

AFOTEC

AIR FORCE OPERATIONAL TEST AND EVALUATION CENTER



PROGRAM MANAGER'S OPERATIONAL TEST TOOLKIT



03 OCTOBER 2011

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FROM THE COMMANDER

When our combat forces go to war they deserve unparalleled combat capability to defeat our enemies. The Air Force Operational Test and Evaluation Center (AFOTEC) is responsible for providing premier testers to arm the warfighters with operational truth. We test and evaluate new warfighting capabilities in operationally realistic environments, influencing and informing National Resource decisions. We deliver balanced and timely evaluations of new Air Force systems' operational effectiveness, suitability, and mission capability. Early and continuous influence throughout the acquisition process is key to program success.

Continual improvements to the acquisition process and increased complexity in operational testing provide AFOTEC with new challenges and opportunities. Throughout the acquisition process, program managers and users can expect active AFOTEC participation in the various acquisition phases and products. Our early involvement in Initial Test Design and employment of Design of Experiments methodologies helps avoid late discovery of system shortfalls and refines both capability requirements and acquisition strategies. We strive for operationally relevant and testable requirements with an integrated test and evaluation (IT&E) philosophy and approach between the Developmental Test and Operational Test (DT & OT) communities. Through successful IT&E, we can leverage results from DT to satisfy OT objectives earlier, execute dedicated OT with a higher probability of success, and support the warfighter with operationally effective, suitable, and mission capable weapon systems. Always remember, testing doesn't cost, it pays!

The Program Manager's Operational Test Toolkit provides a roadmap of a system's development through the acquisition cycle correlated with AFOTEC's test planning, execution, and reporting processes. The toolkit also provides insight into insertion points along a system's evolution where a program manager would positively influence the development of a system by coordinating AFOTEC and User involvement. Finally, the toolkit identifies points of contact to facilitate our involvement.

AFOTEC is fully committed to our goals of positive relationship building; fluent and continuous communication; superior test design; technical competency, currency, and relevance; and responsible stewardship of all resources. Our focus is the same as the Program Office's; delivery on time and on cost of an effective, suitable, and mission capable weapon system for our Airmen and our Joint/Coalition partners.

DAVID J. EICHHORN
Major General, USAF
Commander



Overview

This Toolkit was developed to provide Program Managers with an understanding of where and how AFOTEC can assist in program success, regardless of experience or where the program resides within the acquisition lifecycle. The warfighting, acquisition, and T&E communities working together early and throughout a program's lifecycle can provide early and positive influence on the success of a program. AFOTEC begins applying standardized methodologies for early influence prior to Milestone A by engaging in the Capabilities Based Assessment (CBA) process. Through formal reviews of the early Joint Capabilities Integration and Development System (JCIDS) documents, such as the Initial Capabilities Document (ICD), we have the opportunity to influence capabilities while a material solution, or mix of solutions, are being considered.

By combining OT&E professionals with other key players early and often in the acquisition process, we increase communication, coordination, and enable increased teamwork. The result is fewer surprises in the latter part of the acquisition process. Early and constant communications will ensure that documents and plans can be modified as necessary to keep pace with evolving programs. By institutionalizing the early influence approach, we are helping to stress and refine requirements from a testability and measurability standpoint, in order to support providing an effective, suitable, and mission capable warfighting capability. AFOTEC does not write the requirements for emerging capabilities, but we do help refine them from an operational perspective.

Executing early influence may seem simple on the surface. However, to execute early influence effectively AFOTEC has organized and developed processes that facilitate action. Through early and continuous communication and coordination, the Air Force will benefit from high confidence OT&E planning and integrated test and evaluation with proven schedule and cost savings. Our goal is increased teamwork and decreased surprises throughout the program's life.

Figure 1 (pg 2) provides an overview of the AFOTEC organization. Table 1 (pg 2) provides a concise listing of Detachment functions and AFOTEC points of contact. AFOTEC detachments are specific to different types of weapon systems and capabilities. AFOTEC Liaison Offices are co-located with each of the Air Force product centers and the Joint Program Office for the F-35 in Virginia. Program Managers should contact their AFOTEC counterparts to identify the current status of AFOTEC's involvement. If there is a question about which office to contact, AFOTEC/A-3 or A-5/8 can assist in getting you to the correct office.

