties Involving Weapons of Mass Destruction*. This assessment occurs prior to all milestone 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 milestones and when required throughout the program's life cycle, to the Planning, Policy, and Strategy Division (AF/A10P), or an AF/A10-P-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 for program review Milestones.

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 and 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, Joint Emergent Operational Need, Urgent Operational Need, or Top-Down direction in accordance with applicable 10-Series Air Force Publications; DoDI 5000.81, *Urgent Capability Acquisition*; 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 in accordance with 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 in accordance with 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 are developed in accordance with DoDD 5000.01 and DoDI 5000.02T. AF nuclear certification on nuclear weapon systems is 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 engages 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 also need to comply with DoDD 3150.01, *Joint DOD-Department of Energy/National Nuclear Security Administration (DOD-DOE/NNSA) Nuclear Weapon Life Cycle Activities*; DoDI 3150.09, *The Chemical, Biological, Radiological, and Nuclear (CBRN) Survivability Policy*; DoDM 5030.55_AFMAN 63-103, *DoD Procedures For Joint DoD-Department Of Energy/National Nuclear Security Administration (DOE/NNSA) Nuclear Weapon Life-Cycle Activities* **(T-0)**

4.21.3. Additional AF nuclear weapon related policy may be found in AFI 16-601; AFI 20-110, *Nuclear Weapons-Related Materiel Management*; AFMAN 21-204, *Nuclear Weapons Maintenance*; AFI 63-125; AFI 91-101, *Air Force Nuclear Weapons Surety Program*; AFI 99-103; and MIL-STD-1822, *Nuclear Compatibility Certification of Nuclear Weapon Systems, Subsystems, and Support Equipment*.

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

4.22. Management of AF Training Systems. Refer to AFI 16-1007, *Management of Air Force Operational 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 in accordance with this instruction.

4.22.1. The PM coordinates the program plans and activities with the Training System Product Group, lead commands, and HQ Air Education and Training Command 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 Acquisition Strategy prepared for, and subsequent to, Milestone 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 acquisition System Requirements Documents.

4.22.3. The PM ensures training systems remain current with prime mission systems throughout the life cycle of a system in accordance with approved program documentation and funding. The PM 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 foreign military sales 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 in accordance with FAR and supplements; AFI 21-103 and AFI 23-101, as applicable.

4.23. End Use Certificate. 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 End Use Certificates when the purchase of such products is in the best interest of the US and an End Use Certificate is required by the foreign government for the purchase of foreign products **(T-0)** See DoDD 2040.3, *End Use Certificates*, 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 End Use Certificates that foreign governments require DoD to sign.

4.23.2. End Use Certificates 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 programs, foreign military sales, 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. End Use Certificates are a two part process consisting of approval of and signature of the End Use Certificates. End Use Certificates are approved prior to contract award. Include requests to delegate signature authority as part of the approval package. Approval and signature authorities for End Use Certificates 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 End Use Certificates **(T-0)** 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(A&S) to purchase an item with a Category III End Use Certificates following approval, signature authority can be delegated to PEO **(T-0)**

4.23.4. The PM maintains records of all End Use Certificates and provide copies to USD(A&S).

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 End Use Certificates.

4.23.4.2. The PM notifies MAJCOM headquarters of the End Use Certificates 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. The purpose of Serialized Item Management 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. Serialized Item Management is enabled through IUID, automatic identification technology, and automated information systems. 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. Automatic identification technology 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 automated information systems. It stores and processes 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 Supporting the DoD Information Enterprise*; DoDI 8320.04 and DoDI 4151.19 for additional guidance.

4.24.1. The PM documents the Serialized Item Management strategy in the Acquisition Strategy and Information Support Plan.

4.24.2. The PM identifies in the Information Support Plan any system operational needs for data to conduct Serialized Item Management in order for Unique Item Identifiers 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 Product Support Manager and in collaboration with the AFMC Automatic Identification Technology 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 5000.02T, and DoDI 8320.04. 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.

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

4.25.4. For sustainment activities of existing 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 existing programs into day-to-day workload planning and scheduling based on planned workflows, technical documentation and specifications **(T-3)**. This includes registration in the DoD IUID registry **(T-0)**

4.25.5. Special Interest IUID requirements:

4.25.5.1. Nuclear Weapons-Related Materiel. All individual Nuclear Weapons-Related Materiel items are accounted for and managed by serial number. This includes the assignment of a Unique Item Identifier. Consistent with engineering analysis, individual Nuclear Weapons-Related Materiel 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 for AF Weapons Systems and Automatic Test Equipment, the Automated Computer Program Identification Number System will be used in numbering each computer software configuration items and related documentation and in ordering and tracking software (reference TO 00-5-16, *Computer Program Identification Number (CPIN) Management*).

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 Section 207.106 **(T-0)** Unique tooling designated for preservation is considered DoD serially managed and should meet the criteria of item unique identification as outlined in DoDI 8320.04.

4.25.6. The PM ensures information on marked items is included in the DoD Item Unique Identification Registry.

4.25.7. Program planning for Automated Information Technology infrastructure requirements or Automated Information System enhancements, to include item unique identification should occur only if the program is responsible for management or maintenance.

4.26. Government Furnished Property. The PM identifies, and is accountable for, all required government furnished property addressed in the contract and other program documentation. The PM working with the Integrated Product Team, will identify, justify, and document the

requirement for government furnished property **(T-0)** The PM, working with the Procuring Contracting Officer, ensures the FAR and DFARS government furnished property clauses 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 government furnished property management is contained in FAR Part 45, Air Force Federal Acquisition Regulation Supplement Part 5345 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 and AFI 23-119, *Exchange, Sale, or Temporary Custody of Non-Excess Personal Property*.

4.26.1. The PM will ensure the list of government furnished property is provided to the contracting office, and listed as an attachment to the official contract, in the government furnished property attachment formats, in accordance with DFARS Procedures, Guidance, and Information (PGI) 245.103-72, *Government-furnished property attachments to solicitations and awards* **(T-0)**

4.26.2. The PM, working with the program office, conducts a physical inventory of all government furnished property, to include data in the contract, the correct Accountable Property System of Record, and the IUID Registry semi-annually for materiel managed by the contractor and annually for equipment used by the contractor **(T-0)** The PM maintains property accountability in accordance with the procedures of DoDI 5000.64; DoDI 4140.01, *Supply Chain Materiel Management Policy; and Defense Logistics Manual* 4000.25, Vol. 2, *Supply Standards and Procedures* **(T-0)**

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.

4.27.1. The PM addresses industrial base constraints in the Acquisition Strategy and Life Cycle Sustainment Plan. 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, reference the DMSMS Knowledge Sharing Portal for the SD-22, *DMSMS Guidebook*; and DoDM 4140.01, Vol. 2, *DoD Supply Chain Materiel Management Procedures: Demand and Supply Planning*.

4.27.3. The PM follows the procedures of DoDI 5000.60, when proposing the use of government funds for the preservation of an industrial capability **(T-0)**

4.27.4. The PM of all ACAT programs complete an industrial base assessment as prescribed by DoDI 5000.60 **(T-0)** The assessment is conducted as part of technology development prior to Milestone B, and prior to Milestone C. Results of the industrial base assessment inform the Acquisition Strategy and support the Development RFP. In addition, a PM for MDAPs engage the Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy at the beginning of the industrial base assessment development process.

4.28. Small Business Integrated Life Cycle Management Activities. The PM ensures that small business is an integral part of the life cycle from early acquisition through system demilitarization and disposal to help meet small business goals set by the PEO. Early considerations to provide maximum practicable opportunities for small business include pre-acquisition market research and requirements definition categorization planning, principally in support of the Materiel Development Decision and Analysis of Alternatives, to ensure approval authorities are offered trade space for portfolio and risk management. See AFI 90-1801, *Small Business Programs*, for more information.

4.29. Other Acquisition Planning Factors. The PM considers the requirements in **Table 4.2** as part of acquisition planning. These planning factors do not apply to all programs and are applied when required for the program.

Table 4.2. Other Acquisition Planning Factors.

Name	Requirement Description	References
Replaced System Support Plan	Summarizes the plan for sustaining the replaced (existing) system during fielding and transition to the new system.	10 USC § 2437; DoDI 5000.02T
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 USC § 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 USC § 10a-10d; FAR Subpart 25.1 and 25.2, and 25.6; DFARS Part 225; AFFARS Part 5 325

Berry Amendment & 10 USC § 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 USC § 2533b establishes domestic source preferences for specialty metals.	10 USC § 2533a and Section 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 USC § 2410p; DFARS 209.570; DoDI 5000.02T
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 and mission accountability, and execution of monetary transactions and entitlements).	10 USC § 2383; DoDI 1100.22, *Policy and Procedures for Determining Workforce Mix*; DoDI 5000.02T; 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, *Guidelines and Discount Rates For Benefit-Cost Analysis Of Federal Programs*

Scientific and Technical Information (STINFO)	Properly mark equipment leased and purchased 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, *DoD Scientific and Technical Information Program (STIP)*; DoDM 3200.14, *Principles and Operational Parameters of the DoD Scientific and Technical Information Program (STIP)*; DoDI 5230.24, *Distribution Statements on Technical Documents*; DoDD 5230.25, *Withholding of Unclassified Technical Data from Public Disclosure*; AFPD 61-2; *Management of Scientific and Technical Information* AFI 61-201; *Management of Scientific and Technical Information (STINFO).*
The Technical Cooperation Program	The Technical Cooperation Program 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, *The Technical Cooperation Program (TTCP)*
Value Engineering (VE) Program	DoD Components 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.	EO 13834, *Efficient Federal Operations*
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, *Non-Lethal Weapons (NLW) Human Effects Characterization*
Autonomy in Weapon Systems	When developing autonomous and semi-autonomous weapon systems, assess the requirements and guidelines in the directive.	DoDD 3000.09, *Autonomy in Weapon Systems*
COMSEC	Applies to the accountability of COMSEC/Controlled Cryptographic Item (CCI) that require protection and COMSEC/CCI materials that need to be developed, acquired, operated, maintained, and disposed of in accordance with COMSEC instructions. The Air Force COMSEC/CCI Central authority is the Cryptologic and Cyber Systems Division (AFLCMC/HNC). Questions related to future modernization and sustainment of COMSEC/CCI should be directed to the AFLCMC/HNC.	DoDI 8523.01, *Communications Security (COMSEC)*; CNSSI No 4001, *Controlled Cryptographic Items*; AFMAN 17-1302-O
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 the agency's need to more than one source would compromise national security.	10 USC § 2304; FAR 6.302-6

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 **(T-0)** 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, *Positioning, Navigation, and Timing (PNT) and Navigation Warfare*
Small Business Programs	Applies to supplies, services and construction acquisitions above $10,000.	FAR Part 19; DFARS 219; AFFARS 5319; AFI 90-1801
External Business Partners	Apply approved Organization Unique Identification (OUID) standards and guidelines for use in DoD business transactions with Federal and State agencies, non-governmental organizations, and domestic and foreign persons and organizations external to DoD	DoDI 8320.06

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, system security, and system safety within and across individual systems and programs. The Chief Engineer, 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 system engineering processes (**paragraph 5.2**) throughout the lifecycle (**paragraph 5.3**) to integrate user capability needs with design considerations (**paragraph 5.4**) to affordably satisfy customer needs.

5.1.1. Digital Engineering. The PM utilizes Digital Engineering (to include model based systems engineering), modular open system approaches, software-defined capabilities, and commercial standards and interfaces to the maximum extent practicable. The PM documents their justifications for not utilizing any of these new, rapid tools in the Acquisition Strategy in order to obtain MDA approval or redirection. For systems in sustainment, the program office should implement model based systems engineering to the maximum extent practicable.

5.1.2. Life Cycle Systems Engineering. The Chief Engineer, 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.

5.1.2.1. Configuration management and control, deficiency reporting and response, reliability, maintainability, integrity, Human Systems Integration implementation, ESOH risk management, mishap investigation, and other engineering practices and efforts combine to successfully develop, test, build, field, operate, sustain, and dispose of systems.

5.1.2.2. The PM includes representatives of the operational, maintenance and sustainment, safety, and test and evaluation communities in system engineering 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.

5.1.2.3. 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 life cycle systems engineering requirements are being met in the Program Management Agreement, Systems Engineering Plan, and Life Cycle Sustainment Plan, avoiding duplication.

5.1.3. Systems Engineering Plan. The PM's fundamental technical planning document is the Systems Engineering Plan. It defines methods for implementing all system requirements having technical content, technical staffing, and technical management. The MDA is the final Systems Engineering Plan approval authority, regardless of ACAT. For ACAT ID programs, SAF/AQ signs the Systems Engineering Plan prior to sending it to OSD for final MDA approval. Per DoDI 5000.02T, OSD reviews the Systems Engineering Plan for MDAP and Major Automated Information System programs prior to final approval **(T-0)**

5.1.3.1. The Chief Engineer, in support of the PM, prepares a Systems Engineering Plan for formal approval as required by DoDI 5000.02T **(T-0)** The Chief Engineer complies with standard content and format of the DoD Systems Engineering Plan Outline. Systems Engineering Plans should reference organization or portfolio standard engineering process documents, if appropriate. Deviations from these referenced processes should be documented in the System Engineering Plan.

5.1.3.2. Post Milestone C, the PEO establishes a review and approval schedule for each program office in the PEO's portfolio. The program manager and Chief Engineer review the Systems Engineering Plan with attachments for currency and consistency with other program documentation and update and approve it per the PEO's schedule. The Systems Engineering Plan should be a "living" "go to" blueprint for the conduct, management, and control of the technical aspects of the government's program from concept to disposal.

5.1.3.3. The PM ensures that the contractor systems engineering approach is aligned to the program's Systems Engineering Plan.

5.1.4. Mission Assurance for Space Programs. The PM ensures that mission assurance is an integral part of the space system development, and is integrated throughout life cycle and documented in life cycle documentation. Mission assurance is defined as the disciplined application of proven scientific, engineering, quality, and program management principles towards the goal of achieving mission success. Mission assurance follows a general systems engineering framework and uses risk management and independent assessment as cornerstones throughout the program life cycle. Mission assurance does not replace the mandatory elements of the system safety process described in MIL-STD-882E unless waived by the MDA.

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

5.1.5.1. The PM includes in the System Engineering Plan applicable certifications for the program and when they are required. The PM also includes certification activities and events in the Integrated Master Schedule.

5.1.5.2. DoDI 5000.02T 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.

5.1.5.3. A PM for aircraft systems (manned and unmanned) obtains required airworthiness approvals in accordance with AFI 62-601, *USAF Airworthiness*.

5.1.5.4. A PM for nuclear weapon systems obtains required nuclear certification in accordance with AFI 63-125.

5.1.6. System Engineering Role in Contracts. The PM includes system engineering requirements in program contracting efforts to ensure offerors provide sufficient system engineering resources. The primary tool for shaping a program contract is the RFP.

5.1.6.1. The Chief Engineer participates in the RFP development team and is responsible for all technical aspects. The Chief Engineer, at a minimum, ensures that the RFP:

5.1.6.1.1. References required operational documentation and specifications.

5.1.6.1.2. Identifies appropriate design requirements.

5.1.6.1.3. Identifies technical data to be produced by the contractor and accessed by the government.

5.1.6.1.4. Specifies testing and verification requirements.

5.1.6.1.5. Specifies certification requirements.

5.1.6.1.6. Specifies all technical review and technical documentation requirements.

5.1.6.1.7. Specifies system security requirements.

5.1.6.2. IEEE-15288, *Systems and Software Engineering – System Life Cycle Processes*, IEEE 15288.1, *Standard for Application of Systems Engineering on Defense Programs*, and IEEE- 15288.2, *Standard for Technical Reviews and Audits on Defense Programs*, provide industry-accepted standards and criteria for implementing systems engineering for DoD programs.

5.1.7. System of Systems and Family of Systems Engineering. System engineering for System of Systems and Family of Systems emphasizes interoperability among systems developed under different sponsorship, management, and primary acquisition processes, and often operated by other Services, Agencies, allies, and coalition partners.

5.1.7.1. The PM and Chief Engineer 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.

5.1.7.2. Digital Engineering (to include Model Based Systems Engineering) is an effective means for understanding complex System of Systems and Family of Systems, and can provide insights into interoperability in the total mission context.

5.1.7.3. The Chief Engineer identifies interdependent systems that may be impacted by a proposed baseline change, and during the design process, the PM coordinates the change with the PM (or equivalents) of the affected systems.

5.1.8. 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; conducts Independent Technical Risk Assessments (ITRAs) and independent post-Preliminary Design Review (PDR) and post-Critical Design Review (CDR) assessments; and directs external technical assessments of programs, as needed.

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

5.2.1. Technical Management Processes.

5.2.1.1. Technical Planning. Technical planning identifies processes, schedules, personnel and 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 Chief Engineer understand the impact of uncertainty on decision-making, and identifies and communicates a course of action that best balances competing objectives. The Chief Engineer 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 5000.88, *Engineering of Defense Systems*. **(T-0)** 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.

5.2.1.3.1. The PM and Chief Engineer 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. **(T-1)** Unless waived by the MDA and documented in the SEP, PMs will conduct the following system level reviews, or equivalents:

5.2.1.3.1.1. System Requirements Review (SRR) or System Functional Review (SFR). **(Can be waived by the MDA).**

5.2.1.3.1.2. Preliminary Design Review (PDR). **(Can be waived by the MDA). .**

5.2.1.3.1.3. Critical Design Review (CDR). **(Can be waived by the MDA). .**

5.2.1.3.1.4. System Verification Review (SVR) or Functional Configuration Audit (FCA). **(Can be waived by the MDA). .**

5.2.1.3.1.5. Production Readiness Review (PRR). **(Can be waived by the MDA).**

5.2.1.3.1.6. Physical Configuration Audit (PCA). **(Can be waived by the MDA).**

5.2.1.3.2. The PM will invite SAF/AQR and the supporting Center engineering functional office to attend the formal technical reviews identified in **paragraph 5.2.1.3**. **(T-0)** The PM will also provide access to the technical data relevant to the issues, risks, and topics to be addressed at a given technical review as follows:

5.2.1.3.2.1. ACAT 1D PMs will include participation of SAF/AQR, the supporting Center engineering functional office, and OUSD(R&E) representatives in formal system–level reviews identified in **paragraph 5.2.1.3.1** Additionally, the PM will ensure an OUSD(R&E) representative is invited to all ACAT 1D sub-system PDRs and CDRs. **(T-1)**

5.2.1.3.2.2. For ACAT 1D programs, OUSD(R&E) assesses the system-level PDRs and CDRs. and provides the MDA with the results of these assessments of technical risks, maturation of the technical baseline, and the program's readiness to proceed.

5.2.1.3.2.3. The supporting Center engineering functional office is designated as

the Independent Review Team (IRT) for programs residing in that Center. For all ACAT IB/C programs, the supporting Center engineering functional office will provide the PM and SAF/AQR with post assessments of the results of system-level PDRs and CDRs. The supporting Center engineering functional office assessments will use the SAF/AQR provided reporting template to identify technical risks and maturation of the technical baseline. SAF/AQR will provide the Center engineering functional offices with the current template, updated as necessary to incorporate lessons learned. The supporting Center engineering functional office will coordinate the draft post-PDR and/or CDR assessments with the PM, but the supporting Center engineering functional office director will sign the final version of the assessment and provide it to the PM and SAF/AQR. The PM will include that assessment in the information provided to support the MDA's 10 U.S.C. 2366b certification. In certain instances, SAF/AQR can may determine if the ITRA team can accomplish the post-PDR and/or CDR assessment instead of tasking a separate IRT. **(T-1)**

5.2.1.3.3. Technology Readiness Assessments (TRAs). (TRAs) are the primary tool to benchmark and begin to assess maturity of critical technologies.

5.2.1.3.3.1. TRAs are a statutory requirement for MDAPs at the Development RFP Release Decision Point with an update at Milestone B to inform the 2366b certification per DoDI 5000.85. **(T-0)** The Under Secretary of Defense (Research & Engineering) is required to conduct an independent assessment of the Program Manager's TRA for MDAPs as part of the Development Request for Proposal (RFP) Release Decision Point Review. The TRA at Milestone C is a regulatory requirement when Milestone C is Program Initiation**.**

5.2.1.3.3.2. TRAs are a regulatory information requirement for non-MDAPs.

5.2.1.3.3.3. MDAs for all non-MDAP programs with high technological risk are encouraged to require the Chief Engineer, in support of the PM, to perform a Technology Readiness Assessment.

5.2.1.3.3.4. For MDAPs that requires a Technology Readiness Assessment (TRA), the PM, in collaboration with Center Level Engineering, develops the following TRA plan, final critical technology list, draft (also known as 'preliminary') TRA report, and submits final TRA report for approval by SAF/AQR on behalf of SAF/AQ. **(T-0)** Reference DoD Technology Readiness Assessment (TRA) Guidance for more information.

5.2.1.3.3.5. For programs for which an ITRA is conducted, a technology readiness assessment report is not required. Program Managers with the Chief Engineer should continue to assess and document the technology maturity of all critical technologies consistent with the technology readiness assessment guidance. ITRA teams may leverage technology maturation activities and receive access to results in order to perform independent technical reviews and assessments.

5.2.1.3.4. Technology readiness assessments 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 is conducted in accordance with **Chapter 4**.

5.2.1.3.5. IEEE-15288.2 provides industry-accepted standards/criteria 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 validated and approved user capability requirements are traceable to the system specification.

5.2.1.4.1. The PM ensures that program and system requirements include all documented user requirements, airworthiness requirements, statutory, regulatory, system security, 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 Chief Engineer, 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. Configuration management is formalized change management of the system Technical Baseline, which includes a Functional Baseline, an Allocated Baseline, and a Product Baseline. The Chief Engineer, in support of the PM, uses configuration management to establish and control product attributes and technical baselines across the system life cycle. SAE-EIA-649-1, *Configuration Management Requirements for Defense Contractors*, provides industry-accepted standards/criteria for implementing configuration management on DoD programs. MIL-HDBK-61A contains detailed information about configuration management.

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 in accordance with 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 configuration management practices and responsibilities are summarized in the System Engineering Plan in accordance with the DoD System Engineering Plan Outline.

5.2.1.7. Data Management. Data Management 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. The PM manages digital product design data using a DoD standardized product data management system that must be defined and justified within the Systems Engineering Plan and approved by the MDA (may be waived by the MDA after consultation with SAF/AQR). See **Chapter 4** for Intelligence Mission Data management and Lifecycle Mission Data Plan guidance and **Chapter 7** for other data management guidance.

5.2.1.8. Interface Management. The interface management process ensures interface definition and compliance among the internal elements that comprise a system, as well as with other systems. The PM and the Chief Engineer ensure that internal and external interface requirement changes are documented in accordance with the program's configuration management plan.

5.2.2. Technical Processes.

5.2.2.1. Stakeholder Requirements Definition. The PM and Chief Engineer 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 **paragraph 5.4**) are addressed in program specifications and baselines. If the PM generates program-unique specifications, they should be prepared in accordance with 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 standards of the DoD Architecture Framework (DoD). For IT and NSS, refer to **Chapter 8.**

5.2.2.3.1. The PM and Chief Engineer ensure that architecture products include the program's system as well as its potential interfaces and impacts to external systems (i.e., the System of Systems and Family of Systems 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 Modular Open Systems Approach 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 Chief Engineer ensure that each principal formal technical review includes an architecture-based assessment to confirm that the system development remains aligned to the operational requirements.