The information on Table 2 (pg 3) provides a snapshot of topics that should be addressed within the first thirty days of being assigned as a program manager. Following that, Table 3 (pgs 4-15) walks through the Air Force capability-based acquisition process and highlights each product produced along with AFOTEC's participation or contribution. Table 3 also provides an indication, based on working backwards from each milestone decision, of when the particular product is typically completed, as well as a convenient tool to track the status of the product or document. Depending on where an acquisition program is in the overall process, some products may have already been prepared or may not be applicable.

Figure 1. AFOTEC Organizational Chart

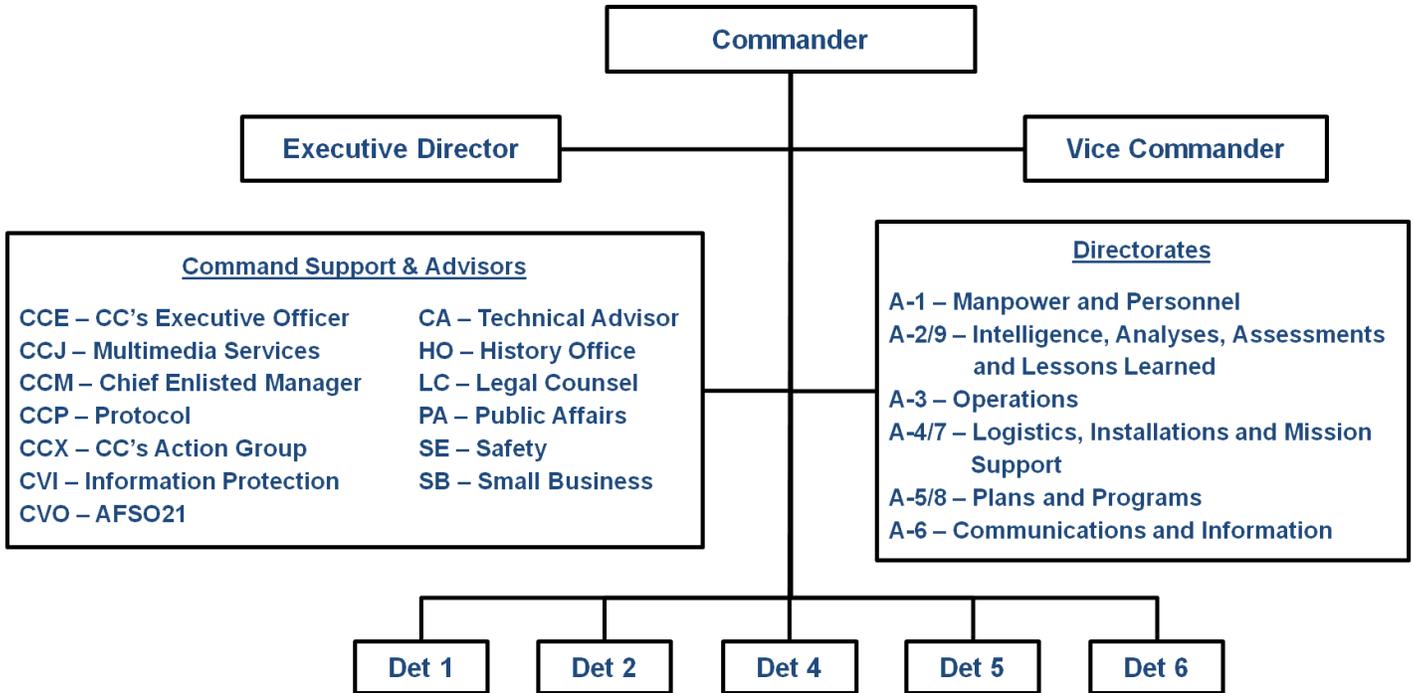


Table 1. AFOTEC Points of Contact

Office	Function	Contact Information
CC	Commander	DSN: 246-4533; Comm: 505-846-4533
ED	Executive Director	DSN: 246-1935; Comm: 505-846-1935
CV	Vice Commander	DSN: 246-6172; Comm: 505-846-6172
CA	Technical Advisor	DSN: 246-6925; Comm: 505-846-6925
A-2/9	Intelligence, Analyses, Assessments and Lessons Learned Directorate	DSN: 263-8066; Comm: 505-853-8066
A-3	Operations Directorate	DSN: 246-5238; Comm: 505-846-5238