5.2.2.4. 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 Chief Developmental Tester/Test Manager manage verification activities, to include developmental testing. The PM and the Chief Engineer review the results of verification throughout the life cycle. Refer to AFI 99-103 for the Test and Evaluation process.

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. Operational Test and Evaluation (OT&E) is a core validation process. Refer to AFI 99-103 for more information on Test and Evaluation (T&E) processes. The PM ensures the system is ready for Operational Test and Evaluation. The PM implements the dedicated operational testing review process as described in AFMAN 63-119 and briefs the MDA who certifies system readiness for Initial OT&E.

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

5.2.2.8.1. The Chief Engineer works with the Product Support Manager to ensure that the Life Cycle Sustainment Plan includes appropriate technical information for sustainment and product support.

5.2.2.8.2. The PM provides Technical Orders (TOs) and other maintenance and supportability technical data to the end user in accordance with **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 Chief Engineer to document this process in the Systems Engineering Plan no later than Milestone C. The PM and Chief Engineer co-chairs deficiency board reviews to oversee this process. TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, provides mandatory information on deficiency reporting.

5.3. System Engineering Activities in the Life Cycle.

5.3.1. Early Systems Engineering. Early systems engineering encompasses pre-acquisition technical planning, principally in support of Materiel Development Decisions and Analysis of Alternatives, to ensure leadership is offered trade space for portfolio and risk management. The results of early systems engineering activities are documented in the Concept Characterization and Technical Description and are the principal artifacts of early systems engineering. The *AF Early Systems Engineering Guide* provides additional information. SAF/AQR reviews the Concept Characterization and Technical Description and provides technical recommendations to the decision authority. Provide SAF/AQR Concept Characterization and Technical Descriptions prepared for requirements validation and approval preceding Materiel Development Decision 90 days prior to the decision (can be waived by the MDA).

5.3.2. Systems Engineering During System Development. During system development, Chief Engineer uses the systems engineering processes (**paragraph 5.2**) to integrate user capability needs with design considerations (**paragraph 5.4**) to affordably satisfy customer needs.

5.3.3. Sustainment Systems Engineering. Beginning at Initial Operational Capability, sustainment systems engineering is focused on maintaining the technical baseline of the

system. Key sustainment systems engineering considerations include but are not limited to the following:

   5.3.3.1. Configuration Management (see **paragraph 5.2.1.6**)

   5.3.3.2. Deficiency Reporting (see **paragraph 5.2.2.8.3**)

   5.3.3.3. Diminishing Manufacturing Sources & Material Shortages (see **paragraph 5.4.8**)

   5.3.3.4. Reliability and Maintainability (see **paragraph 5.4.20**)

   5.3.3.5. Manufacturing and Quality Management during operations and sustainment. Refer to AFI 63-145, *Manufacturing and Quality Management*.

   5.3.3.6. Additive Manufacturing. Use of Additive Manufacturing to build replacement parts for a system under a PM's configuration control must be reviewed by the Chief Engineer and approved by the PM.

   5.3.3.7. Engineering and Technical Support to Field-level Maintenance Organizations. PMs provide engineering and technical support throughout the life cycle, beginning with Initial OT&E. To provide engineering and technical support, PMs use organic or contractor resources or a combination of the two. PMs address the engineering and technical support strategy in the Milestone C Systems Engineering Plan.

   5.3.4. Systems Engineering in Support of Demilitarization and Disposal. See **Chapter 7**.

5.4. Systems Engineering Design Considerations. The Chief Engineer uses system engineering processes across the life cycle to accomplish trade-offs to provide balanced solutions, optimized at the system-level, that affordably satisfy required user capabilities. PMs should identify key design considerations that are critical to achieving the program's technical requirements in the plan's mandatory Design Considerations table in accordance with the standard DoD Systems Engineering Plan outline.

   5.4.1. AF-Unique Design Considerations.

   5.4.1.1. Recorded System Information. For any 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., Reliability and Maintainability Information System Logistics Installations and Mission Support - Enterprise View (LIMS-EV)). The PM re-assesses information needs and data collection capabilities as a part of aircraft and system modifications. The uses of recorded system information include the following:

      5.4.1.1.1. Mishap Investigation. All AF aircraft requiring AF airworthiness approval, record crash survivable parametric and acoustic data that meets the minimum requirements listed in AFPAM 63-129. All spacecraft requiring flight worthiness approval, provide recorded launch and spacecraft data.

      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 and space systems 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 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 in accordance with their original terms and conditions.

5.4.1.1.5. Military Flight Operations Quality Assurance. Military Flight Operations Quality Assurance 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 and 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 Military Flight Operations Quality Assurance capability needs for each Mission Design Series 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 Military Flight Operations Quality Assurance 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 and 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., integrity, training, Military Flight Operations Quality Assurance, 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 each Aircraft Mission Design Series the AF acquires, uses, or leases, the PM establishes integrity programs.

5.4.1.2.1. The PM develops, documents, and executes integrity programs by applying AFI 63-140, *Aircraft Structural Integrity Program*, and tailoring and integrating to the extent practicable: MIL-STD-1530D, *Aircraft Structural Integrity Program (ASIP)*; MIL-STD-1796, *Avionics Integrity Program (AVIP)*; MIL-STD-1798C, *Mechanical Equipment and Subsystems Integrity Program*; MIL-STD-3024, *Propulsion System Integrity Program*; and MIL-HDBK-513, *Low Observable Integrity Program*.

5.4.1.2.2. PMs integrate corrosion prevention and control into the Mission Design Series integrity programs.

5.4.1.2.3. PMs ensure that an individual certified to Level III in accordance with National Aerospace Standard 410, *Certification & Qualification of Nondestructive Test Personnel*, approves non-destructive inspection procedures, to include procedures for Time Compliance Technical Orders and one time inspection purposes (e.g., Technical Assistance Requests).

5.4.1.3. AF Metrology and Calibration. Acquisition of systems and equipment includes assessment of calibration and measurement requirements in accordance with AFMAN 21-113, *Air Force Metrology and Calibration Program Management*.

5.4.1.4. Space Unique Considerations. (RESERVED)

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 Section 1194), unless exempt under FAR 39.204 as a military system or National Security System **(T-0)**

5.4.3. Affordability-Systems Engineering Tradeoff Analysis.

5.4.3.1. MDAPs that proceeded through Milestone A (or other initial milestone) after October 1, 2017 require a Secretary of Defense Cost goal vice an affordability goal or cap **(T-0)** See DoDI 5000.02T additional guidance.

5.4.3.2. At Milestone 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 Key Performance Parameters 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. For Commercial-Off-the-Shelf 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 system engineering processes and design considerations to Commercial-Off-the-Shelf systems and components through the life cycle.

5.4.6. Communications, Navigation, Surveillance/Air Traffic Management. Secure Communications, Navigation, Surveillance and Air Traffic Management capabilities, appropriate for the air system mission, are required for safe and compliant operations in civil

and DoD-controlled airspace. The Air Force has established the Communications, Navigation, Surveillance/Air Traffic Management Center of Excellence as the centralized AF resource for design expertise to assist program offices with the implementation of life cycle Communications, Navigation, Surveillance/Air Traffic Management requirements and with the execution of Communications, Navigation, Surveillance/Air Traffic Management performance assessments in support of airworthiness certifications. AFPAM 63-129 contains additional guidance and resources. For all Air Force air systems, the PM, supported by the Chief Engineer, is responsible to:

5.4.6.1. Include Communications, Navigation, Surveillance/Air Traffic Management capabilities and functionality in the aircraft's airworthiness certification baseline and assess their airworthiness in accordance with Airworthiness Bulletin 325, *Communications, Navigation, Surveillance /Air Traffic Management (CNS/ATM) Compliance Assessment Process* **(T-0)**

5.4.6.2. Obtain standard Communications, Navigation, Surveillance/Air Traffic Management equipment through the centralized contracts and approved products lists that are managed by the Communications, Navigation, Surveillance/Air Traffic Management Center of Excellence. If not financially advantageous, technically suitable, or supportive of program schedule, document decisions to deviate from this direction in the MDA approved Acquisition Strategy.

5.4.6.3. For those Communications, Navigation, Surveillance/Air Traffic Management capabilities that require lifetime compliance assurance with civil standards (e.g. Reduced Vertical Separation Minimum), establish and document sustaining engineering procedures to maintain currency.

5.4.6.4. Provide requested technical support and documentation to the using MAJCOM's Communications, Navigation, Surveillance/Air Traffic Management operational approval process (reference AFI 11-202, Vol. 3, *General Flight Rules*).

5.4.6.5. If a Communications, Navigation, Surveillance/Air Traffic Management capability requires a navigation accuracy of Area Navigation/Required Navigation Performance of 4 nautical miles or tighter, obtain a Letter of Acceptance from the Communications, Navigation, Surveillance/Air Traffic Management Center of Excellence that formally documents the acceptance of the applicants processes, procedures, tools, and the plan for execution.

5.4.6.6. Within one week of discovery or notification of an issue impacting an air system's Communications, Navigation, Surveillance/Air Traffic Management capability, notify the Center of Excellence, affected MAJCOM, and the Air Force Technical Airworthiness Authority.

5.4.7. Corrosion Prevention and Control. The AF Corrosion Prevention and Control program is a part of the long-term DoD strategy that supports efforts to reduce total system ownership cost. See DoDI 5000.67; MIL-STD-1568D, *Materials and Processes for Corrosion Prevention and Control in Aerospace Weapons Systems*; and DoDI 5000.02T 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.

5.4.7.1. The Chief Engineer, in support of the PM, conducts and integrates corrosion prevention and control planning into appropriate program documentation in accordance with DoDI 5000.67. The PM may include corrosion planning documentation in a separate, Corrosion Prevention and Control Plan, which is considered a best practice, or the PM includes corrosion planning in the System Engineering Plan and Life Cycle Sustainment Plan. For ACAT I programs, the PM provides the AF Corrosion Control and Prevention Executive, the Corrosion Prevention and Control Plan, System Engineering Plan, or Life Cycle Sustainment Plan prior to obtaining PEO approval.

5.4.7.2. The PM evaluates corrosion prevention and control as a part of system engineering trades throughout program design and development activities.

5.4.7.3. For new starts, the PM obtains early AF Corrosion Control and Prevention Executive involvement in corrosion planning including comparing program document content to the guidance in the *DoD Corrosion Prevention and Control Planning Guidebook for Military Systems and Equipment* for each life cycle phase.

5.4.8. Critical Safety Items. 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. Critical safety items should not be confused with "safety critical items" as defined in MIL-STD- 882E. Title 10 USC § 2319 contains the critical safety items statutory requirements. AF CSI regulatory requirements are contained in AFI 20-106_IP, *Management of Aviation Critical Safety Items.* See also DFARS 246.407, *Nonconforming Supplies or Services*, and DFARS 246.371, *Notification of Potential Safety Issues*.

5.4.8.1. The program office Chief Engineer is the "Engineering Support Activity," as defined in AFI 20-106_IP, for all critical safety items under the direct configuration control of the program.

5.4.8.2. The Chief Engineer identifies critical safety items prior to critical design review and identifies critical safety items on bills of materials.

5.4.8.3. Critical safety items not under the configuration control of the program must come from sources approved by the Engineering Support Activity for those items.

5.4.8.4. The Chief Engineer, in support of the PM, develops and maintains an updated list of critical safety items and corresponding critical characteristics, updated annually after Full Operational Capability. The PM should ensure a process is in place to track the impact of mishap investigations, deficiency reports, engineering change proposals and other processes that may affect the inclusion of items on the list of critical safety items, or result in a change of the critical characteristics for critical safety items.

5.4.9. Diminishing Manufacturing Sources & Material Shortages (DMSMS). DMSMS is the loss, or impending loss, of manufacturers or suppliers of items, raw materials, or software.

5.4.9.1. SAF/AQ establishes policy and provides management direction and oversight of the DMSMS program. **(T-0)**

5.4.9.2. AFMC/CC is the designated lead office to implement integrated risk-based, proactive DMSMS policy, procedures, regulations, guidance, and training.

5.4.9.3. The PM includes integrated risk-based, proactive DMSMS management, procedures, guidance, and training for systems engineering, manufacturing, sustainment,

technology protection, and test and evaluation to reduce the occurrence and impact of DMSMS (e.g., cost, schedule delays, readiness) on programs and systems. **(T-0)**

5.4.9.4. The PM integrates DMSMS into program risk management activities (see **Chapter 4**). **(T-0)** Consult SD-22, *DMSMS Guidebook* and SD-26, *DMSMS Contract Language*, for additional information.

5.4.10. Disposal and Demilitarization. See **Chapter 7**.

5.4.11. Environment, Safety and Operational Health (ESOH). The Chief Engineer, 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 Chief Engineer:

5.4.11.1. Ensures ESOH risk management is integrated into systems engineering using the system safety process described in MIL-STD-882E. The Chief Engineer uses the standard matrix in MIL-STD-882E unless the PM obtains formal MDA approval to use an alternative matrix. The Chief Engineer documents the specific matrix used by the program and any required MDA approval of an alternative matrix in the System Engineering Plan. **Note**: 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.

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

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

5.4.11.3.1. Compliance with National Environmental Policy Act (NEPA)/Executive Order (EO) 12114;

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

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

5.4.11.4. Includes the ESOH management planning in the Systems Engineering Plan, not in the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE). The Systems Engineering Plan 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 Systems Engineering plan approval process for Milestones B and C, both the Programmatic Environment, Safety, and Occupational Health Evaluation and the NEPA/EO 12114 compliance schedule must be provided to all reviewers. Additional

ESOH sustainment considerations after Milestone C are included in the Life Cycle Sustainment Plan.

5.4.11.5. Uses the Programmatic Environment, Safety, and Occupational Health Evaluation 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/EO 12114 analysis.

5.4.11.5.1. For ESOH risks, the Programmatic Environment, Safety, and Occupational Health Evaluation 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.

5.4.11.5.2. For hazardous materials, either imbedded in the system or used for system operations and maintenance, the Programmatic Environment, Safety, and Occupational Health Evaluation includes information on the locations, amounts, disposal requirements, and special training requirements. The Chief Engineer can use the optional Task 108, Hazardous Materials Management Plan, in MIL-STD-882E or the Aerospace Industries Association (AIA) National Aerospace Standard (NAS) 411, *Hazardous Materials Management Program*, as the basis for a program's hazardous materials management. Both Task 108 and NAS 411 require a contractual listing of the hazardous materials, which the program intends to manage. The contractual listing categorizes each listed hazardous materials as Prohibited, Restricted, or Tracked. NAS 411-1, *Hazardous Material Target List*, provides a DoD-AIA agreed-upon baseline listing of hazardous materials for each category to use as the starting point in defining the program's list of hazardous materials.

5.4.11.6. Uses the NEPA/EO 12114 compliance schedule to document completed and projected analyses. The Chief Engineer should also incorporate analyses that are on the critical path. The NEPA/EO 12114 compliance schedule includes, but is not limited to:

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

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

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

5.4.11.6.4. Anticipated NEPA/EO 12114 document type.

5.4.11.6.5. Anticipated start and completion dates for each document.

5.4.11.6.6. The document approval authority.

5.4.11.7. Ensures the Programmatic Environment, Safety, and Occupational Health Evaluation and the NEPA Compliance Schedule are approved as a part of the System Engineering Plan at Milestones B and C. They are reviewed and approved by the PEO at the Full-Rate Production Decision Review/Full Deployment Decision Review/Build Approval. In support of these approvals, the Chief Engineer obtains coordination of the Programmatic Environment, Safety, and Occupational Health Evaluation from the supporting Environmental, Safety, and Occupational Health functional areas as applicable. The Chief Engineer obtains coordination of the Systems Engineering plan at Milestone A

from the supporting Environmental, Safety, and Occupational Health functional areas since the PESHE and NEPA Compliance Schedule are not included with the System Engineering Plan at Milestone A. The Milestone A System Engineering Plan ESOH Management content is critical because it governs the Technology Maturation and Risk Reduction (TMRR) phase ESOH activities.

5.4.11.8. 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)*.

5.4.11.9. 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.

5.4.11.10. Provides system-specific ESOH analyses and data to support using commands' and T&E organizations' NEPA and EO 12114 documentation requirements.

5.4.11.11. 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.

5.4.11.12. Integrates ESOH and Human Factors Engineering.

5.4.12. Human Systems Integration. Each system consists of three major components: hardware, software, and human. The System Engineering Plan documents how the PM integrates Human System Integration (HSI) design considerations early in the design process and throughout the life cycle. Human Factors Engineering is conducted to provide safe and effective human interfaces, and ensure that systems are designed to account for human capabilities and limitations. For additional Human Systems Integration guidance contact the AFLCMC Crew Systems and Human Systems Integration Enterprise Branch.

5.4.12.1. HSI addresses the integration of seven domains: manpower, personnel, training, safety and occupational health, habitability, force protection and survivability, and human factors engineering. HSI activities occur throughout the acquisition lifecycle and include considerations during system design, development, fielding and sustainment.

5.4.12.2. For additional information on Human Systems Integration implementation, refer to DoDI 5000.02T, Enclosure 7, AFPAM 63-128, MIL-STD-1472GH, *Human Engineering*, and MIL-STD-46855A, *Human Engineering Requirements for Military Systems, Equipment, and Facilities*.

5.4.12.3. DELETED

5.4.12.4. Crew stations and maintainer interfaces are special emphasis areas for Air Force Human Systems Integration. Crew stations and maintainer interfaces are the primary human interfaces for manned and unmanned air systems and must promote situational

awareness, facilitate task accomplishment, and physically accommodate operators and maintainers. The PM, supported by the Chief Engineer, works jointly with the Air Force Flight Standards Agency, the AFLCMC Crew System and Human Systems Integration Enterprise Branch, the Air Force Operational Test and Evaluation Center, the Air Force Test Center, and MAJCOM operational representatives to ensure that crew stations and maintainer interfaces meet end user requirements and avoid deviations from Air Force standards for accommodation, displays, task performance evaluation, alerting, and symbology. For additional information on cockpit, crew station and maintainer design and best practices, see AFPAM 63-129, Chapter 6.

5.4.13. Insensitive Munitions. The PM for all systems containing energetics ensures that applicable insensitive munitions requirements are incorporated into the system design and that all required safety reviews and certifications are obtained. The PM will comply with insensitive munitions requirements in accordance with DoD 5000.02T. **(T-0)**

5.4.14. Intelligence. See **Chapter 4**.

5.4.15. Item Unique Identification. See **Chapter 4**.

5.4.16. Interoperability & Dependency (I&D).

5.4.16.1. See **paragraph 5.1.6** for System of Systems and Family of Systems and **paragraph 5.2.2.3** for Interoperability and Dependency in architecting. Refer to **Chapter 8** for additional information on interoperability of information technology and National Security Systems.

5.4.16.2. 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.

5.4.16.2.1. The PM addresses system compatibility and logistics interchangeability for allied and coalition operations (e.g., databases, fuel, transportability, ammunition, etc.). The PM identifies areas that may require verification to ensure a capability is interoperable in accordance with the JCIDS Manual.

5.4.16.2.2. 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).

5.4.16.2.3. Following approval of the Acquisition Strategy, the PM notifies AF/A5/8 and SAF/AQ of all applicable International Standardization Agreements that are not included in an acquisition/systems requirements document or system specification to allow agreement reservations to be registered with appropriate multinational body. Refer to AFI 60-106, *International Military Standardization Program*, for further information.

5.4.17. Modular Open Systems Approach. The Modular Open Systems Approach is used to design and development modular, interoperable systems that allow components to be added,

modified, replaced, removed and supported by different vendors throughout each system's life cycle. The PM applies the Modular Open Systems Approach and Open Technology Development wherever feasible. The Chief Engineer 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 5000.02T, Enclosure 2 for more information.

5.4.18. Operational Energy. The Chief Engineer 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 Key Performance Parameter for the program.

5.4.19. Packaging, Handling, Storage and Transportation. The PM, with the support of the Chief Engineer and Product Support Manager, identifies packaging, handling, storage and transportation requirements based on operational capabilities and life cycle cost considerations. See DoDI 4140.01, DoDM 4140.01 Vol. 2, AFPD 24-6, *Distribution and Traffic Management*, and AFI 24-602 Vol. 2, *Cargo Movement*, for weapon systems Packaging, Handling, Storage and Transportation; a MIL-STD-2073-1E, *Department of Defense Standard Practice for Military Packaging*, and FAR Subpart 47.2.

5.4.20. Producibility, Quality & Manufacturing Readiness. This design consideration is closely linked to the technology readiness assessment process, reliability and maintainability, product and system integrity, and the deficiency reporting process. SAE-AS6500, *Manufacturing Management Program*, provides industry-accepted standards/criteria 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.

5.4.20.1. The PM and Chief Engineer 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.

5.4.20.2. The PM conducts assessments of, and addresses manufacturing readiness at formal technical and milestone reviews.

5.4.21. Reliability and Maintainability Engineering. The Chief Engineer and Product Support Manager, in support of the PM, develops a reliability and maintainability 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 Rationale Report Manual*; GEIA-STD-0009, *Reliability Program Standard for Systems Design, Development, and Manufacturing*; and SAE TA-HB-0009A, *Reliability Program Handbook* for additional information. The Reliability, Maintainability, and Cost Report documents the rationale behind the development and balancing of sustainment requirements.

5.4.21.1. The PM will emphasize key reliability practices when planning and executing. **(T-1)**

5.4.21.1.1. The PM conducts an analysis of the lead and using command(s) reliability and maintainability requirements and flows them into the system specification and appropriate contractual requirements. **(T-1)**

5.4.21.1.2. The PM will leverage reliability engineering early. **(T-1)**

5.4.21.1.3. The PM will establish realistic reliability requirements. **(T-1)**

5.4.21.1.4. The PM will employ reliability engineering activities to improve a system's design throughout development. **(T-1)**

5.4.21.2. The PM includes a Reliability, Maintainability, and Cost Report in the System Engineering Plan at Milestone A, updates it to support the RFP pre-release review at Milestones B and C, and documents the reliability growth strategy with reliability growth curve in the System Engineering Plan in accordance with DoDI 5000.02T.

5.4.21.3. The PM documents the reliability growth curve and associated verification methods for Reliability, Maintainability, and Cost requirements in the Test and Evaluation Master Plan.

5.4.21.4. Post-Milestone C. The PM reviews maintenance data documentation, deficiency reports, and modification proposals to determine if overall system reliability and maintainability is affected and may require product improvement. This review should occur for modifications, mishaps, or as part of Life Cycle Sustainment Plan updates and involve the lead command, applicable product support teams, and supply chain management teams to ensure deficiencies are identified and corrected.

5.4.21.5. 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.

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

5.4.21.5.2. The PM includes Condition-Based Maintenance Plus in the selection of maintenance concepts, technologies, and processes for all new weapon systems, equipment, and materiel programs based on readiness requirements, life cycle cost goals, and RCM-based functional analysis.

5.4.21.5.3. The PM implements Condition-Based Maintenance Plus on existing programs where technically feasible and beneficial.

5.4.22. SEEK EAGLE Certification. Aircraft program managers provide SEEK EAGLE certifications to assure the safe and acceptable carriage and release (employment and jettison), safe escape, and ballistics accuracy (when applicable) for all stores in specified loading configurations on Air Force and foreign military sales aircraft. The term "store" means any device (1) intended for external or internal carriage, (2) mounted at aircraft suspension point locations, and (3) which may or may not be intended for release from the aircraft. SEEK EAGLE certifications are based on engineering analyses, computer modeling and simulations, ground testing and flight testing. Use this certification data to update and verify the accuracy

of operational flight programs and TOs. The Air Force SEEK EAGLE Office is the center of expertise for aircraft-stores compatibility activities. SAF/AQ has designated the SEEK EAGLE Office as the primary source for SEEK EAGLE certification technical support and it is the central repository for SEEK EAGLE data. Additional information on the overall SEEK EAGLE process, including detailed procedures on requesting support from the Air Force SEEK EAGLE Office, memorandum of agreement templates, stores certification data package templates, typical funding source assignments, technical information request forms, and dispute resolution procedures are located in AFPAM 63-129, Chapter 3.

5.4.22.1. The aircraft program manager, supported by the Chief Engineer, provides SEEK EAGLE certification of any aircraft-store combination prior to its first use in flight by all Regular Air Force, Air National Guard, or Air Force Reserve operational units or test organizations unless waived by the MDA.

5.4.22.1.1. Unless waived by SAF/AQ, the aircraft PM uses the Air Force SEEK EAGLE Office's engineering services, facilities, and capabilities as the primary technical resources to support SEEK EAGLE certifications. The PM secures Air Force SEEK EAGLE Office support by negotiating a memorandum of agreement. The memorandum of agreement is tailored to the unique operational capability requirements of the program and the Air Force SEEK EAGLE Office capabilities to meet those requirements. For developmental aircraft, the memorandum of agreement is signed no later than Milestone B unless waived by the MDA and updated by the end of Engineering and Manufacturing Development. The memorandum of agreement remains in effect for the life of the program and be modified as required. Information on the memorandum of agreement process can be found in AFPAM 63-129.

5.4.22.1.2. Air Combat Command, as the lead command and requirements owner in collaboration with Air Force Global Strike Command and the Air Force SEEK EAGLE Office Director, is the final authority for assigning SEEK EAGLE Request Priority. Disagreements are resolved at the lowest level practical. When resolution cannot be reached in a timely manner, SAF/AQP will resolve the issue.

5.4.22.1.3. The aircraft or store program of record in development is responsible for all costs associated with SEEK EAGLE requirements, including stores needed for flight testing. The Air Force SEEK EAGLE Office is responsible for costs to execute SEEK EAGLE support for Air Force programs in production and to provide a baseline capacity of technical expertise, modeling, and simulation tools, known flight and wind tunnel testing, and SEEK EAGLE resources available for Air Force programs. It is the responsibility of the aircraft or store manager to fund all other activities such as technical order publication and operational flight program updates. See AFPAM 63-129 for additional information.

5.4.22.1.4. The aircraft program manager applies the DoD standardized procedures in MIL-HDBK-1763, *Aircraft/Stores Capability: Systems Engineering Data Requirements and Test Procedures*, for the certification of stores on aircraft; waivable by the MDA. MIL-HDBK-244A, *Guide to Aircraft/Stores Compatibility*, provides guidance on evaluating the safety and acceptability of store-aircraft combinations.

5.4.22.2. Store program managers produce a SEEK EAGLE store certification data package for each store that they manage and provide a copy of the package to the aircraft

program manager and the Air Force SEEK EAGLE Office **(T-2)** AF Nuclear Weapons Center (AFNWC) provides statements of nuclear compatibility and certification completion to the SEEK EAGLE office **(T-1)** See the Store Certification Data Package Template at Attachment 5 of AFPAM 63-129. In addition, store program managers:

5.4.22.2.1. Provide an updated certification data package prior to releasing a new or modified store for test or operation.

5.4.22.2.2. Support the aircraft program manager's aircraft-store combination SEEK EAGLE certification.

5.4.22.2.3. Notify the lead and using commands, aircraft program manager, and Air Force SEEK EAGLE Office of store service life changes that require re-certification.

5.4.22.3. Aircraft operators and crew do not load or use any store on an aircraft that does not have a specific SEEK EAGLE certification for that loading location from the aircraft program manager **(T-1)** Contact the program manager and the Air Force SEEK EAGLE Office to request the required SEEK EAGLE certification. See AFPAM 63-129 for additional procedures and resources for SEEK EAGLE Requests.

5.4.22.4. SEEK EAGLE certifications for unique foreign military sales aircraft-stores combinations may be requested by international customers through the Air Force Security Assistance and Cooperation Directorate and may be fulfilled on a negotiated, reimbursable basis. See AFPAM 63-129 for additional procedures and resources for FMS SEEK EAGLE Requests.

5.4.22.5. Analyses and data from the SEEK EAGLE certification can support the aircraft's airworthiness approval, as required by AFI 62-601. Program managers should integrate SEEK EAGLE engineering analysis and testing activities with AF airworthiness processes to achieve cost and schedule savings.

5.4.23. Software Engineering. System engineering 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 System Engineering, or Acquisition Strategy. 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 is required, the PM uses the Cost and Software Data Reporting system to submit the report. Refer to DoDI 5000.02T for more information.

5.4.24. Spectrum Management. Spectrum management is the planning, coordinating, and managing of the joint use of the electromagnetic spectrum through operational, engineering, and administrative procedures. The PM of systems using or impacting the electromagnetic spectrum is responsible for obtaining 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.

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

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

5.4.24.3. The Chief Engineer, 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 in accordance with DoDI 3222.03, *DoD Electromagnetic Environmental Effects (E3) Program*. See **Chapter 4**. **(T-0)**

5.4.25. Standardization. Refer to AFI 60-101. 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.

5.4.26. Supportability. See **Chapter 7**.

5.4.27. System Survivability & Susceptibility. System survivability includes protection from kinetic and non-kinetic fires, initial nuclear effects (including electromagnetic pulse), chemical, biological, and radiological contamination, cyber-attacks, and natural environments (i.e., solar flares, extreme temperatures, salt water, etc.). Survivability requirements apply to all programs including those utilizing commercial off the shelf or non-developmental item.

5.4.27.1. The PM addresses system survivability requirements and performance attributes across the life cycle.

5.4.27.2. The PM ensures system survivability design, test, and analysis activities are based on a system operations concept and threat assessments.

5.4.27.3. The PM implements a Hardness Maintenance and Hardness Surveillance program if a system requires hardening to survive against nuclear, ballistic, chemical, biological, high power microwave, or laser threats. The program considers High Altitude Electromagnetic Pulse protection of mission-essential Nuclear Command, Control, Communications (NC3) systems. Methods are applied to verify that the High Altitude Electromagnetic Pulse protection for the system and facility integration meets requirements listed in survivability policy. Procedures and plans should include materials, methods, and devices required to design, construct, test, and maintain High Altitude Electromagnetic Pulse protection from initial conception to deactivation of a fixed facility.

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

5.4.27.4.1. Section 141 of Public Law 108-375, *Development of Deployable Systems to Include Consideration of Force Protection in Asymmetric Threat Environment*.

5.4.27.4.2. 50 USC § 1053, *Survivability of Critical Systems Exposed to Chemical or Biological Contamination*.

5.4.27.4.3. Allied Engineering Publication (AEP)-7, *Chemical, Biological, Radiological, and Nuclear (CBRN) Contamination Survivability Factors in the Design, Testing and Acceptance of Military Equipment*.

5.4.27.4.4. MIL-STD 3056, *Design Criteria for Chemical, Biological, and Radiological System Contamination Survivability*.

5.4.27.4.5. 50 USC § 1522, *Conduct of Chemical and Biological Defense Program*.

5.4.27.4.6. DoDI 3150.09.

5.4.27.4.7. DoDI 3222.03.

5.4.27.4.8. AFI 10-2607, *Chemical, Biological, Radiological, and Nuclear Survivability*.

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

5.4.27.4.10. MIL-STD-188-125-1, *High-Altitude Electromagnetic Pulse Protection for Ground-Based C41 Facilities Performing Critical, Time Urgent Missions*.

5.4.27.4.11. MIL-STD- 188-125-2, *High-Altitude Electromagnetic Pulse Protection for Transportable Systems*.

5.4.27.4.12. MIL-STD-3023, *High-Altitude Electromagnetic Pulse Protection for Military Aircraft*.

5.4.27.4.13. MIL-HDBK-423, *High-Altitude Electromagnetic Pulse (HEMP) Protection for Fixed and Transportable Ground - Based C4 1 Facilities - Volume 1 - Fixed Facilities*.

5.4.27.5. 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 Chief Engineer, in collaboration with the implementing command's designated meteorologists, ensure the identification and documentation of a system's operational requirements for weather products and services, and assessment of weather-related risk during all phases of the life cycle, as appropriate.

Chapter 6

PROGRAM PROTECTION

6.1. Program Protection Overview. Program protection is a multi-functional activity to plan for and integrate holistic security policies and practices for AF programs throughout their life cycles. **Note**: Use of the term programs in this chapter is not meant to limit application to acquisition category programs, it may be applied to systems, sub-systems, projects, or other acquisition activities. Program protection helps ensure that all programs consider lifecycle risk management and execute to protect from a spectrum of threats in order to ensure battlefield advantage and mission assurance, including cyber-related threats, counterfeit hardware or software components, information exfiltration, unauthorized or indiscriminate information disclosure, and tampering efforts should components fall outside positive physical control. Security elements and considerations are included and consistent across a program's documentation (e.g., Systems Engineering Plan, Test and Evaluation Master Plan, Life Cycle Sustainment Plan, etc.). See the *USAF Systems Security Engineering Acquisition Guidebook*, for additional information and guidance.

6.2. Applicability. The PM ensures:

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

6.2.2. Security-related requirements are included in the RFP and contract language, and in source selection criteria, where appropriate. Requirements should include security considerations at prime and subcontractor locations, proper security surrounding development networks as well as evidence for a secure supply chain (e.g. statistical part inspections, facility inspection results, network certifications).

6.2.3. Completed Program Protection Plans are included in the Systems Engineering Plan then transferred to the Life Cycle Sustainment Plan when a program transitions into the Operations and Sustainment phase. The PM and Product Support Manager ensures Product Support Providers identified in the Life Cycle Sustainment Plan are fully informed of their responsibilities.

6.3. Program Protection Planning. The PM ensures Critical Program Information and mission-critical functions and components are protected to keep technological advantages in and malicious content out in accordance with DoDI 5200.39; DoDI 5200.44; DoDD 5200.47E, *Anti-Tamper*; and DoDI O-5240.24, *Counterintelligence Activities Supporting Research, Development, and Acquisition*.

6.3.1. Program Protection Plan. The Program Protection Plan is approved by the MDA. Refer to DoDI 5000.02T, Enclosure 3 for more information. The PM completes a Program Protection Plan per DoDI 5000.02T and consistent with OSD approved outlines, and maintains it throughout the life cycle of the program. When a technology development activity transfers to a program, in accordance with AFI 61-102, or the system has a major modification, the PM becomes responsible for security impacts of the change and documents them in their program's Program Protection Plan. The PM ensures that risk-reducing countermeasures for security-

related threats are identified and recorded in the Program Protection Plan. An approved Program Protection Plan is also included as supporting documentation in the attachment section of the Information Support Plan.

6.3.1.1. Program Protection Plan requirements for modifications can be satisfied by updating or annexing the existing plan, or by creating a separate Program Protection Plan for the modification.

6.3.1.2. The PM creates and records an audit and inspection plan periodically as part of the Program Protection Plan, and ensures any findings or updates that involve significant High risks are reported in accordance with **paragraph 6.3.1.3**.

6.3.1.3. For 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, the PM will notify the MDA, and appropriate Approving Official or Chief Information Officer (CIO), and document them in the Program Protection Plan **(T-0)**

6.3.1.4. The PM of fielded systems should periodically review the Program Protection Plan and its implementation, and update as needed. At a minimum, review the Program Protection Plan every five years congruent with Life Cycle Sustainment Plan updates. For more information on program protection planning best practices and processes, see AFPAM 63-113 and **Chapter 9** of the Defense Acquisition Guidebook (**https://www.dau.edu/tools/dag**).

6.3.1.5. Critical Program Information. The PM ensures that Critical Program Information, as defined in DoDI 5200.39, is identified and properly documented in the Program Protection Plan along with risk assessments and mitigations. Critical Program Information responsibilities extend across the entire lifecycle and the PM re-evaluates Critical Program Information when there are changes in system design, modifications, changes in the supply chain, or changes in threats and vulnerabilities.

6.3.1.6. The PM describes the methodology used or to be used for identifying Critical Program Information, including hardware and software critical components, in the Program Protection Plan. Critical Program Information identification, risk assessment, and risk mitigation development is typically accomplished through processes, methodologies, and techniques to determine vulnerability and criticality.

6.3.1.7. Protect Critical Program Information against threats across the supply chain and throughout the life cycle, including during development and after delivery into the operational environment.

6.3.1.8. Inherited Critical Program Information is identified and properly documented in the Program Protection Plan, and is included in the applicable risk assessments. At a minimum, inherited Critical Program Information must be protected in accordance with the countermeasures outlined in the originating program's Program Protection Plan. Inherited Critical Program Information is defined in DoDI 5200.39. Inherited Critical Program Information responsibilities extend across a program's entire lifecycle.

6.3.1.9. After Critical Program Information is identified, the PM ensures that the authoritative database, currently the Acquisition Security Database, is reviewed for

programs with same or similar Critical Protection Information for horizontal protection. The PM documents review results, to include the database used, and risk mitigations consistent with DoDI 5200.39.

6.3.2. Additional Program Protection Plan Content. The PM documents the following in the Program Protection Plan:

6.3.2.1. How the program addresses system security engineering requirements in systems engineering technical reviews, functional and physical configuration audits, and change analyses. Program Managers document program protection-oriented entry and exit criteria for engineering and technical reviews in the Program Protection Plan. The PM ensures that program protection requirements are thoroughly analyzed prior to design and implementation, and assessed as part of the test and evaluation strategy.

6.3.2.2. How program protection requirements and considerations are managed during sustainment.

6.3.2.3. How program personnel and contractors report and respond (procedures) to attempted or successful Critical Program Information compromises, supply chain exploitations, counterfeit infiltration, and the compromise of controlled unclassified information or classified information. The PM manages risk to Controlled Unclassified Information consistent with DoDI 5200.48, *Controlled Unclassified Information (CUI)*; DoDI 5230.24 and DoDI 8582.01, *Security of Non-DoD Information Systems Processing Unclassified Nonpublic DoD Information*.

6.3.2.4. 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 memoranda of understanding associated with foreign sales or usage), their originating organization, location, and points of contact.

6.3.3. Countermeasures. The PM uses countermeasures to protect critical and sensitive aspects of the program to include Critical Program Information, classified, critical unclassified information, hardware and software, cyber, within both industry and the government. The protection is applied at the appropriate security classification level as identified in the program's Security Classification Guide. Cryptographic Countermeasures. Cryptographic countermeasures are developed in accordance with DoDM 5220.22, *National Industrial Security Program Operating Manual*; DoDM 5220.22, Vol. 2 *National Industrial Security Program: Industrial Security Procedures for Government Activities*; DoDI 8500.01, DoDI 8520.02, *Public Key Infrastructure (PKI) and Public Key (PK) Enabling*; DoDI 8520.03, *Identify Authentication for Information Systems*, and AFI 16-1404, *Air Force Information Security Program*. The PM documents cryptographic countermeasures in the Program Protection Plan.

6.3.4. Communications Security (COMSEC) Countermeasures. COMSEC countermeasures are developed, implemented, and managed consistent with DoDI 5220.22, *National Industrial Security Program*; DoDI 8500.01; DoDI 8520.03; DoDM 5220.22; DoDM 5220.22, Vol. 2; AFI 16-1404; and AFI 16-1406, *Air Force Industrial Security Program*. The PM documents COMSEC countermeasures in the Program Protection Plan.

6.3.4.1. PMs are required to coordinate and receive approval from AFLCMC/HNC prior to any Communications Security/Controlled Cryptographic Item (COMSEC/CCI)

development, acquisition, modernization, or sustainment. Non-compliance will be reported to the Program Executive Officer (PEO) for Command, Control, Communications, Intelligence, and Networks Directorate (AFLCMC/HN), with a copy of the final action to the SAF/AQ Military Deputy, within 30 days.

6.3.5. Biometrics Countermeasures. The PM documents biometric countermeasures in the Program Protection Plan.

6.3.6. Anti-Tamper Countermeasures. The PEO identifies an Anti-Tamper Lead to coordinate with the AF Anti-Tamper Service Lead and to guide programs through the anti-tamper planning process. The PM collaborates with the AF Anti-Tamper Service Lead for anti-tamper planning. SAF/AQL is the AF Anti-Tamper Service Lead.

6.3.6.1. The PM ensures that anti-tamper plans and anti-tamper waivers are included as an appendix in the Program Protection Plan. See DoDD 5200.47E for more information.

6.3.6.2. The PM implements anti-tamper countermeasures, where appropriate, consistent with DoDI 2010.06, DoDI 5200.39, DoDI 5200.44, DoDM 5220.22, and DoDM 5220.22 Vol. 2. Anti-tamper countermeasures are often associated with horizontal protection.

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

6.4. Special Access Programs (SAP). SAPs created under the authority of EO 13526, *Classified National Security Information* are exempt from compliance in developing a Program Protection Plan. This exemption does not include anti-tamper plans or the Cybersecurity Strategy. 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 Program Protection Plan. SAPs are managed in accordance with DoDD 5205.07, *Special Access Program (SAP) Policy*, DoDI 5205.11, AFPD 16-7, *Special Access Programs* and AFI 16-701.

6.5. Counterintelligence. The PM coordinates with the implementing command's intelligence focal point to determine the need for counterintelligence. If required, 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 and may develop an attached Counterintelligence Support Plan to the Program Protection Plan.

6.6. System Security Engineering. An element of systems engineering that applies scientific and engineering principles to identify security vulnerabilities, and minimize or contain risks associated with these vulnerabilities. The PM, in collaboration with the Chief Engineer, tailors the system engineering technical and management processes to address security related vulnerabilities

and protection measures. See the *USAF Systems Security Engineering Acquisition Guidebook* (**https://www.milsuite.mil/book/docs/DOC-469551**).

6.7. Trusted Systems and Networks (TSN). The PM ensures that mission critical functions and critical components are identified and properly documented in the Program Protection Plan, with risk assessment and mitigation, in accordance with DoDI 5200.44. *Trusted Systems and Networks* responsibilities extend throughout the life cycle and the PM re-evaluates critical components when there are program changes in system design, modifications, or supply chain changes including spare or replacement parts.

6.7.1. Trusted Systems and Networks Focal Point. The HAF Trusted Systems and Networks focal point is the overall AF Trusted Systems and Networks lead, performs those duties that cannot be performed at the MAJCOM level, and resolves disputes between implementing commands on matters concerning Enterprise-level Trusted Systems and Networks activities. The HAF Trusted Systems and Networks focal point is SAF/AQR.

6.7.2. Implementing commands should each designate a Trusted Systems and Networks focal point to perform the following activities:

6.7.2.1. Coordinate MAJCOM requests for threat analysis of suppliers of critical components.

6.7.2.2. Coordinate use of Trusted Systems and Networks resources, including Subject matter experts and tools.

6.7.2.3. Coordinate with the HAF focal point in the development of Trusted Systems and Networks requirements, best practices, and mitigations.

6.7.2.4. Monitor the identification of mission critical functions and critical components as well as Trusted Systems and Networks planning and implementation activities documented in the Program Protection Plan.

6.7.3. The PM coordinates with the implementing command's Trusted Systems and Networks focal point regarding Trusted Systems and Networks threat identification, best practices, processes, techniques and procurement tools.

6.7.3.1. The PM will complete TSN analysis by conducting criticality analysis, threat assessment, vulnerability assessment, risk assessment, and selection of appropriate protection measures for the mission critical functions and critical components **(T-0)**

6.7.3.2. Reference the *Defense Acquisition Guidebook* Chapter 9, DoDI 5200.44, and AFPAM 63-113, for more information.

6.8. Acquisition Security: Acquisition Security is a key element of program protection for the planning and integration of all security disciplines and other defensive methods into the acquisition process to protect weapons systems and related sensitive technology, technical data to include research data with military applications, and support systems from foreign intelligence collection, unauthorized disclosure, sabotage, theft, or damage throughout a system's life cycle.

6.9. Assurance. The PM is responsible for implementing hardware and software assurance activities, integrating them into the program protection processes, and documenting them in the Program Protection Plan and Risk Management Plan. For air platforms and information systems

assurance should be part of the Risk Management Framework, reference DoDI 8510.01, to strengthen the security posture of AF systems.

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 are 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 software assurance 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. Firmware Assurance. The PM implements and applies firmware assurance for system critical components to increase the level of confidence that the firmware functions as intended and is free of design vulnerabilities, either intentionally or unintentionally inserted.

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

6.11. Cybersecurity Strategy (formerly known as the Information Assurance Strategy). The PM is responsible for ensuring programs develop and implement a Cybersecurity Strategy consistent with DoDI 5000.02T, DoDI 8500.01, DoDI 8510.01, and include the Cybersecurity Strategy as an appendix to the Program Protection Plan throughout the system life cycle. The Cybersecurity Strategy is approved by the applicable CIO (AF or DoD) prior to milestone decisions or contract awards and is required for every milestone review beginning at Milestone A.

6.12. Cyber Test and Evaluation (T&E). Cyber T&E must be included in program Test and Evaluation Master Plan. The Test and Evaluation Master Plan should build upon the program Cybersecurity Strategy and provide detailed T&E activities to support cyber T&E requirements. See AFI 99-103 for more information on cyber T&E and AFMAN 63-144 for Defense Business Systems.

6.13. Nuclear   Systems   Security. Nuclear   components   governed   by   DoDM 5030.55_AFMAN63-103 and DoD-DoE or Air Force-National Nuclear Security Administration

(AF- NNSA) agreements are not exempt from systems security considerations. The PM is responsible to ensure Nuclear weapons security is accomplished consistent with DoDD 3150.02 and nuclear surety tamper control and detection is consistent with AFI 91-101.

6.14. Foreign Military Sales (FMS) and Direct Commercial Sales Security. Foreign military sales and direct commercial sales programs must implement program protection and other security considerations.

6.14.1. 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 Program Protection Plan. Identified Critical Protection Information, countermeasures, designs, testing, and acquisition documents should be consistent with foreign involvement.

6.14.2. The PM ensures that Defense Exportability Features are incorporated into the requirements development and engineering processes and that appropriate countermeasures are included in the Program Protection Plan. The PM includes links to relevant Defense Exportability Features discussions in the Acquisition Strategy. See DoDI 2010.06 for more information.

6.14.3. The Security Assistance Program Manager ensures organizations and foreign recipients establish plans and procedures that foster compliance with the security cooperation process to mitigate risks associated with continued Critical Program Information disclosure during an international transfer conducted via DCS or FMS in accordance with AFMAN 16-101. The Security Assistance Program Manager assesses proposed technology or information to be shared with foreign partners and validates whether the foreign partner security protection capabilities are consistent with providing protection at substantially the same degree of security as the U.S.

6.14.4. Critical Program Information is released to foreign entities (e.g., government, military business) only after appropriate reviews (e.g., International Traffic in Arms Regulation) and approvals (Foreign Disclosure Office in accordance with AFI 16-201, *Air Force Foreign Disclosure and Technology Transfer Program*). Safeguards must exist for continued Critical Program Information disclosure prevention after given to the foreign entities.