	OL-NN A-3 Operating Location – Nevada Test & Training Range	DSN: 682-2916; Comm: 702-652-2916
A-5/8	Plans and Programs Directorate	DSN: 246-1715; Comm: 505-846-1715
Det 1	F-35 Lightning II OT&E – Edwards AFB	DSN: 525-6729; Comm: 661-275-6729
	OL-FT Det 1 Operating Location – Fort Worth	DSN: 838-5102; Comm: 505-452-7688
Det 2	Air Armament, Agile Combat Support, Electronic Warfare, Mission Planning, Command and Control, Communications, Chemical and Biological Defense Systems OT&E – Eglin AFB	DSN: 875-1089; Comm: 850-883-1089
Det 4	Space, Missile, and Missile Defense Systems OT&E – Peterson AFB	DSN: 834-5850; Comm: 719-556-5850
	OL-VC Det 4 Operating Location – Vandenberg AFB	
Det 5	Bomber, Airlift, Special Ops Aircraft and UAV OT&E – Edwards AFB	DSN: 527-3666; Comm: 661-277-3666
	OL-HF Det 5 Operating Location – Hurlburt Field	DSN: 579-4886; Comm: 850-884-4886
Det 6	F-22, F-15, F-16, and A-10 Aircraft OT&E – Nellis AFB	DSN: 682-4325; Comm: 702-652-4325
OL-AV	AFOTEC Liaison to F-35 Joint Program Office	DSN: 329-5644 ; Comm: 703-601-5644
OL-HM	AFOTEC Liaison to Electronic Systems Center	DSN: 845-1663; Comm: 781-225-1663
OL-LC	AFOTEC Liaison to Space and Missile Systems Center	DSN: 633-1416; Comm: 310 653-1416
OL-WO	AFOTEC Liaison to Aeronautical Systems Center	DSN: 785-7515; Comm: 937-255-7515