6.15. Defense Production Act. Provisions provided in the Defense Production Act (DPA) of 1950 (50 USC App Section 2061 et seq.) and FAR subpart 11.602 allow for prioritized delivery of goods, industrial base security, and protection from foreign acquisition for critical industry for national security needs. PMs with inquiries or concerns involving any of these industrial base risks can direct their questions to SAF/AQX's Industrial Liaison Branch (**usaf.pentagon.saf-aq.list.rss-saf-aqxe-industrial-liaison@mail.mil**).

6.15.1. DPA Title I (Defense Priorities and Allocations Systems [DPAS]). The PM can recommend, via Title I of the DPA, a program for a rated order or Special Priorities Assistance (SPA) under the DPAS Regulation (15 CFR 700). Rated orders are a strategic tool that may compete with other AF or DoD deliveries, not just commercial orders, and must be considered holistically against other rated orders. The PM's recommendation is routed to SAF/AQX's Industrial Liaison Branch which coordinates with AFMC's DPAS office.

6.15.1.1. BIS-999, *Request for Special Priorities Assistance*, is completed by the PM. Special Priorities Assistance (SPA) can be used to expedite product (i.e., component level) delivery to meet a specific date or to accelerate delivery under a rated order due to a change in military urgency. It can also be used to resolve delivery conflicts among various priority rated orders.

6.15.1.2. DD Form 691, *Application for Priority Rating for Production or Construction Equipment*, is completed by the PM. Defense orders (i.e., acquisition program level) are assigned an industrial priority rating of either "DO" (i.e., priority) or "DX" (i.e., highest priority). The "DX" rating is authorized by SecDef for programs of the highest national urgency. The priority rating cascades from the prime contractor down through all subcontractors. A rated order placed with a supplier takes precedence over all non-rated orders and must be filled ahead of the non-rated orders as needed to meet required delivery dates to resolve DPAS violations, interagency or joint conflicts, and routing for BIS-999.

6.15.1.3. Contracting Officers apply priority ratings to contracts or orders according to the DoD 4400.1-M, *Priorities and Allocations Manual*.

6.15.2. DPA Title III. The PM can recommend expansion of critical productive capacity and supply by employing authorities contained in Title III of the DPA. These authorities include direct investments necessary to create, sustain (i.e., DMSMS), expedite, expand, protect, or restore critical industrial capacities or services essential to the national defense. The Secretary of the AF is designated the sole and exclusive DoD Executive Agent with responsibility for DPA Title III Program execution. AFRL/CC is responsible for establishing and operating a Title III Executive Agent Program Office (EAPO) that is situated within its AFRL/RX Directorate. PM recommendations are routed to AFRL) with a copy to the Deputy Assistant Secretary of Defense for Industrial Policy Title III Director and SAF/AQX's Industrial Liaison Branch.

6.15.3. DPA Title VII Committee on Foreign Investment in the United States. Per DoDI 2000.25, the AF is a primary stakeholder for DoD Committee on Foreign Investment in the United States reviews. Responsibility for DPA Title VII is delegated to SAF/AQX, which appoints the Committee on Foreign Investment in the United States focal point for the AF. The PM's recommendation, concern, or inquiry is routed to the AF Committee on Foreign Investment in the United States focal point (**usaf.pentagon.saf-aq.list.usaf-cfius@mail.mil**).

6.15.3.1. When a program, or part of its supply chain, is at risk to (or is dependent on) a foreign person or organization's purchase, merger, or otherwise obtaining significant control of a necessary supplier, U.S. business, or asset, the PM provides acquisition risk (or benefit) information to the AF Committee on Foreign Investment in the United States focal point.

6.15.3.2. If a PM is tasked to provide information to the AF Committee on Foreign Investment in the United States focal point during the course of an investigation, it must be relevant and timely to the prescribed deadlines as there are statutory timelines associated with initial review and investigation phases **(T-1)**

6.16. National Interest Determinations. 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). National Interest Determination implementation is consistent with DoDI 5220.22, DoDM 5220.22 Vol. 2 and DoDM 5220.22 Vol. 3, *National Industrial Security Program: Procedures for Government Activities Relating to Foreign Ownership, Control, or Influence (FOCI)*. See AFI 16-1406, AFI 16-701, and Directive-type Memorandum (DTM) 15-002, *Policy Guidance for the Processing of National Interest Determinations (NIDWS) in Connection with Foreign Ownership, Control, or Influence (FOCI) for more information*.

6.17. Physical Security. The PM ensures that program-related facilities (government, including government owned, contractor operated, and contractor) have physical security attributes commensurate with program information and system characteristics, to include critical unclassified information, consistent with DoDI 5200.08, *Security of DoD Installations and Resources and the DoD Physical Security Review Board (PSRB)*; DoDI 5205.11; DoDM 5200.01 Vol. 3, *DoD Information Security Program: Protection of Classified Information*; DoDM 5220.22; AFI 31-101, *Integrated Defense (ID)*; 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.

6.17.1. 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.

6.17.2. Minimum protection standards for produced weapon system platforms will meet the intent of AFI 31-101, unless otherwise identified by the lead command.

6.17.3. When there is reasonable risk to a program or mission from a threat in proximity caused by the foreign acquisition of land, equipment, or services (e.g. a foreign acquirer buying solar panel farms outside an AF test range), local AFOSI and the AF Committee on Foreign Investment in the United States office (**usaf.pentagon.saf-aq.list.usaf-cfius@mail.mil**) must be informed **(T-1)**

6.18. Supply Chain Risk Management. The systematic process for managing risk by identifying, assessing, and mitigating actual or potential threats, vulnerabilities, and disruptions to the AF supply chain from beginning to end to ensure mission effectiveness. Successful supply chain risk management maintains the integrity of products, services, people, and technologies; and ensures the undisrupted flow of product, materiel, information, and finances across the lifecycle of a weapon or support system. Addresses the broad spectrum of supply chain risks that have the potential to jeopardize the integrity of assets, compromise intellectual property, disrupt the flow of crucial goods or services needed for continued AF operations, or drive materiel cost increases to the program. Potential supply chain risks include, but are not limited to, technology risks, counterfeit parts, diminishing manufacturing sources and material shortages, quality risks, financial risks, political and regulatory risks, foreign influence risks, operational risks, environmental risks, and human capital risks. See AFPAM 63-113 for more information.

6.18.1. USSF and AFMC identify Supply Chain Risk Management Focal Points to act as the clearinghouse for supply chain risk management data and information. The focal points will:

6.18.1.1. Collect, integrate, analyze, synchronize, and monitor enterprise supply chain risk data and efforts **(T-1)**

6.18.1.2. Support supply chain risk management by providing direct assistance to PMs, to include program reviews, as requested **(T-3)**.

6.18.1.3. Provide periodic briefings and elevate enterprise risks on supply chain risk management activities to SAF/AQD, including other HAF agencies when appropriate **(T-2)**

6.18.2. PMs will document, in Program Protection Planning, the program office supply chain risk management responsibilities to include interactions with the supply chain and Command supply chain risk management focal points, unless waived by the MDA. These responsibilities include early identification, as the design evolves, of parts and materiel sources and potential vulnerabilities, conducting provisioning conferences, and addressing supply chain risks and issues throughout the life cycle at technical and program reviews.

6.18.3. The PM, with support from the implementing command and the Defense Logistics Agency, 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, to include adequate provisions for sub-contracts. Reference DoDI 4140.01; AFI 23-101; and DFARS 246.870 for further guidance on counterfeit materiel management, to include suspect counterfeit items, and associated Government Industry Data Exchange Program reporting.

Chapter 7

PRODUCT SUPPORT

7.1. Product Support and 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 that is documented in the Life Cycle Sustainment Plan.

7.1.1. The PM retains overall responsibility for all aspects of the program. The Product Support Manager is accountable to the PM for the execution of all product support needs, to include integrity programs, within the PM's scope of responsibilities. The Product Support Manager, with support from the implementing command, develops and implements a comprehensive product support strategy for each applicable program. For more information on Product Support Manager and product support responsibilities refer to the *DoD Product Support Manager Guidebook, Integrated Product Support Element Guidebook*, MIL-HDBK-502A, *Product Support Analysis*, and 10 USC § 2337.

7.1.2. The Product Support Manager ensures the appropriate concepts, techniques, and analyses necessary to ensure achievement of defined product support requirements and objectives are applied. The Product Support Manager is responsible to the PM to ensure that integrated product support objectives are considered and introduced as early as practical in the life cycle.

7.2. Product Support Business Model. The Product Support Business Model 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. The Product Support Business Model is documented in the Life Cycle Sustainment Plan. It describes the program's methodology to achieve optimized product support by balancing weapon system availability with affordable and predictable total ownership cost. The PM has substantial discretion in implementing the Product Support Business Model by developing performance-based agreements with warfighter/users, Product Support Integrators, and Product Support Providers.

7.2.1. Product Support Integrators. The Product Support Integrator 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 Product Support Manager may have more than one Product Support Integrator supporting the Program.

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

7.3. Weapon System Sustainment. Weapon System Sustainment is a subset of Readiness and Operation and Support funding that includes Contractor Logistics Support, Contractor Inventory

Control Point, Depot Purchased Equipment Maintenance, 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 Weapon System Sustainment. Weapon System Sustainment costs should be balanced with readiness needs and addressed as part of the product support strategy.

7.4. Centralized Asset Management. Centralized Asset Management is the management and execution of sustainment funding by one AF process owner. AFMC is the designated AF Centralized Asset Management Executive Agent. Air National Guard, and Air Force Reserve Command utilize Centralized Asset Management processes and schedules, but manage their own requirements validation and execution of funds.

> 7.4.1. Major commands and the Program Manager utilize Centralized Asset Management procedures, meet established timeframes/suspense, 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 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 Centralized Asset Management.

7.5. Product Support Strategy. The Product Support Manager develops and implements a comprehensive product support strategy in support of the PM's integrated program objectives and documents this strategy in the Life Cycle Sustainment Plan. The objective of the product support strategy is to optimize and sustain operational readiness outcomes at an affordable cost. The strategy is based upon a best value determination, as validated through the Product Support Business Case Analysis process.

> 7.5.1. Product support considerations begin prior to Milestone A with early requirements determination and continue through system design, development, operational use, retirement, and disposal. The Program Manager, in conjunction with the Product Support Manager, should assess system design, design changes, and sustainment strategies to identify factors impacting future Operations and Support costs throughout these phases and develop strategies for reducing cost growth on the program.

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

> 7.5.3. The Product Support Manager adjusts performance requirements and resource allocations across Product Support Integrators and Product Support Providers as needed to implement the product support strategy. The Product Support Manager is responsible for optimizing product support during the development, implementation, sustainment and subsequent revalidation of the product support strategy.

7.6. Product Support Business Case Analysis. The Product Support Manager performs and documents a Product Support Business Case Analysis, in support of the Program Manager's integrated program objectives, to validate that the product support strategy is cost effective,

financially feasible, optimizes system readiness and manages risk, in accordance with 10 USC § 2337, *Life Cycle Management and Product Support*.

7.6.1. The Product Support Business Case Analysis varies in size, scope, and level of detail depending on many factors, such as fleet size, projected program life cycle, and depot statutory requirements. The Product Support-Business Case Analysis 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 Product Support-Business Case Analysis, the Product Support Manager and PM must completely understand the appropriate level of analysis required to support the MDA's decision making and tailor the Product Support-Business Case Analysis accordingly.

7.6.2. The Product Support-Business Case Analysis is supported by a team comprised of program management, life cycle logistics, financial management, cost estimation, small business, supply chain, and depot sustainment personnel who can assist the Product Support Manager in completing the Product Support-Business Case Analysis. The Product Support Manager conducts the Product Support-Business Case Analysis using government personnel to the maximum extent possible. Refer to AFI 65-501, *Economic Analysis*, AFPAM 63-123, *Product Support Business Case Analysis*, and the *DoD Product Support Business Case Analysis Guidebook* for more information on Product Support-Business Case Analysis.

7.6.3. The Product Support-Business Case Analysis 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 Product Support-Business Case Analysis is documented in the Life Cycle Sustainment Plan.

7.6.4. The Product Support-Business Case Analysis is an annex to the Life Cycle Sustainment Plan completed by the PM prior to Milestone C. The Product Support-Business Case Analysis is initiated and updated to justify the product support approach defined in the Life Cycle Sustainment Plan.

7.6.5. The Product Support Manager revalidates the Product Support-Business Case Analysis at a minimum of every five years from the completion or revalidation date. For existing programs that are beyond Milestone-C and do not have a Product Support-Business Case Analysis, the Product Support Manager is not required to conduct a Product Support-Business Case Analysis unless a change to the product support strategy is being considered. The Product Support Manager 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 Life Cycle Sustainment Plan.

7.6.6. SAF/AQD is the delegated approval authority for ACAT I and IA Product Support-Business Case Analysis and revalidations. The MDA is the approval authority for ACAT II and III programs.

7.6.7. The Product Support Manager is responsible to maintain a complete history of Product Support-Business Case Analysis 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. The Life Cycle Sustainment Plan is the program's product support execution plan for ensuring the system's product support strategy optimizes the

sustainment Key Performance Parameters and Key System Attributes while controlling overall program ownership costs. The Life Cycle Sustainment Plan is integrated across the system life cycle into strategies, planning, implementation, development, production, fielding, support, sustainment and disposal. The Life Cycle Sustainment Plan streamlines, consolidates, and makes visible to leadership all aspects of the program's product support strategy.

7.7.1. The PM develops or updates a Life Cycle Sustainment Plan for all ACAT programs for Milestone A, B, C, Full Rate Production and every five years after Initial Operational Capability until system disposal.

7.7.1.1. Programs in the Operations and Support phase are required to have a Life Cycle Sustainment Plan unless the program's Life Cycle Management Plan was approved prior to March 2013 and the MDA authority has been delegated to the SAE or below.

7.7.1.2. The implementing command may also designate other efforts requiring the development of a Life Cycle Sustainment Plan.

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

7.7.2. The PM updates the Life Cycle Sustainment Plan 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 Life Cycle Sustainment Plan in accordance with the OSD approved outline. Tailoring strategies ensure that the information and coordination requirements of the Life Cycle Sustainment Plan are addressed in any integrated documentation.

7.7.4. Life Cycle Sustainment Plan Approval and Concurrence.

7.7.4.1. Prior to Initial Operational Capability, ASD (L&MR) is the approval authority for Life Cycle Sustainment Plans on all ACAT ID, IAM, and USD(A&S)-designated special interest programs, and the MDA is the approval authority for all other Life Cycle Sustainment Plans.

7.7.4.2. After Initial Operational Capability, SAF/AQD is the delegated approval authority for Life Cycle Sustainment Plan on all ACAT I programs and the MDA is the approval authority for all other Life Cycle Sustainment Plans.

7.7.4.3. The implementing command provides concurrence on the Life Cycle Sustainment Plan as the Sustainment Command. Authority to provide concurrence may be delegated to the appropriate level.

7.7.5. Life Cycle Sustainment Plan Annexes. The PM is responsible for ensuring the following annexes are included in the Life Cycle Sustainment Plan:

7.7.5.1. Product Support -Business Case Analysis or other analyses used to develop the product support strategy documented in the Life Cycle Sustainment Plan.

7.7.5.2. Engine Life Cycle Management Plan.

7.7.5.3. Core Logistics Analysis.

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

7.7.5.5. Intellectual Property Strategy (Milestone B, C, and subsequent Life Cycle Sustainment Plan updates, including major modification programs).

7.7.5.6. Depot Source of Repair Determination(s).

7.7.5.7. Independent Logistics Assessment (MDAP Only).

7.7.5.8. Program Protection Plan (Operations and Support phase only; included in Systems Engineering Plan for pre-Operations and Support programs).

7.7.5.9. Item Unique Identification Implementation Plan after MS C approval.

7.7.5.10. Demilitarization Plans.

7.7.5.11. Replaced System Support Plan.

7.7.5.12. Partnership Agreements.

7.7.5.13. Technical Order Life Cycle Management Plan and Technical Order Life Cycle Verification Plan

7.7.6. System modifications/upgrades may be added as a stand-alone annex to the platform Life Cycle Sustainment Plan. The annex addresses all standard Life Cycle Sustainment Plan requirements for that specific modification/upgrade. Upon completion of the modification/upgrade, the platform Life Cycle Sustainment Plan is updated to incorporate the changes. Each modification or upgrade should have a separate annex to the Life Cycle Sustainment Plan. See **Chapter 9** for more information.

7.7.7. For more information on the Life Cycle Sustainment Plan refer to the *DoD Product Support Manager Guidebook* and the *Integrated Product Support Element Guidebook*.

7.7.8. Life Cycle Sustainment Plans pertaining to covered systems are subject to additional requirements (*see* 10 U.S.C. §2337). **(T-0)**

7.7.8.1. Covered systems are defined as MDAPs and MTAs that are estimated to require a total expenditure that exceeds the MDAP threshold. **(T-0)**

7.7.8.2. Prior to Milestone B (or the equivalent), covered systems are required to have a Life Cycle Sustainment Plan that has been approved by the MDA. **(T-0)**

7.7.8.3. PSMs will ensure the Life Cycle Sustainment Plan for a covered system includes the following items:

7.7.8.3.1. A comprehensive product support strategy. **(T-0)**

7.7.8.3.2. Performance goals, including key performance parameters for sustainment, key system attributes, and other appropriate metrics. **(T-0)**

7.7.8.3.3. An approved life cycle cost estimate. **(T-0)**

7.7.8.3.4. Affordability constraints and key cost factors that could affect the operating and support costs. **(T-0)**

7.7.8.3.5. Sustainment risks and proposed mitigation plans for such risks. **(T-0)**

7.7.8.3.6. Engineering and design considerations that support cost-effective sustainment. **(T-0)**

7.7.8.3.7. A technical data and intellectual property management plan for product support. **(T-0)**

7.7.8.3.8. Major maintenance and overhaul requirements that will be required during the life cycle. **(T-0)**

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 Milestone B and through the production and deployment phase. The PM coordinates materiel fielding schedules and plans with the lead or 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, an annex to the program Acquisition Strategy or Life Cycle Sustainment Plan, or embedded within the Acquisition Strategy or Life Cycle Sustainment Plan.

7.8.2. At Milestone 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), Initial Operational Capability, and Full Operational Capability. 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 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. In order to self-inspect and reduce product support risk for all programs, the PM periodically assess program product support planning and performance using the Logistics Health Assessments assessment tool. PEOs determine the frequency of the periodic assessment.

7.9.2. Independent Logistics Assessments. PEOs are responsible for ensuring Independent Logistics Assessments are conducted for all MDAPs within their portfolios. Independent Logistics Assessments are required prior to Milestone B, C, and the Full Rate Production decision (if Full Rate Production is more than 4 years after Milestone C). Independent Logistics Assessments results are annexed to the Life Cycle Sustainment Plan.

7.9.2.1. PEOs tailor Independent Logistics Assessments to program requirements using the Logistics Health Assessment criteria as a baseline for assessing the program. The Independent Logistics Assessments:

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 Operations and Support 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 Operations and Support 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 Independent Logistics Assessments 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.

7.9.3. Sustainment Reviews. PEOs are responsible for conducting Sustainment Reviews for all major weapon systems not later than five years after declaration of initial operational capability. **(T-0)** PEOs will conduct subsequent Sustainment Reviews every five years thereafter, in coordination with SAF/AQ. **(T-0)**

7.9.3.1. SAF/AQ will direct additional Sustainment Reviews using availability and reliability thresholds and cost estimates as the basis for the circumstances that prompt such as review.

7.9.3.2. The Sustainment Review includes, at minimum, the following elements:

7.9.3.2.1. An independent cost estimate for the remainder of the life cycle of the program.

7.9.3.2.2. A comparison of actual costs to the amount of funds budgeted and appropriated in the previous five years with an explanation of the impact on equipment availability when funding shortfalls exist.

7.9.3.2.3. A comparison between the assumed and the achieved system reliabilities.

7.9.3.2.4. An analysis of the most cost effective source of repair and maintenance.

7.9.3.2.5. An evaluation of the cost of consumables and depot level repairables.

7.9.3.2.6. An evaluation of the cost of information technology, networks, computer hardware, and software maintenance and upgrades.

7.9.3.2.7. As applicable, an assessment of actual fuel compared to projected fuel efficiencies as demonstrated in tests or operations.

7.9.3.2.8. As applicable, a comparison of actual manpower requirements to previous estimates.

7.9.3.2.9. An analysis of the completeness and accuracy of the data being reported in the military costs systems with a plan to correct deficiencies.

7.9.3.2.10. As applicable, information regarding any decision to restructure the life cycle sustainment plan for a covered system or any other action that will lead to operating and support cost growth.

7.9.3.3. PEOs document the results of the Sustainment Review in a memorandum and forward the memorandum along with supporting documentation to SAF/AQ for approval.

The memorandum and supporting documentation is made available to the Under Secretary of Defense for Acquisition and Sustainment within 30 days after completion of the review.

7.9.3.4. If the Sustainment Review identified Critical Operating and Support Cost Growth, the PEO is required to develop a remediation plan to reduce operating and support costs or obtain SECAF certification that the cost growth is necessary to meet national security requirements. **(T-0)** Critical Operating and Support Cost Growth is defined as:

7.9.3.4.1. If the Sustainment Review Independent Cost Estimate (ICE) is at least 25% greater than the estimate documented in the most recent ICE. **(T-0)**

7.9.3.4.2. If the Sustainment Review ICE is at least 350% more than the estimate documented in the original Baseline Estimate. **(T-0)**

7.9.3.5. SAF/AQ approves all Sustainment Reviews conducted by the PEOs during the fiscal year. Not later than 30 September of each year, SAF/AQ submits all completed Sustainment Reviews to the congressional defense committees. **(T-0)**

7.10. Sustainment Metrics. The PM is responsible for ensuring sustainment metrics are collected, reported, and analyzed to measure program life cycle sustainment outcomes that satisfy the sustainment Key Performance Parameters and Key System Attributes defined by the user in accordance with 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. Operational availability can be used in place of materiel availability in cases where the total inventory of a weapon system is required for operational use to perform an assigned mission at any given time.

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. Total Ownership Cost measures total costs as identified in the OSD Cost Assessment and Program Evaluation Operations and Support Cost Estimating Structure. Total ownership cost is measured in accordance with *OSD Cost Assessment and Program Evaluation Operating and Support Cost-Estimating Guide*.

7.10.4. Mean Down Time measures the average elapsed time between losing Mission Capability status and restoring the system to at least Partial Mission Capability status. Mean down time information can be found in AFPAM 63-128.

7.11. Depot Maintenance and Sustainment Cost Reporting. Depot level maintenance applies to work performed by both government and contractor personnel. It includes all types of contractor support (contractor logistics support, contractor inventory control point, interim contractor support, requirements contracts) and partnership arrangements (Workshare Agreements, Direct Sales Agreements, and contract work excluded under the terms of 10 USC § 2474), regardless of the source and type of funding and where the work is performed.

7.11.1. The PM supports HQ AFMC, in accordance with 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 USC § 2464 and 10 USC § 2466, the PM is responsible for reflecting the AF Core and organic requirements in programmatic strategies and product sourcing documents throughout the program life cycle.

7.11.3. The PM working with the Procuring Contracting Officer is responsible for ensuring 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, *Cost and Software Data Reporting (CSDR)*, for additional detail.

7.12. Depot Purchased Equipment Maintenance. The Depot Purchased Equipment Maintenance 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 AFMAN 63-143 for detailed information on the Depot Purchased Equipment Maintenance Program.

7.13. Depot Source of Repair. The Depot Source of Repair 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. Refer to AFMAN 63-122, *Depot Source of Repair Planning and Activation*, for detailed process guidance.

7.13.1. The PM initiates Depot Source of Repair planning early in the life cycle and documents Depot Source of Repair planning in the Life Cycle Sustainment Plan. The PM considers requiring delivery of an iterative supportability analysis including a Level of Repair Analysis, and a Maintenance Task Analysis, in order to better support depot maintenance activation activities. Reference GEIA-STD-0007 for additional detail.

7.13.2. The PM ensures Depot Source of Repair determinations for programs, systems, sub-systems, and end items are processed and approved through Air Force Materiel Command. The PM provides Air Force Materiel Command with all required data needed to develop the Depot Source of Repair using the Depot Source of Repair Automated Management System.

7.13.3. Air Force Materiel Command acts as the AF executive manager for the Depot Source of Repair process.

7.13.3.1. SAPs complete the Depot Source of Repair determination process using the classified process defined by Air Force Materiel Command.

7.13.3.2. Depot Source of Repair determinations for space programs, systems, sub-systems and end items are routed through US Space Force (as implementing command) prior to submission to Air Force Materiel Command.

7.13.4. The Depot Source of Repair 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 Air Force Materiel Command to determine the core depot-level maintenance and repair requirements. This analysis is completed prior to Milestone A, and the results of the analysis are also documented in the Core Logistics Analysis Annex to the Life Cycle Sustainment Plan.

7.13.4.2. The Depot Source of Repair 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 Depot Source of Repair is completed by Milestone B, and it identifies sources of repair for each depot level reparable at the system and sub-system level, at minimum, per AFMAN 63-122.

7.14. Contractor Logistics Support. The PM considers the use of Contractor Logistics Support 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 AFMAN 65-605, Vol. 1.

7.14.1. Contractor Inventory Control Point refers to the logistic support function where the contractor is assigned the primary responsibility for Integrated Materiel Management (IMM) of peculiar items in support of Air Force programs. Other supply chain management functions include requisition processing, storage, shipment, delivery, pick-up receiving, shipping, in-transit visibility/tracking/reporting, property accountability and handling of material. For additional guidance refer to DoDM 4140.01, Vol. 8, AFI 23-101, AFI 23-119, and AFI 23-111.

7.14.2. Interim Contractor Support 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.

7.14.2.1. If Interim Contractor Support is planned, the PM ensures the Acquisition Strategy and Life Cycle Sustainment Plan include a plan for transition from Interim Contractor Support to the long-term product support strategy (organic or contract), as well as the beginning and ending dates of the Interim Contractor Support. Interim Contractor Support does not negate the PM's responsibility to achieve an organic, Contractor Logistics Support or a Public-Private Partnership capability as early as practicable.

7.14.2.2. The lead and using command(s) plan and advocate for programming and budgeting for Interim Contractor Support cost and associated requirements for the sustainment of systems.

7.14.3. Contractor Logistics Support requirements are programmed for and executed using the types of funds and funding level approved by the lead command or AF Centralized Asset Management Executive Agent, AFMC. The PM provides the lead command and AF Centralized Asset Management Executive Agent applicable copies of obligation documents and expense reports as agreed to or as stipulated by the AF Centralized Asset Management (CAM) Executive Agent. The lead and using command(s) plan and advocate for programming and budgeting for their portions of the Contractor Logistics Support costs and any associated

requirements for the sustainment of systems. Reference AFMAN 65-605, Vol. 1, for more information.

7.14.4. Contractor Logistics Support 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.

7.14.4.1. Contractor Logistics Support 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. Contractor Logistics Support 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 Contractor Logistics Support contract in the Life Cycle Sustainment Plan.

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

7.14.4.2.1. The PM implements contract data requirements for tracking and reporting of total program cost and breakout of depot-level maintenance contractor and organic costs.

7.14.4.2.2. The PM reports all Contractor Logistics Support costs consistent with AFMAN 65-605, Vol. 1.The PM ensures Chief Financial Officer reporting is submitted for Contractor Logistics Support contract assets in the applicable Accountable Property System of Record in accordance with AFI 23-101.

7.14.4.2.3. The PM ensures compliance with Defense Logistics Management Standards transactional data reporting for Contractor Logistics Support assets in the applicable Accountable Property System of Record in accordance with Defense Logistics Manual (DLM) 4000.25, Vol. 2 and DoDM 4140.01, Vol. 8.

7.14.5. The PM coordinates and obtains MAJCOM agreement on unit, base, or MAJCOM support requirements and ensures agreed-to support requirements are included in the contractor logistics support contract. Reference AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreement Procedures* for additional information.

7.14.6. The PM obtains AF Metrology and Calibration Program Group approval prior to contracting for commercial calibration services or when deviating from currently established calibration support plans in accordance with AFMAN 21-113.

7.14.7. The PM reviews the requirements in DoDI 3020.41 when making logistics sustainability decisions regarding contract support in contingency operations outside the US.

7.14.8. Contractor Logistics Support for commercial derivative/hybrid aircraft adheres to Federal Aviation Administration maintenance standards, directives, and bulletins to the maximum extent practical for commercial derivative aircraft, in accordance with 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.

7.14.9. When making a Depot Source of Repair determination for Federal Aviation Administration certificated commercial derivative/hybrid aircraft, organic AF depot repair facilities are authorized to maintain and repair in accordance with Federal Aviation Administration maintenance standards, directives, and bulletins to the maximum extent practical for commercial derivative aircraft, in accordance with respective manufacture's maintenance manuals, military technical manuals, and approved maintenance concepts. For further information, see AFMCI 21-100, *Depot Maintenance Management*.

7.15. Public-Private Partnerships. Public-Private Partnerships are a logistics sustainment philosophy involving a cooperative agreement between a program office, DoD Center of Industrial and Technical Excellence, 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/user. 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 three complementary agreements. The prime contract documents the relationship between the program office and the private sector entity. The Partnership Agreement 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. The Product Support Manager is responsible for developing and managing the public-private partnership and harmonizing the three agreements to ensure an effective and affordable product support strategy.

7.15.2. The Product Support Manager 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 Product Support Manager considers public-private partnerships in the RFP for the Engineering and Manufacturing Development phase and documents the considerations in the Life Cycle Sustainment Plan.

7.15.2.2. For fielded systems, the Product Support Manager considers the use of public-private partnerships to improve sustainment outcomes and documents the considerations in the Life Cycle Sustainment Plan.

7.15.2.3. The Product Support Manager provides copies of all partnership and implementation agreements supporting the product support strategy in an annex to the Life Cycle Sustainment Plan.

7.15.2.4. The Product Support Manager periodically reviews each public-private partnership to ensure it is effective, efficient, and meeting program targets.

7.15.3. The Product Support Manager conducts an analysis to ensure 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 Product Support – Business Case Analysis.

7.15.3.1. The analysis considers costs, benefits, opportunities, risks, investments, resource needs, constraints, organic 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 Public-Private Partnership to the U.S. Government.

7.15.3.2. The Product Support Manager may leverage analysis developed in support of the Depot Source of Repair decision to meet the requirement.

7.15.4. The Product Support Manager ensures cost data for all factors of production (e.g., direct labor, overhead, materiel, as well as, general and administrative expense) are captured, tracked, and monitored 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, Work Shares, and Leases. The Product Support Manager collaborates with the contracting officer to ensure unique public-private partnership requirements are included in the applicable contract. Such requirements might include workload requirements, remedies, or equitable adjustments. **Note**: The Product Support Manager may request the Contracting Officer consider prime contract provisions for equitable adjustments or excusable delays (relieving the contractor of responsibility for Air Logistics Complex non-performance or non-compliance) when determining appropriate profit and fee based on reduced contractor risk in accordance with DFARS 215.404-71.

7.15.5.1. In a Direct Sales Agreement, 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. The funds received for work performed in support of a Direct Sales Agreement 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.

7.15.5.2. A Direct Sales Agreement is the most appropriate type of public-private partnership when the supported product is immature or unstable.

7.15.5.3. Direct Sales Agreements must be scrutinized carefully, and the pass-through costs associated with this type of arrangement must be specifically addressed in the supporting analysis.

7.15.5.4. The Product Support Manager includes the basis for selecting a Direct Sales Agreement in the Life Cycle Sustainment Plan.

7.15.5.5. 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.

7.15.5.6. Leases allow private industry access to facilities/equipment located at a Center of Industrial and Technical Excellence. Facilities or equipment located at a Center of Industrial and Technical Excellence may be made available to private industry to perform maintenance or produce goods, as long as it does not preclude the Center of Industrial and Technical Excellence 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 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. Military and government civilian personnel operating or maintaining fielded systems, subsystems, or end items (hardware and software) utilize and comply with applicable Government-verified TOs. Compliance with TOs are mandatory, except as explained in TO 00-5-1, *AF Technical Order System*.

7.16.2. The PM documents the strategy for developing and verifying TOs in the Technical Order life cycle management plan and Technical Order life cycle verification plan. Content requirements for these plans is provided in TO 00-5-3, *AF Technical Order Life Cycle Management*.

7.16.3. The PM is responsible to:

7.16.3.1. Ensure TOs and Preliminary Technical Orders are developed and verified in accordance with DoDM 5010.12-M, *Procedures for the Acquisition and Management of Technical Data*, TO 00- 5-1, and TO 00-5-3. TOs for Foreign Military Sales (FMS) systems are ordered and distributed in accordance with TO 00-5-19, *Security Assistance Technical Order Program*. US Security Assistance Organizations provide assistance to the PM as required.

7.16.3.2. Ensure that fielded TOs are technically accurate and up-to-date.

7.16.3.3. Ensure Time Compliance Technical Orders (TCTOs) are issued and verified in accordance with TO 00-5-15.

7.16.3.4. Develop TOs in accordance with approved Government Technical Manual Specifications and Standards and ASD-S1000D, *International Specification for Technical Publications Utilizing a Common Source Database*, listed in the *Technical Manual Contract Requirements document*, TM-86-01 used to document program requirements for AF Technical Manuals. This includes the development of linear-structured, Electronic Technical Manuals and database- structured, interactive Electronic Technical Manuals.

7.16.3.5. Provide TO management for the life cycle of assigned system/commodity TOs and manages TO changes in accordance with TOs 00-5-1 and 00-5-3 within the timelines specified in the TOs and AFI 11-215, *Flight Manuals Program*.

7.16.3.6. Provides inputs to the Comprehensive AF TO Plan for assigned system/commodity in accordance with AFMAN 63-143.

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

7.16.3.8. Ensure Interactive Electronic Technical Manuals are developed in accordance with ASD-S1000D and current business rules listed in MIL-STD-3048B, *Air Force Business Rules for the Implementation of S1000D*.

7.16.3.9. Acquire existing Commercial-Off-the-Shelf manuals instead of developing new TOs if there is no degradation of performance. The manuals are assigned USAF TO numbers and managed in the USAF TO system. When acquiring Commercial-Off-the-Shelf manuals, request Government Purpose Rights at a minimum.

7.16.3.10. Acquire and manage flight manuals when required in accordance with in accordance with AFI 11-215 and TO 00-5-3.

7.16.3.11. Review 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*).

7.16.4. The PM provides 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 or waived by the PEO after consultation with the using command commander.

7.16.5. 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.

7.16.6. The PM ensures TO procedures to be used with nuclear weapons are nuclear safety certified in accordance with AFI 91-101 and AFI 63-125.

7.16.7. 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 reviews and verify those procedures. Demilitarization and disposal procedures should identify demilitarized-coded parts and Hazardous Material (HAZMAT) locations, and include special tools and equipment, personnel qualifications, and ESOH requirements.

7.16.8. 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).

7.16.9. TOs may contain classified information only up to and including Secret-Restricted Data. Data is classified in accordance with guidelines found in AFI 16-1404, and respective Security Classification Guides.

7.16.10. 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.

7.16.11. Unclassified TOs are marked, controlled and distributed in accordance with AFI 61-201.

7.16.12. 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 is responsible to:

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

7.16.13.1. 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.

7.16.13.2. 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.

7.16.13.3. Existing Commercial-Off-the-Shelf operating instructions, part breakdown handbooks, and repair manuals should be acquired instead of developing new TOs if no degradation in performance results. 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.

7.16.13.4. Use of the standard TO management system, consisting of the Enhanced Technical Information Management System (ETIMS), (Technical Ordering Authoring and Publishing, and Defense Logistics Agency 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. Application of standardized Support Equipment/Automatic Test Systems 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 utilizes the AFMC SERD process to acquire support equipment/automatic test systems. System-unique equipment should be acquired only as a last alternative, after coordination with the Support Equipment/Automatic Test System Product Group and consideration of Support Equipment/Automatic Test Systems that are already in the USAF or DoD inventory.

7.17.2. The PM is responsible to:

7.17.2.1. Selects Support Equipment/Automatic Test System based on cost benefit analysis over the system life cycle, reliability, Condition-Based Maintenance Plus compliance, standardization, and field hardness, size, mobility, and environmental needs.

7.17.2.2. Coordinates Support Equipment/Automatic Test System development, procurement, and modification requirements with the Support Equipment/Automatic Test System Product Groups, who ensure that DoD processes for Support Equipment and Automatic Test System selection are followed. The Support Equipment/Automatic Test System Product Groups provide any applicable Support Equipment/Automatic Test System-specific contract data requirements for incorporation when the PM is authorized to procure unique/peculiar Support Equipment/Automatic Test Systems.

7.17.2.3. Submits waivers to the Support Equipment/Automatic Test System Product Group and obtains approval prior to acquiring Support Equipment/Automatic Test System that are not standard DoD solutions. The PEO responsible for the program resolves any waiver disputes prior to procurement.

7.17.2.4. Endeavors to design systems, subsystems, and end-items to minimize new Support Equipment/Automatic Test System 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 with the Support Equipment/Automatic Test System and AF Metrology and Calibration Product Groups. Coordinate with the AF Metrology and Calibration on all calibration requirements, including those involving Public-Private Partnerships.

7.17.2.6. Obtains Support Equipment/Automatic Test System Product Group Support Equipment Recommendation Data approval prior to procurement of system unique Support Equipment/Automatic Test System. The PEO resolves any Support Equipment Recommendation Data disputes prior to procurement.

7.17.2.7. Documents requirements for new Support Equipment/Automatic Test System, replacement Support Equipment/Automatic Test System, or modifications to existing Support Equipment/Automatic Test System.

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, including initial spares, necessary to operate and maintain an end-item of materiel for an initial period of service in time to meet the operational need date. Initial spare parts include peculiar and common repairable and consumable components, assemblies, and subassemblies that must be available for issue at all levels of supply in time to support newly fielded end items during their entire production run and initial retail fielding efforts. The PM ensures that the logistics business processes implemented within their applicable programs are aligned with provisioning guidance, to include obtaining planning factors, engineering data for provisioning, repair level analysis, and logistics support analysis. Readiness-Based Sparing techniques are used in performance based weapons system product support arrangements. Headquarters Air Force Materiel Command, Logistics, Civil Engineering, Force Protection and Nuclear Integration Directorate (HQ AFMC/A4/10), has been given delegated responsibility for provisioning procedural guidance in accordance with AFI 23-101. Reference DoDM 4140.01, Vol. 2; AFPD 23-1, *Materiel Management*; AFI 23-101; SAE-GEIA-STD-0007, *Logistics Product*

Data; SAE 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 Product Support Manager, Environmental Resources Manager, and Supply Chain Manager. The Supply Chain Manager will ensure this information is put into the AF computation system to ensure accurate repair and buy forecasts (T-2) 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/ Product Support Manager ensures appropriate funding to execute drawdown plan is in place, update program documentation to include TOs and Programmed Depot Maintenance, 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, Vol 1, *Defense Demilitarization: Program administration*; and AFI 23-101. For air and space programs also refer to AFPD 16-4, *Accounting for Aerospace Vehicles at Units and Installations* and AFI 16-402, A*erospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. For Nuclear Weapon Related Materiel refer to AFI 20-110. When the requiring activity determines equipment is obsolete or excess, the PM 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) to coordinate storage disposition for special tooling and special test equipment. Refer to AFI 23-101 and AFI 23-119 for additional guidance.

7.20.1. Demilitarization Plans. Demilitarization planning early in the development of a system is important to reduce the risks of inadvertent release of military property. Document Demilitarization requirements for items such as prototypes and tooling, end items, and each National Stock Number, as well as procedures for demilitarizing the items. DoDM 4160.28, Vol 1 provides guidance for programmatic and procedural plans. Demilitarization plans are documented when prototypes are delivered. The Program Manager ensures demilitarization and disposal of end items are addressed in the program budget.

7.20.1.1. Demilitarization Code Determination/Procedures and Execution of Demilitarization 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, to include peculiar end items associated with the system. For systems not designated as mission design series, ensure the plan includes 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 documented and periodically reviewed. Generally, this would be when retirements of the system are scheduled in the FYDP.

7.20.2. The PM is responsible to ensure demilitarization, disposal and reclamation support requirements are identified and documented in the Life Cycle Sustainment Plan 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 in accordance with AFMAN 17-1203.

7.20.4. 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.

7.20.5. When the owning activity determines equipment is obsolete or excess, the PM identifies the equipment by part number/tool control number and provides documentation to the storage facility manager that the equipment is being permanently removed from service. Contact the 309th Aerospace Maintenance and Regeneration Group (AMARG) to coordinate storage disposition for Special Tooling/Special Test Equipment. Refer to AFI 23-101 for additional guidance.

7.21. Propulsion Management. Propulsion management refers to the management of assets that are air breathing primary propulsion systems for manned and unmanned aerial vehicles.

7.21.1. Air Force Materiel Command has designated AFLCMC/LP as the Director of Propulsion. The Director of Propulsion is the single focal point for propulsion life cycle management processes and procedures and the Air Force Materiel Command point of entry for support to the PMs and MAJCOMs. The Director of Propulsion is responsible for ensuring standardized processes and the inclusion of requirements for all acquisition and sustainment planning phases for the life cycle management of propulsion assets as detailed in AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*.

7.21.2. Engines managed as essential items to weapon system performance are:

7.21.2.1. Purchased under the "Life-of-Type Buy" concept, which for a new program is the initial acquisition of engines for the anticipated life cycle requirement of the program.

7.21.2.2. Subject to special centralized management, including inventory control, computation of requirements, distribution, information systems, and be serially managed and controlled throughout their life cycle in accordance with Technical Order 00-25-254-1, *Comprehensive Engine Management System (CEMS) Engine Status, Configuration and Time Compliance Technical Order Reporting Procedures*.

7.21.2.3. Assigned performance goals that support the readiness goal of the weapon system throughout its life cycle.

7.21.3. PMs managing programs with propulsion system requirements must satisfy all execution and reporting requirements as specified in AFMAN 20-116, throughout the life cycle to ensure effective and efficient propulsion management.

Chapter 8

GUIDANCE APPLICABLE TO PROGRAMS CONTAINING INFORMATION TECHNOLOGY

8.1. Networks and Information Integration Requirements Overview. The PM is responsible for ensuring capabilities to include systems, platform IT, IT services, and products are compliant with applicable AF and DoD criteria.

8.2. Planning Requirements. The PM is responsible for reviewing and implementing the requirements related to security, interoperability, supportability, sustainability and usability 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: Clinger-Cohen Act Compliance	**AF Source Publication(s):** AFMAN 17-1402
Applicability: All AF programs containing IT regardless of ACAT	**When Required:** Prior to all MSs and contract awards in accordance with DoDI 5000.02T.
Information: Clinger-Cohen Act compliance and reporting applies to the acquisition, management, operation, and closure of all AF IT investments, as well as to all programs that acquire information technology. This includes National Security Systems, space and non-space systems, information technology systems acquisition programs, defense business systems, infrastructure, and intelligence systems.	
(B) Title: IT Portfolio Management and System Registration	**AF Source Publication(s):** AFI 17-110, *Information Technology Portfolio Management and Capital Planning and Investment Control*
Applicability: All IT and NSS	**When Required**: As early as possible but no later than Milestone A.
Information: The Information Technology Investment Portfolio Suite, or the authoritative system designated in AFI 17-110, is an AF information technology data repository used to collect system information at the AF level for both internal compliance and reporting to DoD and OSD. **Note**: Special Access Programs and Sensitive Compartmented Information (SCI) programs are not authorized in Enterprise Information Technology Data Repository; SAP programs contact SAF/AAZ and SCI programs follow Intelligence Community Directive 503 for registration.	
(C) Title: Interoperability Certification for Information Technology and National Security Systems	**AF Source Publication(s):** AFI 17-140

Applicability: Applicable to all Information Technology, including National Security Systems.	When Required: Testing completed before or during OT&E.
Information: Interoperability considerations are documented in the Information Support Plan (ISP), and test requirements are coordinated with the appropriate agency (CIO for AF, Joint Interoperability Test Command for Joint requirements). Refer to DoDI 8330.01, *Interoperability of Information Technology (IT), Including National Security Systems* for detailed guidance.	
(D) Title: AF IT Standards	AF Source Publication(s): AFI 17-140
Applicability: All	When Required: System Design
Information: The PM ensures system development adheres to mandated IT standards outlined in the Global Information Grid Technical Guidance Federation (formerly known as Defense Information Technology Standards Registry), AF unique standards in the Information Technology Reference Model (i-TRM). The PM also ensures technical and security compliance with all relevant Defense Information System Agency Security Technical Implementation Guides.	
(E) Title: Privacy	AF Source Publication(s): AFI 33-332, *Air Force Privacy and Civil Liberties Program*
Applicability: Systems that maintain, use, store, 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	
(F) Title: Records Management	AF Source Publication(s): AFI 33-322
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 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.	
(G) Title: IT Budget Reporting	AF Source Publication(s): AFI 17-110
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: Information Technology Investment Portfolio Suite and Select & Native Programming Data Input System for Information Technology (SNaP-IT) for Capital Investment Reports, 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 *DoD Financial Management Regulation* 7000.14-R, Vol. 2B, *Budget Formulation and Presentation*, Chapter 18, *Information Technology*. SAF/CN provides specific AF guidance with its Budget Estimate Submission (BES) and PB Submission Guidance.

(H) Title: Enterprise Hardware and Enterprise Software Contract Use	**AF Source Publication(s):** AFMAN 17-1203
Applicability: All AF units purchasing IT products and solutions	**When Required:** Contract Awards

Information: The PM, in coordination with the Procuring Contracting Officer, reviews enterprise hardware and software contracts for applicability to determine if a requirement for a proposed IT acquisition is within the scope of those contracts. If the applicability is unclear, the PM, in coordination with the Procuring Contracting Officer, works with the program office managing the enterprise solution to determine the applicability. For all acquisitions, the PM documents whether or not the program is using the contract vehicles identified in AFMAN 17-1203 in the Strategy prior to any contractual action. If the program is not using enterprise contracts, the PM documents the justification and rationale in the MDA approved Acquisition Strategy.

(I) Title: Risk Management Framework	**AF Source Publication(s):** AFI 17-101
Applicability: All IT Investments	**When Required:** Throughout life cycle; to support certification prior to test or operation

Information: The PM provides required cybersecurity documentation to the Authorizing Official and obtains an Interim Authority to Test or Authority to Operate from the Authorizing Official before the system under development is connected to any external network for test or operations.