The Designated Lead Detachment for Your Program is: _____

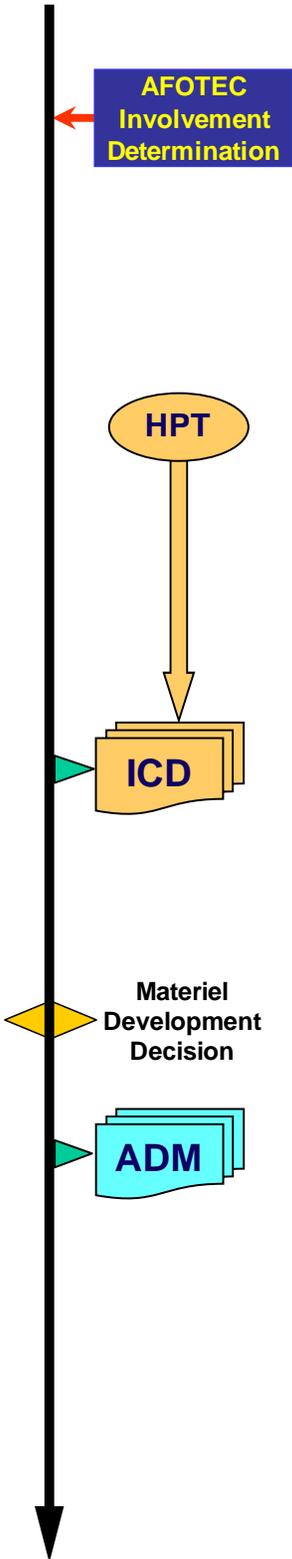
Table 2. First 30 Days Checklist

Topic/Focus Area *	Action	Status
Acquisition Strategy	Understand the acquisition strategy for your program. Specifically: <ul style="list-style-type: none"> • What is the Acquisition Category (I, II, III)? • Are there increments or releases? • What/when is the next milestone decision? • Is the program a multiservice program? 	_____ Not Started _____ In Progress _____ Complete
Funding and Contract Status	Understand the status of the program's funding and development contract status. Specifically: <ul style="list-style-type: none"> • What is the funding status of program; is the funding adequate? • What type of funding is the program using? • Is the development contract awarded? 	_____ Not Started _____ In Progress _____ Complete
Operational Capability Requirements	Understand the status of the operational capability requirements for the program. Specifically: <ul style="list-style-type: none"> • Are the requirements clearly written? • Are the Key Performance Parameters (KPP)/Key System Attributes (KSA) approved by the JROC? • When is the next High Performance Team (HPT)? 	_____ Not Started _____ In Progress _____ Complete
Concept of Operations/ Employment and Support	Understand the status of the concepts of employment and support for the program.	_____ Not Started _____ In Progress _____ Complete
Acquisition Schedule	Understand the acquisition schedule for the program. Specifically: <ul style="list-style-type: none"> • Does the schedule allow adequate time for integrated (developmental and operational) testing? • Is a production-representative system planned to be available for IOT&E? 	_____ Not Started _____ In Progress _____ Complete
Documentation Status	Understand the status of all required documentation for the program. <ul style="list-style-type: none"> • Many documents are required by regulation, as shown in Table 3. 	_____ Not Started _____ In Progress _____ Complete
Integrated Test Team	Understand the status of the integrated test team. Specifically: <ul style="list-style-type: none"> • Is the ITT charter signed by all required parties? • When is the next ITT meeting? 	_____ Not Started _____ In Progress _____ Complete
OSD T&E Oversight Status	Is the program on OSD T&E Oversight? Plan to make contact with oversight agency (DASD (DT&E) and DOT&E) action officers early.	_____ Not Started _____ In Progress _____ Complete
Operational Testing Status	Understand what, if any, operational testing has previously been accomplished.	_____ Not Started _____ In Progress _____ Complete

* **NOTE:** The AFOTEC point of contact (POC) for program-specific products is the executing detachment; the POC for something not specific to a program is the operations directorate (A-3), or the AFOTEC liaison officer assigned to your Product Center. For OT&E policy or infrastructure questions, contact AFOTEC/A-5/8. See table 1 for contact information.

Table 3. The Air Force Capability-Based Acquisition Process

Product/Document ^{1,2}	AFOTEC Participation/Contribution	Status
<p>AFOTEC Involvement Determination (OTA) AFI 99-103 AFOTECMAN 99-101 MS A minus 30 mos</p>	<p>AFOTEC needs sufficient programmatic information to make an involvement determination. This information includes operational capability requirements, concept of operations, and the acquisition strategy.</p> <p>AFOTEC produces this package documenting the decision to be or not to be involved in the acquisition program as the OTA.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Capabilities Document High Performance Teams (HPT) (User) AFI 10-601 MS A minus 30 mos</p>	<p>AFOTEC is invited to participate in the Initial Capability Document (ICD) HPT as a core team member to assist in developing recommended capabilities for a known mission capability gap.</p> <p>AFOTEC assists in the Joint Capabilities Integration and Development System (JCIDS) process to develop capabilities documented in the ICD by contributing considerations such as soundness and testability of operational capabilities (OC) needed to fill the identified capability gap.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Initial Capability Document (ICD) (User) AFI 10-601 MS A minus 24 mos</p>	<p>AFOTEC is provided the opportunity to review the ICD and provide "operational tester" feedback. AFOTEC gains understanding of: 1) the gap/shortfall requiring a material solution; 2) the operational objectives or critical elements of the operation in the mission level context; and 3) the operational capabilities and key attributes the material solution must possess to satisfy the capability gap.</p> <p>AFOTEC provides feedback to the user regarding the recommended operational capabilities, ensuring they are complete, operationally relevant, and testable.</p> <p>AFOTEC is a voting member on the AFROC.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Acquisition Decision Memorandum (ADM) (SPO) AFI 63-101 MS A minus 14 mos</p>	<p>AFOTEC needs to be cognizant of the decisions documented in the ADM, to include official acquisition program start and direction to establish an integrated test team (ITT). Support and implement the OT activities (such as involvement decision, early influence, test planning, co-developing the ITT) required by the ADM directing official acquisition program start.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>