(J) Title: Cloud Computing	**AF Source Publication(s):** AFI 17-101
Applicability: Information Technology Investments	**When Required:** System Design

Information: Program managers ensure that cloud computing technical requirements for acquisition programs are in compliance with the DoD Enterprise Cloud Environment. **Note**: PEO C3I&N acts as a technical center to ensure that an application meets the technical requirements to move to a cloud. PEO C3I&N assists AF acquisition programs to define requirements and capabilities that can be implemented utilizing DoD approved cloud offerings.

(K) Title: Common Computing Environments	**AF Source Publication(s):** AFI 17-110
Applicability: All new and modernizing (changing configuration baseline) Information Technology investments	**When Required:** System Design

Information: Leverage enterprise services and existing infrastructures in order to identify technical requirements for the materiel solution. **Note**: The PEO C3I&N Managed Services Office (MSO) provisions Common Computing Environments. The MSO has established a set of baseline-driven platform and infrastructure services in both physical and virtual hosting environments.

(L) Title: Architecture	**AF Source Publication(s):** AFI 17-140
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 information technology support to the Domains and Service Core Functions. These architectures are developed and managed by various AF organizations.

(M) Title: Information Support Plan	**AF Source Publication(s):** AFI 17-140
Applicability: Information Technology and National Security Systems 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 5000.02T

Information: The Information Support Plan is a technical document required by DoDI 5000.02T 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 Test and Evaluation Master Plan (TEMP) with threshold and objective operations parameters, and it is a key vehicle that supports validation of a program's eligibility for interoperability certification.

(N) Title: Air Force Cyber Intrusion Damage Assessment	**AF Source Publication(s):** AFI 17-130
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 subject matter experts, to work with intelligence analysts, operations subject matter experts and cyber forces, as part of Integrated Product Teams to assess compromised DoD information resulting from cyber intrusions to defense contractor networks. Air Force Damage Assessment Management Office (AF DAMO) personnel assist the Integrated Product Teams 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 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 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 are 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 unless waived by the PEO. 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 removes temporary modifications 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, use the technical description of the engineering change(s) 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.

9.1.5. The PM ensures proper accounting for permanent modifications meeting the capitalization threshold. (See **paragraph 4.10.5** for additional information)

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 5000.81 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 Federal Aviation Administration 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 1067 information that meet the intent of this instruction. For example, attaching a SEEK EAGLE Request (SER), 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 5000.02T. Consult the AF/A5R *Requirements Development Guidebook, Vol 1-5* for detailed information on the AF requirements generation, JCIDS document preparation, and approval processes.

9.2.3.1. The requesting organization will 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 **(T-1)**

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.

9.2.3.3. **(Added-AETC)** Submit AF Form 1067 proposal for the transitioning to permanent modification status must be submitted to HQ AETC within 60 days after test report completion.

9.3. Modification Types.

9.3.1. There are two primary types of modifications, temporary and permanent. Refer to the AF/A5R *Requirements Development Guidebook, Vol 1-5*. 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 the *AF/A5R Requirements Development Guidebook, Vol 1-5* and this instruction. Refer to AFMAN 65-605, Vol. 1 for AF policy on funding. There are two kinds of temporary modifications: Temporary Type 1 (Type-1 or T-1) and Temporary Type 2 (Type-2 or 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. Type-1 temporary modifications change the configuration of an item in order to satisfy short-term operational mission requirements by adding, modifying, or removing hardware or software components or capabilities in a manner that provides an immediate operational benefit. Type-1 modifications typically involve the use of existing off-the-shelf or non-developmental items, including stock-listed equipment and materiel. The Type-1 modification proposal specifies the number of units to be modified, duration of installed Type-1 modification, and plans for removing the modification converting it to a permanent modification.

9.3.2.2.1. Type-1 modifications are 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. Type-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 is responsible to ensure all Type-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 Type-1 modified asset is not compromised.

9.3.2.2.4. Type-1 modification proposals are approved by the PM, lead command certification/approval authority, or AF/A5R as specified in the *AF/A5R Requirements Development Guidebook, Vol 1-5*. 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, USSF or AF/A5R as applicable. Type-1 modifications to AFRC or ANG systems, or if the system uses National Guard and Reserve Equipment Account funding, will be coordinated through AFRC or ANG, and using command before PM approval **(T-2)** Type-1 modifications with duration of greater than 1 year must be supported by clear and compelling justification/rationale to exceed 1 year. **Note**: All Type-1 AF 1067's submitted under the 5-asset/1-year rule of the July 2001 version of AFI 63-1101(superseded) can no longer apply for waivers and need to submit a new modification proposal (AF Form 1067).

9.3.2.2.5. Type-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 are provided, consistent with weapon system support concepts and product support strategies. The lead command determines these minimum essential logistics support requirements in coordination with the PM.

9.3.2.2.6. Type-1 modifications may be used to satisfy Urgent Capability Acquisition programs in the Year of Execution.

9.3.2.2.7. All Type-1 modifications are 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 the *AF/A5R Requirements Development Guidebook, Vol 1-5* is approved to replace the Type-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 Life Cycle Sustainment Plan 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 Type-1 modification beyond the currently approved quantity or time period are required to prepare and submit a new modification proposal.

9.3.2.2.9. Type-1 modifications are removed prior to host weapon system/component input for Programmed Depot Maintenance unless otherwise coordinated between the lead command/using organization and the depot maintenance activity. In the rare situation where a Type-1 modification is not removed prior to Programmed Depot Maintenance, the lead command/using organization coordinate with the performing depot maintenance organization to ensure the Type-1 modification does not interfere with scheduled maintenance activities and that maintenance activities do not alter the installed Type-1 modification.

9.3.2.2.10. Type-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 Type-1 requirement and preserves the technical baseline.

9.3.2.2.11. Type-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. Type-1 modification proposals describe any demilitarization and disposition of components when removed.

9.3.2.3. Type-2 Temporary Modifications. Type-2 modifications are used to evaluate, demonstrate, or exercise the technical performance, effectiveness, and the suitability of developmental or test materiel (hardware, firmware and software) capabilities. Type-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. Type-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 Type-2 mods. Type-2 modifications to AFRC or ANG systems, or if the system uses National Guard and Reserve Equipment Account funding, will be coordinated through AFRC or ANG, and using command before PM approval **(T-2)** If applicable,

document how aircraft airworthiness assessment and release are addressed for the Type-2 modification. Information on testing and evaluating systems are found in AFI 99-103.

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

9.3.2.3.2. The PM, lead command, and test organization may create a single Type-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 Type-2 modification proposal enables the PM, lead command, and test organization to install and remove developmental 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 Type-2 modified assets, and to ensure Type-2 modified assets are provided sufficient sustainment support as needed to complete directed T&E activities.

9.3.2.3.4. Type-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 Type-2 modifications are removed when no longer required. The Type-2 modification approval authority authorizes retention or removal of instrumentation data collection and other support equipment on test assets during Type-2 modification proposal review, validation, and approval processes.

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

9.3.2.3.6. A Type-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 Type-2 modification may remain in place upon completion of T&E activity while a permanent modification proposal is processed and implemented in accordance with the provisions of this instruction. The Type-2 modification will be upgraded to the approved permanent configuration as part of the permanent modification program.

9.3.2.3.7. **(Added-AETC)** Rescind temporary modifications using a command/test organization rescission directive. Unlike TCTOs, T-1/T-2 modifications will be removed and the Configuration Item (CI) restored to its original configuration prior to transfer to another command unless waived by the receiving MAJCOM. List T-1/T-2 modifications remaining on aircraft/equipment during depot maintenance on the AFTO Form 103, *Aircraft/Missile Condition Data*.

9.3.3. Permanent Modifications. Permanent modifications change the configuration of an asset/software for effectiveness, suitability, survivability, service life extension, and 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 are required to comply with all program requirements commensurate with the respective program's ACAT level. The permanent modification baseline and additional documentation is 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 in accordance with 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 other evaluation of the modification. An approved permanent modification also includes the inherent authority to perform trial Time Compliance Technical Order kit installations and 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 or fleet- wide installation. A separate Type-2 Modification Proposal is required when trial Time Compliance Technical Order 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 the *AF/A5R Requirements Development Guidebook, Vol 1-5*. The PM may initiate systems engineering tasks and preliminary design activities in anticipation of approved modification documentation. The PM considers 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 limits expenditures to the modification financing allowed by AFMAN 65-605, Vol. 1 while the requirement is undergoing coordination and approval. The modification requirement is 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 acquisition execution chain of authority.

9.3.3.4. Normally, permanent modifications are 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 the *AF/A5R Requirements Development Guidebook, Vol 1-5* and this instruction.

9.3.3.5. Permanent modifications may be conducted in discrete installation segments (e.g., "Group A" and "Group B" Time Compliance Technical Order 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 Time Compliance Technical Order kit segments be procured with a single year appropriation to field an increment of capability.

9.3.3.6. Permanent modifications are provided full logistics support (e.g., spares, support equipment, technical data, Item Unique Identification, Serialized Item Management, etc.) commensurate with the host system or component maintenance concept and product support strategy/plans. See product support/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 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 are given priority for funding and implementation over all other pending modifications.

9.3.4.3. Safety modifications are accomplished in accordance 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 in accordance with **Chapter 4**.

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

9.3.4.5. **(Added-AETC)** Safety modification proposals coordinated for MAJCOM review and action will be coordinated with HQ AETC/SEF for concurrence prior to Using/Lead Command Validation in Part II/III of AF Form 1067. See **Attachment 2**.

9.3.4.6. **(Added-AETC)** Aircraft, aircrew training device, and MAJCOM/higher supported systems (e.g. Mission Planning Equipment, Electronic Flight Bag) shall not be modified outside of MAJCOM validated requirement and SPO/PO directed action.

9.4. Modifications to Assets Planned for Retirement (or Sunset Provisions). 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 in accordance with Title 10 USC § 2244a, Equipment Scheduled For Retirement or Disposal: Limitation On Expenditures For Modifications. 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 are, 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 USC § 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 (Joint Urgent Operational Need, Joint Emergent Operational Need, Urgent Operational Need or top-down directed requirements) are 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 Decision Memorandum fulfills AF Form 1067 parts I, II, III and V; Part IV is accomplished by the PM. In conjunction with the 1067, the validated requirements document is used for configuration control and to manage installation and removal of Urgent Capability Acquisition program modifications

pending a decision to 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 are to comply with the airworthiness certification requirements in AFPD 62-6 and AFI 62-601.

9.5.3. A SEEK EAGLE request is used to establish aircraft-stores configuration certification requirements for aircraft stores configuration, flight clearance, TOs, or AFPAM 63-129.

9.5.3.1. Modifications involving non-nuclear munitions and their associated support and training equipment must be certified in accordance with AFI 91-205, *Non-Nuclear Munitions Safety Board*. Modifications involving nuclear munitions and their associated support and training equipment must be certified in accordance with AFI 91-101 and AFI 63-125.

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

9.5.3.3. A SEEK EAGLE Request 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 are to also meet the requirements in AFI 91-101 and AFI 63-125.

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

9.5.5.1. Consult AFI 17-220 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 are subject to additional OSD policy requirements.

9.5.5.3. Modifications to Electronic Warfare Integrated Reprogramming (EWIR) Equipment are subject to AFI 10-703, *Electronic Warfare (EW) Integrated Reprogramming*. Electronic Warfare Integrated Reprogramming 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 are initiated, approved, and conducted in coordination with Defense Information System Agency. The Defense Information System Agency designates DoD communications equipment as defense communications systems configuration items. The Defense Information System Agency participates in configuration control processes and boards for defense communications systems configuration items modifications executed by the AF.

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

9.5.8. Modifications to Support Equipment and Automatic Test Systems (SE/ATS) systems follow guidance contained in this instruction.

9.5.8.1. For common Support Equipment/Automatic Test System modifications, coordinate with the designated support equipment Product Group.

9.5.8.2. For unique Support Equipment and Automatic Test System modifications, coordinate with the PM.

9.5.9. Modifications involving materiel subject to Serialized Item Management 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 Serialized Item Management policy provisions contained in DoDI 8320.03, DoDI 8320.04, DoDI 4151.19, and this instruction. The PM ensures 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 requirements such as IUID registration and marking are 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 de-modification.

9.5.11. Air Force operational training system modifications follow guidance contained in AFI 16-1007. 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 Contractor Logistics Support contracts. The PM ensures Contractor Logistics Support 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 assets are conducted in accordance with 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 and security assistance 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) follow guidance 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 are conducted in accordance with the designated lead service's modification management process/procedures, or as established in a Memorandum of Agreement.

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 a Memorandum of Agreement 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 conditions of this instruction in addition to modification program management and 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.) are initiated, approved, and conducted in accordance with a Memorandum of Agreement between the AF and the using agency. Modifications to AF-common assets that are initiated by a non-AF agency are 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 follow guidance in this instruction. The modifications necessary to conduct a testing demonstration are normally approved and installed as Type-2 modifications.

9.5.18. Modifications to aircraft 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 flight crew station, changes in aircraft and system operating limits, and changes to crew procedures.

9.6. Modification Fielding and Installation. Permanent modifications are generally installed on AF weapon systems and equipment using a Time Compliance Technical Order prepared in accordance with this instruction and TO 00-5-15, *Air Force Time Compliance Technical Order Process*. Contractor provided field Service Bulletins and Federal Aviation Administration issued airworthiness directives and Service Bulletins may also prescribe specific modification installation procedures and requirements. Temporary modifications are generally installed using a technical or engineering data package that describes the system or component engineering changes and outlines the component modification instructions to be accomplished. This data package must be approved by the applicable system or component PM prior to installation. The PM, lead command, and test agency coordinate as necessary to define specific technical or engineering data package requirements.

9.6.1. The PM coordinates modification installation requirements and timelines with the lead command and all affected organizations, including Product Support Providers. 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 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, test and evaluation activities, or field operation, the Chief Engineer, in support of the PM, ensures that any requisite certifications that accompany the modification are in place, such as safety of flight releases, airworthiness approvals 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 63-129 to ensure the modification is sustainable for the duration of its intended life cycle. Generally, this involves updating the existing weapon system Life Cycle Sustainment Plan 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. The PM will ensure proper disposal for modification kits that become excess unless waived by the PEO. For configuration control and management purposes, a complete copy of the modification package will be maintained in accordance with AFI 33-322 and the AF Records Disposition Schedule.

9.7.1. All temporary modifications 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 Time Compliance Technical Order 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 Government Furnished Property must be provided. The PM is notified when modification kit installation has been completed and the Time Compliance Technical Order 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), codified at 10 USC § 1701-1764, along with DoDI 5000.66, *Defense Acquisition Workforce Education, Training, Experience, and Career Development Program* provides specific minimum qualification standards of those personnel performing functions integral to the acquisition process and defines Critical Acquisition Positions. 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 Regular Air Force individuals and permanent civilians assigned to positions having predominantly acquisition functions as defined by DoDD 5000.01, DoDI 5000.02T, and DoDI 5000.66. 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 in accordance with DoDI 5000.66, is responsible for implementing the AT&L Workforce Education, Training and Career Development Program in the AF on behalf of the SECAF. For more detailed guidance, please see the Career/APDP page in the Acquisition Functional area of the AF Portal: **https://www.my.af.mil/gcss-af/USAF/site/ACQUISITION/Career**.

10.3.1. AF Director, Acquisition Career Management (DACM). SAF/AQ designates the DACM 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 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 the Defense Acquisition Workforce Improvement Act implementation, including Defense Acquisition University 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 in accordance with the Defense Acquisition Workforce Improvement Act, 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 in accordance with AFI 36-2640, *Executing Total Force Development*, 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 are responsible for identifying, in coordination with the DACM, the AF requirements for acquisition certification (education, training, experience, and the career pyramid) standards to OUSD(A&S). HAF Functional Managers 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 assigned 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 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 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. The DACM office, in coordination with Functional Managers, develops, reviews, and coordinates Human Capital Strategic Planning 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.

10.4.3. Military Performance Evaluations. 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 in accordance with AFI 36-2406, *Officer and Enlisted Evaluation Systems*. For more information see detailed APDP guidance in the acquisition functional area of the AF Portal.

10.4.4. 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.

10.4.5. 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 (Senior Contracting Officials (reference AFFARS 5302.101) and operational contracting squadron commanders), when this official is not the primary Procuring Contracting Officer for the organization.

10.5. AF Acquisition Professional Development Program. The Acquisition Professional Development Program 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 5000.02T, and DoDI 5000.66, then the position falls under the provisions of this AFI and is coded as an acquisition position in accordance with detailed APDP guidance. In addition to Regular Air Force 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. Acquisition coded positions require certification. See the certification paragraph below and the detailed APDP guidance for additional information.

10.5.1.1. APDP position coding relates functional coding to the civilian occupational (OCC) series or the military AF Specialty Code 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 Acquisition Professional Development Program guidance.

10.5.1.3. Developmental Positions, as defined in detailed Acquisition Professional Development Program guidance, are coded Level II and may not be coded as critical acquisition position. Before designating a position as Developmental, organizations must receive approval from the DACM or 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 in accordance with 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. Certain senior level acquisition-coded positions are designated as critical acquisition positions based on the criticality of the position to an acquisition program, in accordance with DoDI 5000.66. Personnel assigned to critical acquisition positions provide needed acquisition experience as well as stability and accountability to a program. Positions that require Critical Acquisition Position 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 with direct responsibility and accountability for an acquisition program, 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 with direct responsibility and accountability for an acquisition program, 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 requiring 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 routinely filled by an officer of lower rank do not require a Critical Acquisition Position designation.

10.5.2.4. Further examples of positions that should be coded Critical Acquisition Position 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 Critical Acquisition Positions.

10.5.2.6. All critical acquisition positions are coded Level III.

10.5.2.7. Individuals assigned to Critical Acquisition Positions are Acquisition Corps members (refer to **paragraph 10.5.6**) and will meet AF eligibility standards as outlined in detailed APDP guidance.

10.5.2.8. Individuals assigned to Critical Acquisition Positions incur a three-year tenure.

10.5.2.8.1. Civilians: DD Form 2888, Critical Acquisition Position Service Agreement, is used to document the Critical Acquisition Position tenure agreement. Individuals sign DD Form 2888 (Block 6a) to capture tenure agreement and document

in Defense Civilian Personnel Data System. Approving Official on DD Form 2888 (Block 6c) is the hiring official.

10.5.2.8.2. Military: Assignment Availability Code 59 is updated for the required tenure outlined in AFI 36-2110, *Total Force Assignments*; 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 is 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 begins at an "initiation" point that falls between the Analysis of Alternatives and 6 months prior to RFP Release Decision Point (varies by program) and ends at Milestone B.

10.5.2.8.5. Program Execution period. The tenure for ACAT I or IA PM begins following Milestone B approval and runs until Initial Operational Capability.

10.5.3. Key Leadership Positions. A subset of Critical Acquisition Positions that require SAE oversight of position qualification requirements and tenure are designated Key Leadership Positions. Key Leadership Positions are determined and designated by the SAE. Further guidance on Key Leadership Positions is outlined in AFI 36-1301 and detailed APDP guidance.

10.5.3.1. Civilian: DD Form 2889, *Critical Acquisition Position Service Agreement Key Leadership Position (KLP)*, is used to document the Key Leadership Position tenure agreement. Individuals sign DD Form 2889 (Block 6a) to capture tenure agreement and document in Defense Civilian Personnel Data System. 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 59 is updated for the required tenure as outlined in AFI 36-2110, and an AF Form 63, *Regular Air Force Service Commitment Acknowledgement*, is completed to cover the tenure period (AFI 36-2107, *Active Duty Service Commitment (ADSC)*, Table 1-1), DD Form 2889 not required.

10.5.3.3. Assignment Availability Code 59 and Regular Air Force Service Commitment are removed when a military member is no longer serving in a Key Leadership Position and prior to the expiration of the updated tenure period with an SAE approved waiver.

10.5.3.4. Certification. Ensure individuals assigned to acquisition positions meet all position certification requirements, in accordance with DoDI 5000.66. The DACM uses an automated online certification tool to execute the certification process. Acquisition workforce members receive certification via the online certification system found on the Career/APDP section in the acquisition functional area of the AF Portal. Currently military and government civilian employees who are not currently occupying acquisition coded positions may also receive certification if the certification tool documents that the DAWIA requirements have been met. For implementing instructions including acquisition record updates and point of contacts (POCs), refer to the detailed APDP guidance.

10.5.3.5. Criteria for Manual Certification. Under exceptional circumstances, certifications may be processed manually rather than using the online certification tool. As delegated by the DACM, Certifying Officials serve as the AF approval authority for issuing acquisition professional certification credentials manually in accordance with DoDI 5000.66. 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.

10.5.3.5.1. 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):

10.5.3.5.1.1. HAF Functional Managers.

10.5.3.5.1.2. MAJCOM Headquarters.

10.5.3.5.1.3. Others as identified in detailed APDP guidance

10.5.3.5.2. 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.

10.5.3.5.3. 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.

10.5.3.5.4. The DACM may delegate authority to adjudicate acquisition experience and approve acquisition course fulfillment for purpose of documentation in the system of record to support certification. Refer to detailed APDP guidance for further information.

10.5.4. Professional Currency.

10.5.4.1. Individuals assigned to acquisition-coded positions maintain professional currency in their acquisition functional area by meeting mandatory DoD and AF Continuous Learning standards and recording continuous learning accomplishments in Acq Now (**https://acqnow.atrrs.army.mil/**). Responsibility falls upon the individual and their supervisor to ensure their continuous learning aligns with their Individual Development Plan and 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 continuous learning, refer to the detailed Acquisition Professional Development Program guidance.

10.5.4.2. Officers who are not Continuous Learning current as of the Materiel Leader board date are ineligible. Civilians who have not achieved the Continuous Learning standard within a two month period after becoming non-current are not eligible for acquisition Civilian Strategic Leader Program positions. In addition, individuals require Continuous Learning 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 Acquisition Professional Development Program guidance.

10.5.4.3. Online and resident courses required for Acquisition Professional Development Program certification and continuous learning 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.

10.5.4.4. Guard and reserve personnel possessing an acquisition AF Specialty Code may enroll in Defense Acquisition University courses for professional development including all courses required for DAWIA Level 1, 2, or 3 certifications.

10.5.5. Defense Acquisition Corps. The Acquisition Corps is a pool of highly qualified members of the Acquisition Workforce from which Critical Acquisition Programs are filled.

10.5.5.1. 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 Acquisition Professional Development Program guidance.

10.5.5.2. Ensure new entrants to the Acquisition Corps meet all Acquisition Corps requirements and are a Lt Col (select), GS-14 (or equivalent), or above.

10.5.5.3. Acquisition professionals should demonstrate appropriate professional 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 or failing to continue professional development commensurate with rank, will not be considered for, or are disqualified and removed from, the Acquisition Corps.

10.5.5.4. 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.

10.5.6. 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.

10.5.6.1. A position requirements waiver does not confer certification or permanently obviate the acquisition related requirements of the position.

10.5.6.2. Membership in the Acquisition Corps cannot be granted via a waiver.

10.5.6.3. The SAE (or designated representative) must approve waivers from the approved tenure commitment for Key Leadership Positions.

10.5.6.4. Delegation of Waiver Approval Authority.

10.5.6.4.1. The DACM office will receive Key Leadership Position waiver requests from the field and coordinate Service Acquisition Executive disposition.

10.5.6.4.2. 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.

10.5.6.4.3. The DACM or Deputy DACM grants waivers for position and tenure requirements for all non-Key Leadership Position critical acquisition positions.

10.5.6.4.4. The DACM may delegate waiver authority for non-critical acquisition position requirements. Refer to detailed APDP guidance for further information.

10.5.6.4.5. 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-Key Leadership Position critical acquisition position within the PEO portfolio or directorate to another non- Key Leadership Position critical acquisition position 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.   Adaptive Acquisition Pathway programs 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 System to manage and execute program funds. Investment fund reporting is documented on the Integrated Master List.

11.2.1.1. For investment funds, acquisition/PEO organizations use the Comprehensive Cost and Requirement 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 Comprehensive Cost and Requirement System to align with the Monthly Acquisition Report schedule.

11.2.1.3. The Comprehensive Cost and Requirement System 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 Comprehensive Cost and Requirement System (CCaR) and Project Management Resource Tools (PMRT). **The PM enters all mandatory data at initial entry onto the IML, through The Comprehensive Cost and Requirement System, and update prior to every major program milestone and following any significant program change. The PM reviews, updates, and ensures consistency of program data in The Comprehensive Cost and Requirement System and Program Management Resource Tools 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. Ensure consistent information between the AML/IML and the President's Budget 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. The Investment Master List includes both the AF AML and AML Exemptions. Investment funds are mapped to an IML activity. Program offices map RDT&E, Procurement investment funds, and program data by using the Comprehensive Cost and Requirement 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. Additions and Changes. Submit all IML updates, additions, changes, and exemption requests using the Comprehensive Cost and Requirement System Investment Master List tool. SAF/AQX is the final approval authority for any IML additions. See *IML User Guide* for additional guidance.

11.3.1.2. 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 paragraph for how categorization affects program requirements.

11.3.1.3. Categories. All activities on the Investment Master List 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.
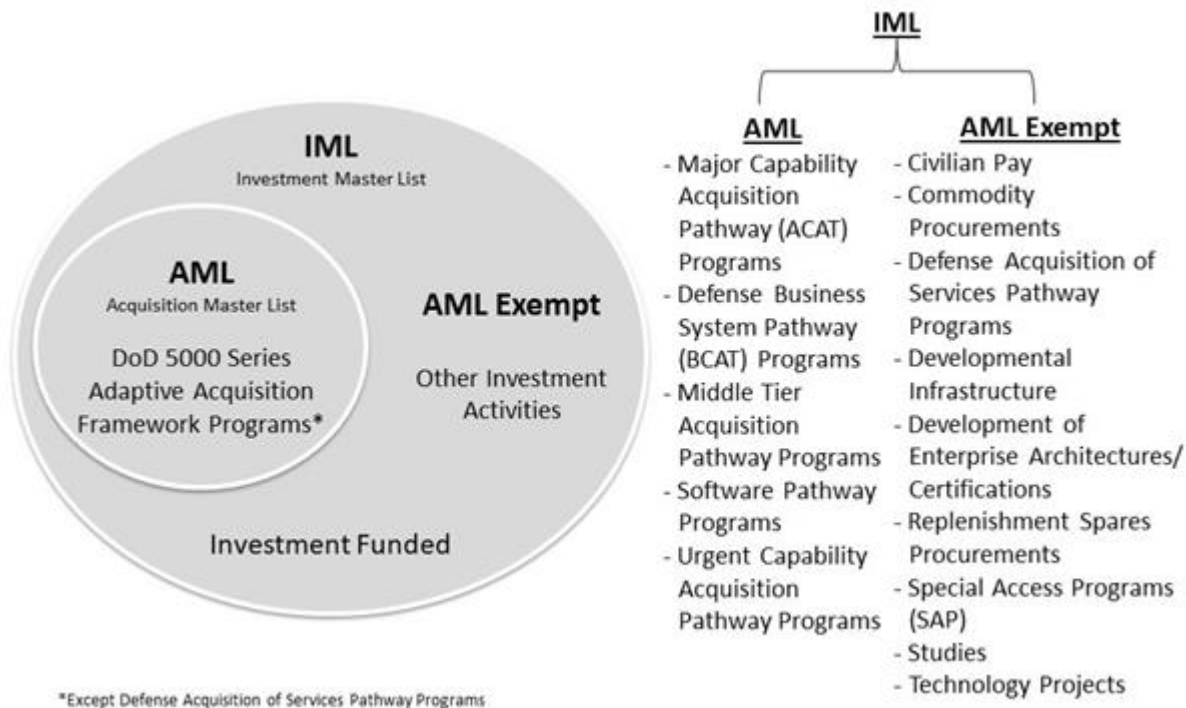
11.3.2. AF Acquisition Master List (AML). The AML is the AF consolidated list of all Adaptive Acquisition Framework programs except Acquisition of Services (reference AFI 63-

138 *Acquisition of Services* for reporting acquisition of services) regardless of the categorization level or life cycle phase. Programs will remain listed on the Acquisition Master List for all life cycle phases, but will be categorized dependent upon funding and acquisition status. 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 ensures efforts meeting the following requirements are included on the AML:

11.3.2.1.1. MCA Pathway (ACATs), MTA Pathway, UCA Pathway, DBS Pathway (BCATs), or SWA Pathway programs of any categorization responding to an approved requirement; this includes an AF Form 1067 Modification Request, Joint Urgent Operational Needs (JUONs), Joint Emergent Operational Needs (JEONs), Urgent Operational Needs (UONs), or top down directed activities as identified in the AF/A5R Requirements Development Guidebook, Vol 1-5. **(T-1)**

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 Special Access Programs elements include the non-SAP components of the program on the Acquisition Master List.

11.3.2.1.5. MCA, MTA, UCA, DBS, and SWA programs in the operations and support (or sustainment) phase not previously on the Acquisition Master List. **(T-1)**

11.3.2.2. Each system development, upgrade, or modification with a separate Acquisition Program Baseline meeting the Acquisition Master List criteria is listed separately; however, activities with a separate Acquisition Program Baselines or recurring activities (e.g., Lost Cost Modifications and Service Bulletins) sharing a funding line may be combined into a single effort on the Acquisition Master List.

11.3.2.3. Modification programs are marked inactive once deployed and managed as part of the overall system with an existing Acquisition Master List record. Operations and Sustainment requirements in DoDI 5000.02T and this publication are met at the system level.

11.3.3. Acquisition Master List Exemptions. Acquisition Master List 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, 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 in accordance with DoDD 5205.07, AFPD 16-7, 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 Monthly Acquisition Report reporting contained in **paragraph 11.4**.

11.4. Management Acquisition Report. The PM completes a Management Acquisition Report (MAR), using Then Year (TY) dollars, for AML programs using any pathway with funding greater than $30 million in RDT&E (3600) or $50 million in procurement (30XX) over the life of the program.. **(T-1)** Management acquisition reporting (previously referred to as Monthly Acquisition Reports) refers to both monthly and quarterly reports, depending on ACAT or equivalent level categorization.

11.4.1. Monthly Acquisition Reports are required quarterly for pre-Milestone A (ACAT I and ACAT II) and ACAT III Acquisition Master List programs meeting reporting thresholds. Initiate reporting once President's Budget documents are submitted to Congress (e.g., FY2020 activities justified in FY2020

11.4.2. President's Budget documents. Monthly Acquisition Report submissions for pre-Milestone A programs are only required to include the program assessment and top issues in preparation for program initiation.

11.4.3. Post-Milestone A ACAT I and ACAT II MCA programs and MTA ACAT I equivalent programs complete Management Acquisition Reports monthly. MCA programs initiate monthly reporting the month following MDA Milestone A approval (or designation by the MDA at Materiel Development Decision that the next milestone is Milestone B); MTA programs initiate monthly reporting with the first PID submittal.

11.4.4. Monthly program MARs include: Program Assessment and Top Issues (should be no more than 10); Acquisition Program Baseline Data - Cost, Schedule, and Performance including PM estimate; Funding Execution Data; Contract Information; Additional Assessments; Program Schedule and Unconstrained 1537. Quarterly program MARs will consist of the same data with the exception of the Unconstrained 1537 (unless requested by SAF/AQX). **(T-1)**

11.4.5. The PEO or equivalent decision authority is responsible for reviewing and approving monthly Management Acquisition Reports in their portfolio by the 10th working day of each month. **(T-1)**

11.4.6. Programs may only terminate or waive monthly acquisition reporting with the approval of SAF/AQX. In the Comprehensive Cost and Requirement System, programs can submit a change request for termination of monthly acquisition reporting when 90 percent of items are delivered or 90 percent of the investment funds (RDT&E and Procurement) funding is expended. Defense Business System efforts should submit change requests for termination prior to reaching Full Deployment Decision (or equivalent milestone); they are not required to submit a Monthly Acquisition Report after Full Deployment Decision. The PM of any program included in an OUSD(A&S) Integrated Acquisition Portfolio Review will complete a monthly MAR regardless of type, pathway, dollar value, percent delivered/expended, or milestone achieved. **(T-1)**

11.4.7. MCA ACAT III programs, MTA ACAT II and III equivalent programs, and all DBS programs will complete quarterly MARs. **(T-1)** These programs may be directed by the SAE to submit reports more frequently by exception.

11.4.8. SWA programs will complete bi-annual MARs concurrent with OSD reporting; **(T-1)** SWA may be directed by the SAE to submit reports more frequently by exception.

11.4.9. The PM will complete a MARs for joint programs where the AF is the lead service. **(T-1)** For joint programs where the AF is not the lead service, the MARs can be waived by SAF/AQX.

11.5. Urgent Capability Acquisition Reporting. All JUON, JEON, UON, and top-down directed efforts will complete a Management Acquisition Report no less than quarterly, regardless of dollar value. **(T-1)**

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, earned value (as applicable) and report periodically through the acquisition execution chain of authority. All modifications managed as an ACAT follow the baseline and documentation requirements specified in the *AF/A5R Requirements Development Guidebook, Vol 1-5* and this AFI.

11.6.2. Permanent modifications are financed with investment funds per AFMAN 65-605, Vol. 1 and managed as ACAT programs. Required ACAT life cycle management documentation and acquisition reporting (e.g., Acquisition Decision Memorandum, Systems Engineering Plan, Program Protection Plan, Life Cycle Sustainment Plan, Monthly Acquisition Report, Item Unique Identification Implementation Plan, etc.) is either generated 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 and appropriate historical records. Annotation will be in the active portion of the records. The temporary modification annotation remains 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. The Comprehensive Cost and Reporting System and Executive Comprehensive Cost and Reporting System are the authoritative data sources for AF Will-Cost/Should-Cost Management. See **paragraph 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 the Comprehensive Cost and Reporting System.

11.7.2. Should-Cost reporting is accomplished for MS reviews, Defense Acquisition Executive Summary reviews, Defense Acquisition Board reviews, quarterly reports to the SAE, quarterly OSD Business Senior Integration Group reviews, and other designated reviews.

11.7.2.1. At Milestone 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 Defense Acquisition Executive Summary and Business Senior Integration Group reviews. The PM includes projected and realized Should-Cost Savings by FY in their presentations Plans of Action and milestones for major Should-Cost initiatives.

11.7.2.3. SAF/AQXE provides a comprehensive AF quarterly report to the SAE, which is the basis for the quarterly OSD Business Senior Integration Group 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 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 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 USC § 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(A&S) and the Military Service Secretaries. Government Owned Contractor Operated 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*.

12.1.1. Per AFPD 32-90, *Real Property Asset Management*, 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.

12.1.2. 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.

12.1.3. This chapter addresses the guidelines and provisions 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. 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. AFMC in conjunction with SAF/AQX, provide determination of 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 to include proceeds from the sale of excess industrial facilities may be used for the upkeep of industrial facilities. Lead commands or other Air Force plant users will budget and fund weapon system specific requirements needed at the Air Force plants.

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), is responsible to:

12.3.1.1. Function as the OPR for Planning, Programming, Budgeting and Execution of industrial facilities **(T-1)**

12.3.1.2. Approve capital type rehabilitation, construction, modernization or environmental compliance at Air Force plants with an estimated cost at or below $10M. Submit projects with estimated cost in excess of $10M to USD(A&S) for approval, in accordance with DoDD 4275.5 **(T-0)**

12.3.1.3. Ensure Air Force plant requirements are prioritized, coordinated between program offices, contractor operators and facilities management personnel and that proposed requirements are evaluated against DoDD 4275.5 criteria **(T-0)**

12.3.1.4. Maintain accountability of Government property in accordance with DoDI 5000.64 and approves the disposal of AFPs using AFI 32-9004, *Disposal of Real Property*, as a guide **(T-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 Air Force plants **(T-1)**

12.3.1.6. Ensure environmental impact analysis completion **(T-0)** The environmental protection program is implemented to obtain compliance, which may include federal, state, and local laws and regulations.

12.3.1.7. Provide oversight of physical security and protection of Air Force plants ensuring antiterrorism and security surveys are conducted in accordance with contract/lease agreements **(T-1)** Facilities Procuring Contracting Officers negotiate facilities contracts or leases in accordance with applicable FAR requirements.

12.3.2. SAF/AQX will:

12.3.2.1. Review and staff projects, proposed facility expansion packages, and other efforts requiring SECAF, USD(A&S) approval 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 of, and future requirements for, all Government-owned industrial real property and plant equipment. SAF/AQX will maximize utilization, facilitate proper allocation and 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 and delegates, to the responsible organization, the authority to approve changes to projects in the financial plan.

12.3.3. The AF Civil Engineer Office (AF/A4C) will:

12.3.3.1. Provide civil engineering assistance and advice regarding the Air Force plants 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 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 Air Force plants **(T-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 Air Force plant is disposed **(T-1)**

12.3.4.3. Coordinate on the Installation Characteristics Report and forwards it to AF/A4 for approval **(T-1)**

12.3.4.4. Validate the Automated Civil Engineer System Real Property (RP)/NexGen-TRIRIGA year-end closeout report for industrial facilities and forward it to SAF/IE with a copy to SAF/AQXE **(T-1)**

12.3.4.5. Conduct and lead the Environmental Restoration Program at each active and divested facility using Environmental Restoration Account funding and in accordance with AFI 32-7020, *Environmental Restoration Program* **(T-1)**

12.3.4.6. Delegate fire protection authority for an Air Force plant or Air Force plants to an AFMC certified fire protection engineer **(T-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 Air Force plants. 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 Air Force plants also used as contributing sources. Funding for restoration projects at AF industrial facilities is provided by Environmental Restoration PE 078008F.

12.5. Leases. Title 10 USC § 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 Air Force plants. 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 Air Force plants remain safe, suitable and effective facilities for their intended purpose.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Prescribed Forms

(**Added**-**AETC**) None

AF Form 1067, *Modification Proposal*

Adopted Forms

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AF Form 847, *Recommendation for Change of Publication*

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DD Form 1415-1, *Reprogramming Action (Prior Approval Action)*

DD Form 250, *Material Inspection and Receiving Report*

DD Form 691, *Application for Priority Rating for Production or Construction Equipment*

DD Form 2888, *Critical Acquisition Position Service Agreement*

DD Form 2889, *Critical Acquisition Position Service Agreement Key Leadership Position (KLP)*

Abbreviations and Acronyms

A&S—Acquisition and Sustainment

ACAT—Acquisition Category

ACPINS—Automated Computer Program Identification Number System

AEP—Allied Engineering Publication

AETC—Air Education and Training Command

AF—(US) Air Force

AF/A2—Deputy Chief of Staff, Intelligence, Surveillance and Reconnaissance

AF/A4—Deputy Chief of Staff, Logistics, Engineering, & Force Protection

AF/A5—Deputy Chief of Staff, Strategy, Integration and Requirements

AF/A10—Deputy Chief of Staff Strategic Deterrence and Nuclear Integration

AF/SE—Air Force Chief of Safety

AF/TE—Directorate of Air Force Test and Evaluation

AFFARS—Air Force Federal Acquisition Regulation Supplement

AFGM—Air Force Guidance Memorandum

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFNWC—AF Nuclear Weapons Center

AFOTEC—Air Force Operational Test & Evaluation Center

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRL—Air Force Research Laboratory

AIA—Aerospace Industries Association

ANSI/EIA—American National Standards Institute/Electronic Industries Alliance

AML—Acquisition Master List

APDP—Acquisition Professional Development Program

AT&L—Acquisition, Technology and Logistics

CC—Commander

CCI—Controlled Cryptographic Item

CDR—Critical Design Review

CIO—Chief Information Officer

CJCSI—Chairman of the Joint Chiefs of Staff Instruction

COMSEC—Communications Security

CSAF—Chief of Staff of the Air Force

CV—Vice Commander

DACM—Director, Acquisition Career Management

DAE—Defense Acquisition Executive

(Added-AETC) DAFMAN—Department of the Air Force Manual

DAWIA—Defense Acquisition Workforce Improvement Act

DBS—Defense Business System

DD—Department of Defense

DFARS—Defense Federal Acquisition Regulation Supplement

DIAI—Defense Intelligence Agency Instruction

DLM—Defense Logistics Manual

DMSMS—Diminishing Manufacturing Sources/Material Shortages

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DOT&E—Director, Operational Test and Evaluation

DPA—Defense Production Act

DRU—Direct Reporting Unit

DSCA—Defense Security Cooperation Agency

DT&E—Developmental Test and Evaluation

EIA—Electronic Industries Alliance

EO—Executive Order

EPROM—Erasable Programmable Read-Only Memory

ESOH—Environment, Safety, and Occupational Health

FAR—Federal Acquisition Regulation

FMR—Financial Management Regulation

FMS—Foreign Military Sales

FOA—Field Operating Agency

FOC—Full Operational Capability

FYDP—Future Years Defense Program

HAF—Headquarters Air Force

HQ—Headquarters

IA—Information Assurance

IEEE—Institute of Electrical and Electronics Engineers

IGF—Inherently Governmental Function

IMS—Integrated Master Schedule

IML—Investment Master List

ISR—Intelligence, Surveillance, and Reconnaissance

IT—Information Technology

ITRA—Independent Technical Risk Assessment

IUID—Item Unique Identification

JCIDS—Joint Capabilities Integration and Development System

JEON—Joint Emergent Operational Need

JFAC—Joint Federated Assurance Center

JUON—Joint Urgent Operational Need

MAJCOM—Major Command

MD—Mission Directive

MDA—Milestone Decision Authority

MDAP—Major Defense Acquisition Program

MIL-STD—Military Standard

MRL—Manufacturing Readiness Level

MTA—Middle Tier of Acquisition

NAS—National Aerospace Standard

NC3—Nuclear Command, Control, and Communications

NEPA—National Environmental Policy Act

NSS—National Security Systems

O&M—Operations and Maintenance

OMB—Office of Management and Budget

OPR—Office of Primary Responsibility

OSD—Office of the Secretary of Defense

OT&E—Operational Test and Evaluation

OUID—Organization Unique Identification

OUSD—Office of the Under Secretary of Defense

PCA—Physical Configuration Audit

PEO—Program Executive Officer

PESHE—Programmatic Environment, Safety, and Occupational Health Evaluation

PGI—Procedures, Guidance and Information

PIT—Platform Information Technology

PM—Program Manager

PMRT—Project Management Resource Tools

POC—Point of Contact

PRR—Production Readiness Review

RCM—Reliability Centered Maintenance

RDT&E—Research, Development, Test, and Evaluation

REMIS—Reliability and Maintainability Information System

RFP—Request for Proposals

RMF—Risk Management Framework

ROM—Read-Only Memory

SAE—Service Acquisition Executive

SAF—Secretary of the Air Force

SAF/AQ—Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics)

SAF/CN—Deputy 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/LL—Assistant Secretary of the Air Force (Legislative Affairs)

SAP—Special Access Program

SCI—Sensitive Compartmented Information

SD—Standardization Document

SECAF—Secretary of the Air Force

SFR—System Functional Review

SPA—Single Point Adjustment

STINFO—Scientific and Technical Information

STIP—DoD Scientific and Technical Information Program

STTR—Small Business Technology Transfer

SVR—System Verification Review

T&E—Test and Evaluation

TCTOs—Time Compliance Technical Orders

TO—Technical Order

TSN—Trusted Systems and Networks

UID—Unique Identification

UML—Unified Modeling Language

UON—Urgent Operational Need

US—United States

USAF—United States Air Force

USC—United States Code

USD(A&S)—Under Secretary of Defense (Acquisition and Sustainment)

USSF—United States Space Force

Terms

Note——Refer to AFPAM 63-128 and the *Defense Acquisition Guidebook (DAG)* 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 the *AF/A5R Requirements Development Guidebook*, Vol 1-5 and this AFI. See **Figure A2.1** for the AF Form 1067 process flow of 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.

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.

A2.2.1. 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.

A2.2.2. Modification proposals developed in response to a capability include this statement in Section 9 of the AF Form 1067 "This modification is needed to address a Quick Reaction Capability" if the Acquisition Decision Memorandum is not attached.

A2.2.3. Depending on the nature of the need and local procedures, the initiator may recommend a solution in Section 10 of the AF Form 1067.

A2.2.4. 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 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 Key Performance Parameters and Key System Attributes Table in accordance with the *AF/A5R Requirements Development Guidebook, Vol 1-5*.

A2.2.5. **(Added-AETC)** PM, Group/CC or equivalent, or authorized designee will complete and digitally sign PART I, section 11.

A2.2.6. **(Added-AETC)** Modification Proposals (AF Form 1067) requiring MAJCOM review and action will be emailed to HQ AETC Modification Management workflow mailbox (**aetc.af1067.mods@us.af.mil**)

A2.3. Step 2, Using Command and Lead Command/Core Function Lead Validation. In this step, the lead and using 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 in accordance with 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.

A2.3.1.1. **(Added-AETC)** AETC/A5RF or designee will determine AO and supporting participants and route AF Form 1067 for coordination.

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.

A2.3.2.1. **(Added-AETC)** Modification proposals requiring Using Command validation will be emailed to AETC Modification Workflow mailbox (**aetc.af1067.mods@us.af.mil**) upon completion. HQ AETC/A5RF or designee will assign a Lead Command Control number (Section 17 on the AF Form 1067) for tracking and forward the AF Form 1067 to the responsible OPR and OCR(s). The HQ AETC OPR is responsible for advising AETC/A5RF of the status of the modification proposal when changes occur.

A2.3.3. **(Added-AETC)** Lead Command Control Numbers will consist of "AETC" as a prefix, the last two digits of the calendar year in which the AF Form 1067 was received, and a three digit sequential number starting with 001. Control numbers will reset at the first of each calendar year. For example: "AETC21001".

A2.3.4. **(Added-AETC)** HQ AETC will approve and process all modifications affecting AETC weapon systems. When a modification applies to more than one Mission Design Series (MDS), the HQ AETC-designated OPR will ensure coordination with all applicable MDS POCs.

A2.3.5. **(Added-AETC)** HQ AETC A3/6, A5/8, A9, SE, 2AF, 19AF, or designee, may disapprove modification proposals within their scope of responsibility in Part II or Part III of the AF Form 1067. The modification manager will provide adjudicated comments, a recommended course of action, and the views of others will be presented to the Part III signatory for decision.

A2.3.5.1. **(Added-AETC)** When a Using Command authority decides to not validate a Part II:

A2.3.5.1.1. **(Added-AETC)** On an AF Form 1067 affecting only a single MAJCOM where AETC is the lead command, the initiator and all stakeholders of the modification proposal will be notified of the decision and no further coordination is required.

A2.3.5.1.2. **(Added-AETC)** On an AF Form 1067 affecting more than one MAJCOM where AETC is the lead command, coordination for Part III will continue.

A2.3.5.2. **(Added-AETC)** Modification proposals disapproved in Part III of the AF Form 1067 by the Lead Command authority require no further coordination. The modification manager will notify the initiator and all stakeholders of the decision.

A2.3.6. **(Added-AETC)** The Modification Proposal manager initiates a 1067 requirements review before completing PART II – Using Command Validation (section 12 A. through F) or PART III - Lead Command Validation (sections 13 through 22). The 1067 requirements review will encompass the appropriate branch coordination in preparation for approval and validation. This process will be accomplished via electronic coordination using a management tool (e.g. Tasker Management Tool, or equivalent). The requirements review coordination via email is permissible if the management tool is unavailable.

A2.3.7. **(Added-AETC)** At a minimum, the following divisions will be in the coordination process:

A2.3.7.1. **(Added-AETC)** HQ AETC A5R, A9/AETC SAS, AETC/SEF (as required), 2AF, 19AF, applicable Action Officers, Subject Matter Experts (SME), and/or designated representative(s).

A2.3.7.2. **(Added-AETC)** Once the modification proposal is a validated need and/or requirement, the AF Form 1067 (PART II section 12 or PART III section 21) is digitally signed by AETC HQ AETC/A5R or designee with responsibility for the affected system or higher authority. The AETC Modification Manager then sends the completed AF Form 1067 and supporting documentation to the AFMC System Program Office (SPO) for PM/SM review, coordination, and action with a courtesy copy to the AETC Modification Workflow mailbox (**aetc.af1067.mods@us.af.mil**).

A2.3.7.3. **(Added-AETC)** When a Using Command(s) chooses not to validate an AF Form 1067 Part II and the Part III is subsequently validated by AETC, the PM/SM shall include, a cost estimate for both the entire fleet and the fleet not including that/those Using Commands' aircraft, in the Part IV response.

A2.4. Step 3, Program Manager Review and Approval of Technical Requirements and Solution. The PM initiates a technical evaluation. The Chief Engineer, 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 in accordance with DoDI 5000.02T, MIL-STD-882E and this instruction. Refer to AFPAM 63-128, for guidance on life cycle risk management.

A2.4.2. The PM determines if the modification will involve or produce Critical Program Information; if Critical Program Information is identified, update the Program Protection Plan 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 in accordance with procedures prescribed in AFPD 65-5, as well as the AFI and AFMAN 65-500 series publications and approved AFMC and USSF 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 de-modification and disposal (as applicable). Additional cost estimating requirements are prescribed in AFPD 65-5, applicable AFI and AFMAN 65-500 series publications, and this instruction.

A2.4.4. The PM attests to the feasibility of the proposed modification requirement by including or appending 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 SAFAQ Capability Directorate PEM to initiate or 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.

A2.4.6. **(Added-AETC)** The PM/SM for the affected system or designated representative must approve the modification and digitally sign PART IV, (section 41) before HQ AETC will consider for final approval.

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. 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 and 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 in accordance with applicable records management requirements. Maintain modification proposal documents 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 and 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 ensures modification requirements are funded as prescribed in AFMAN 65-605, Vol. 1 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).

A2.5.1.1. **(Added-AETC)** HQ AETC A5R or designee will digitally sign Part V (section 44 of the AF Form 1067) for modifications below $100M (total program cost: RDT&E + procurement in current year dollars) indicating HQ AETC certification and approval/disapproval of the modification. Once approved/disapproved, the modification manager will provide the completed copy to the initiating organization, the Lead Command validation authority, the applicable AETC Requirements Manager, and the SPO.

A2.5.1.2. **(Added-AETC)** Modification proposals greater than $100M (total program cost: RDT&E + procurement in current year dollars) require AF/A5R approval. HQ AETC A5/8 will be the approval authority for HQ AETC and will digitally sign PART V (section 44 of the AF Form 1067). The responsible AETC Requirements Manager will coordinate the AF Form 1067 and applicable supporting documents across the HAF, as appropriate. Additional requirements reviews and coordination with AF/A5R may be required depending on dollar threshold values as specified in AFI 10-601 and the AF/A5R Guidebook. Once approved/disapproved, the modification manager will provide the

completed copy to the initiating organization, the Lead Command validation authority, the applicable AETC Requirements Manager, and the SPO.

A2.5.1.2.1. **(Added-AETC)** AF/A5RF approval documentation will be retained with completed AF Form 1067.

A2.5.1.3. **(Added-AETC)** The AF Form 1067 is a requirements document and therefore the applicable AETC/A5RF Requirements Manager will maintain all changes to the approved AF Form 1067. The AETC/A5RF Modification Manager will distribute modification/rescission directives to AETC A3/6, A5/8, 2AF, 19AF/A3, 19AF/A4, responsible test agency/organizations, PM/SM, and the affected wings/units upon HQ AETC approval as applicable.

A2.5.2. Modification requirements financed with investment funds described in AFMAN 65-605 Vol. 1 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 AFMAN 65-605, Vol. 1 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. Modifications that result from Federal Aviation Administration 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 AFMAN 65-605, Vol. 1 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 AFMAN 65-605, Vol. 1.

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. Reference **Table A2.1**for details.

Table A2.1. Part I, Request for Action.

Section	Description	Instructions
	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 (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, 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, 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 Mission Design Series' will not fit, show the one with the highest logistic support priority (LSP) in this block and list all other Mission Design Series 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 National Stock Number of affected Configuration Item.
		D. Enter standard reporting designator code, 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 Mission Design Series sortie generation requirements).
		E. If unmodified system LRUs are resulting in excessive maintenance hours or extravagant spares requirements, show estimated number of maintenance hours being expended (with dollar value of those hours shown in parenthesis) or dollar value of excess spares requirement, to include one year's demand history to reflect increased spares consumption.
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 or assumptions and recommend modification type (Permanent, Safety, Type-1, or Type-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.
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.
		A. Proposed request disapproved, forward to initiator POC.
		B. Proposal returned to initiator POC for additional information
		C. Enter the date signed.
		D. Type or print name, grade, title, DSN of validating official or designated representative.
		E. 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 or equivalent agency headquarters personnel. If the using command/agency is the lead command, proceed to Part III, Section 13. See **Table A2.2** for detailed instructions.

Table A2.2. PART II, Using Command Validation.

Section	Description	Instructions
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.
	Date Received:	Enter the date the proposal is received from the initiating organization.
		A. Proposed request approved, forward for using command/agency validation.

		B. Proposed request disapproved. If disapproved, rational 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 COMMANDVALIDATION: Sections 13 – 22 are required fields and completed by lead command Headquarters' personnel as detailed in **Table A2.3**.

Table A2.3. PART III, Lead Command Validation.

Section	Description	Instructions
	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, rational for this decision must be returned to the using command/agency or originating organization.
Section 20,	Validation Authority	Type or print name, grade, title, DSN of lead command designated validation authority
Section 21	Signature of Lead Command	Signature of designated validation authority.
Section 22	Date	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 detailed in **Table A2.4**.

Table A2.4. PART IV, Single Manager Review and Approval.

Section	Description	Instructions
	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) 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.

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. 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)

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 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 provides 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	Single Manager	Type or print the name, grade, and title, DSN of the SM or designated representative.
Section 41	Signature	Signature of the PM or designated representative.
Section 42	Date	Enter the date signed.

A2.6.5. PART V, LEAD COMMAND CERTIFICATION ANDAPPROVAL. Sections 43 through 47 are required and completed by the lead command that is assigned the responsibility for the applicable affected configured item(s) as detailed in **Table A2.5** The lead command designated certification/approval authority will check the appropriate block indicating Modification Approval", "Disapproval. **Note**: DO NOT use the block 'MNS/ ORD' to be developed. If approved, using command/agency (if applicable) or the originating organization coordinates with the PM for specific installation documentation and required certifications that accompany the modification. If disapproved, the lead command provides 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, Vol 1-5*.

Table A2.5. PART V, Lead Command Certification and Approval.

Section	Description	Instructions
Section 43	Lead Command Authority	Type or print name, grade, and title, DSN of the lead command designated certification/approval authority.
Section 44	Signature	Signature of the lead command designated certification/approval authority.
Section 45	Date	Enter the date signed

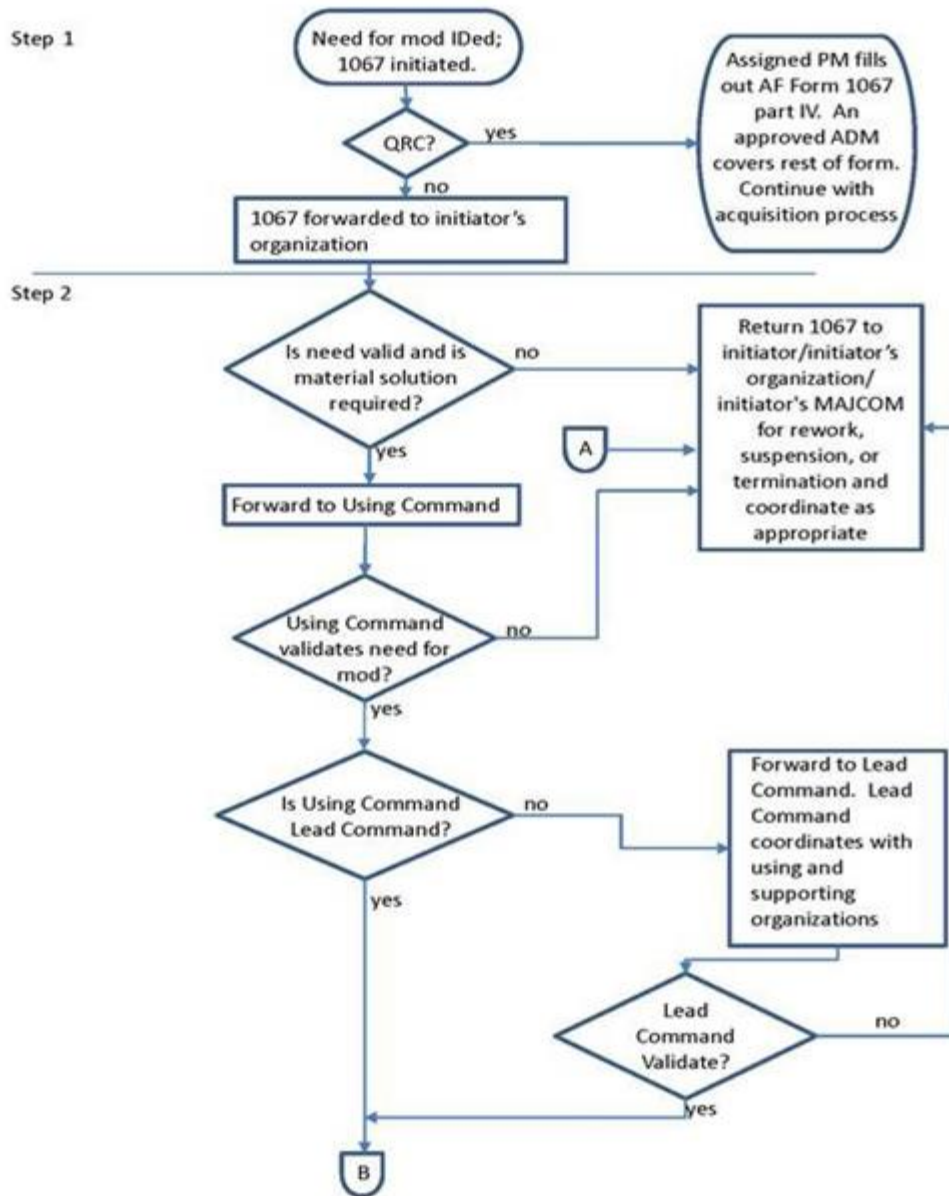**Figure A2.1. AF Form 1067 Process Flow Part 1 of 3**

Step 1

Need for mod IDed; 1067 initiated.

QRC?

yes → Assigned PM fills out AF Form 1067 part IV. An approved ADM covers rest of form. Continue with acquisition process

no

1067 forwarded to initiator's organization

Step 2

Is need valid and is material solution required?

no → Return 1067 to initiator/initiator's organization/ initiator's MAJCOM for rework, suspension, or termination and coordinate as appropriate

yes

Forward to Using Command

A →

Using Command validates need for mod?

no

yes

Is Using Command Lead Command?

no → Forward to Lead Command. Lead Command coordinates with using and supporting organizations

yes

Lead Command Validate?

no

yes

B

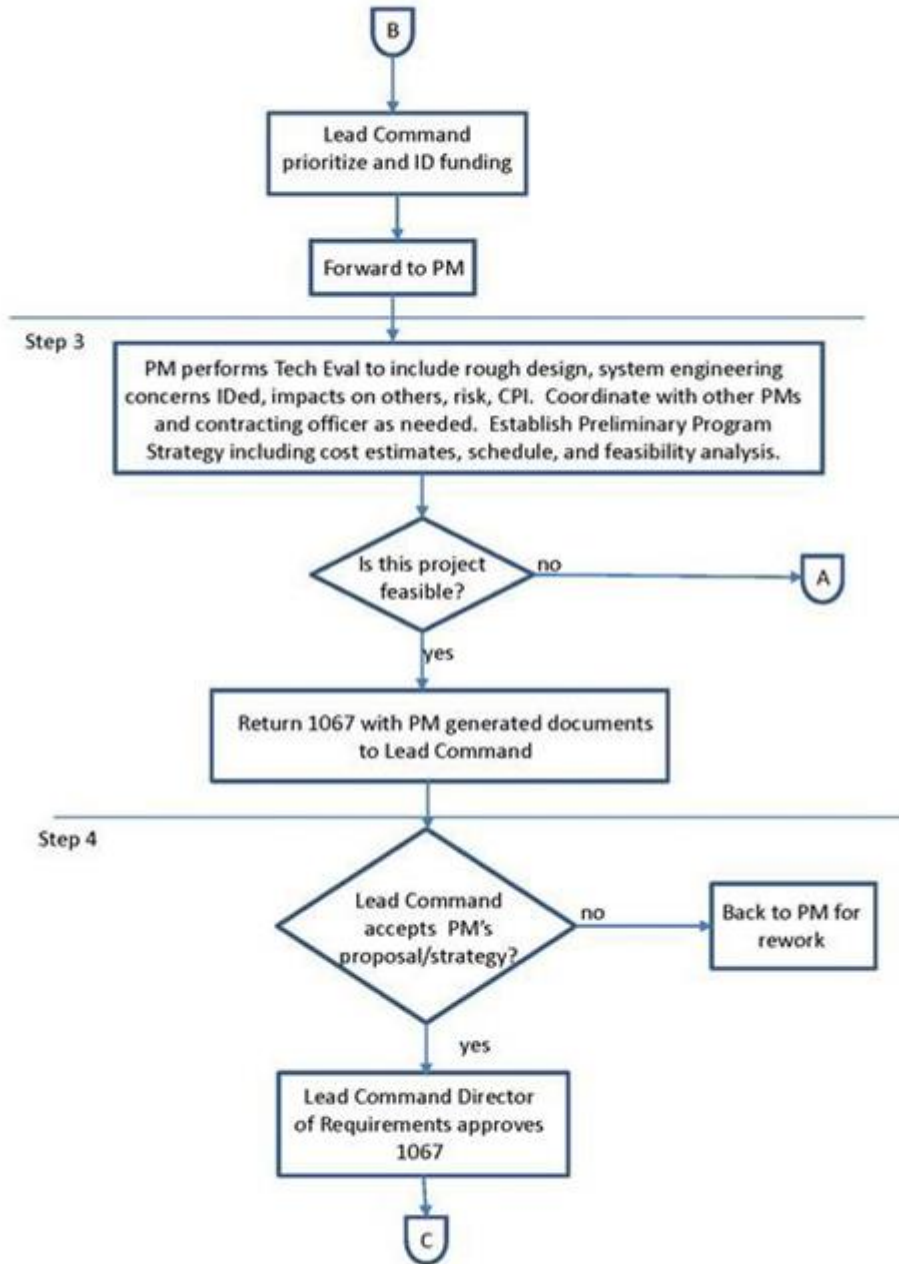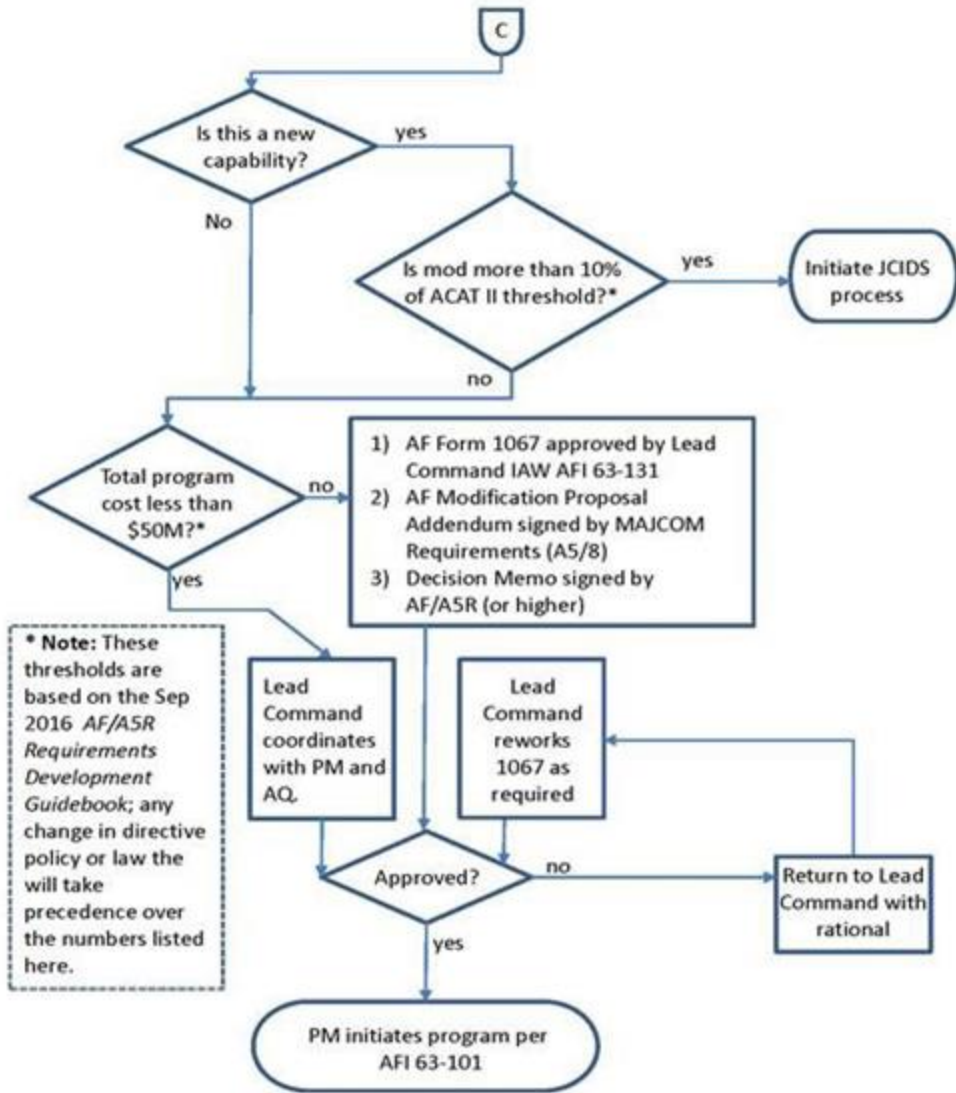**Figure A2.2. AF Form 1067 Process Flow Part 2 of 3**

Figure A2.3. AF Form 1067 Process Flow Part 3 of 3.

Attachment 3

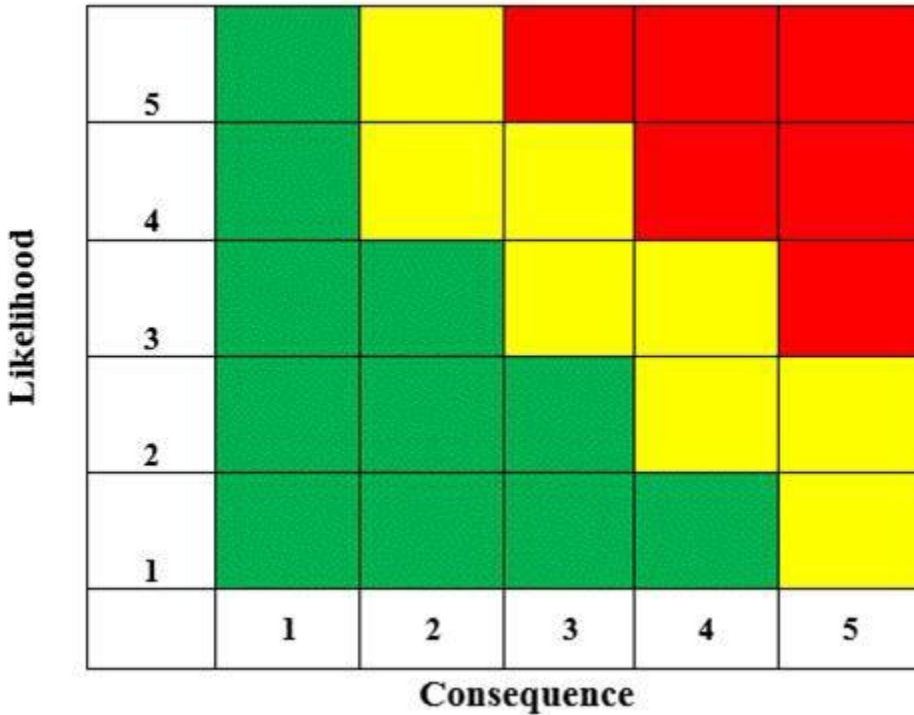**LIFE CYCLE RISK MANAGEMENT RISK MATRIX DEFINITIONS**

Figure A3.1. 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**)

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: -Will not meet Key Performance Parameter Threshold - Critical Technology Element (CTE) will not be at Technology Readiness Level 4 at Milestone A - CTE will not be at Technology Readiness Level 6 at Milestone B - CTE will not be at Technology Readiness Level 7 at Milestone C - CTE will not be at Technology Readiness Level 8 at the Full-rate Production Decision point - Manufacturing Readiness Level (MRL)* will not be at 8 by Milestone C - MRL* will not be at 9 by Full-rate Production Decision point - System availability threshold will not be met * MRLs will be calculated IAW the *DoD Manufacturing Readiness Assessment Deskbook.*

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 milestone dates (e.g. A, B, and C) 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) 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) or other key dates (e.g. CDR, FRP, FOC) Failing to meet the program or project completion date
	* Exhibit awareness to exceeding 10 USC § 2433 (Nunn-McCurdy threshold breach for schedule.
	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.

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 Milestone A or last approved Development or Production cost estimate. For Post-B and Other Programs: <1% increase from Milestone A or last approved Development or Production cost estimate.
2	For A-B Programs: 1% to <3% increase from Milestone A or last approved Development or Production cost estimate. For Post-B and Other Programs: 1% to <3% increase from Milestone A or last approved Development or Production cost estimate.
3	For A-B Programs: 3% to <5% increase from Milestone 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 10 USC § 2433 (Nunn-McCurdy) 'significant' breach).
4	For A-B Programs: 5% to <10% increase from Milestone 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 10 USC § 2433 (Nunn-McCurdy) 'significant' breach).
5	For A-B Programs: >10% increase from Milestone 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 10 USC § 2433 (Nunn-McCurdy) 'significant' breach).

Figure A3.2. Translation of MIL-STD-882E Risk Matrix to the OSD Risk Management Guide Matrix.

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.