Legend: ● = User Product ● = SPO Product ● = ITT Product ● = AFOTEC Product

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<p>Integrated Test Team (ITT) established/Charter developed (<i>SPO/OTA</i>) AFI 63-101, AFI 99-103 MS A minus 10 mos</p>	<p>The SPO initiates the stand-up of the ITT and associated charter for co-development with the ITT co-chair, AFOTEC. The charter should address required deliverables as well as the Readiness to Test (RTT) approach and review schedule for OT&E readiness certification.</p> <p>As co-chair of the ITT, the operational test organization (AFOTEC if conducting OT&E) co-manages integrated test planning, execution, and reporting with the goal of integrating development testing and operational testing for increased efficiency. AFOTEC provides charter inputs on the OT roles and responsibilities, and integrated test products.</p> <p>AFOTEC signs the ITT Charter.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Analysis of Alternatives (AoA) (<i>User</i>) AFI 10-601 MS A minus 9 mos</p>	<p>AFOTEC is invited to participate on the AoA team providing an OT perspective to the AoA study plan.</p> <p>AFOTEC provides input to the AoA study plan in the form of potential critical operational issues (COI), measures of operational effectiveness/ suitability and associated criteria in support of the material and non-material alternatives being studied, to include the subsequent analysis and reporting. Knowledge gained from the AoA efforts can serve to develop an initial integrated and OT strategy.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Course of Action (COA) (<i>SPO/User</i>) AFI 63-101 MS A minus 8 mos</p>	<p>AFOTEC needs to understand the program selected from the alternative choices the MAJCOM and the milestone decision authority (MDA) (or designee) have agreed to.</p> <p>AFOTEC, through the ITT, provides preliminary OT strategy from an initial test design for the MAJCOM selected alternative. This preliminary OT strategy serves as an input to the T&E Strategy required prior to the milestone (MS) A decision.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Technology Development Strategy (TDS) (<i>SPO</i>) AFI 63-101 MS A minus 7 mos</p>	<p>AFOTEC gains insight on the approach to technology development using demonstrations or prototypes so the user and developer can determine if the proposed mature technology solution is affordable and militarily useful.</p> <p>AFOTEC provides early influence input to the proposed demonstrations and prototypes for operational test relevance and possible integrated test events.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

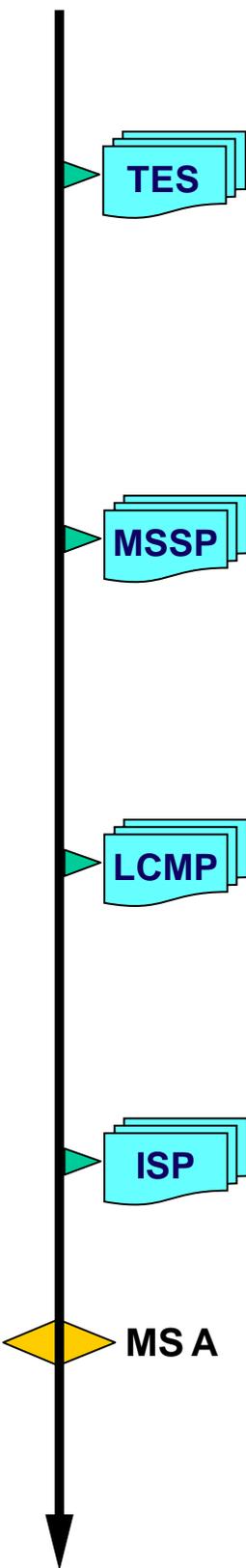
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Table 3. The Air Force Capability-Based Acquisition Process

 <p>Test and Evaluation Strategy (TES) (SPO/RTO/OTA) AFI 99-103 MS A minus 7 mos</p>	<p>The SPO, using the ITT, initiates the description of the overall T&E strategy for the selected solution, providing the developmental test (DT) strategy and the program management concept of an integrated test strategy. Initial integrated test design groundwork begins.</p> <p>AFOTEC develops the OT strategy through an initial test design and reviews the DT strategy to co-develop, with the SPO, an integrated test strategy, including modeling and simulation. The TES essentially provides the first iteration of the test and evaluation master plan (TEMP).</p> <p>AFOTEC signs the TES.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Modeling and Simulation (M&S) Support Plan (MSSP) (SPO) AFI 16-1002 MS A minus 7 mos</p>	<p>This document provides AFOTEC: 1) Information on the integrated use of M&S within program planning activities and across functional disciplines, 2) opportunity to review M&S requirements and development (or use) strategy, and 3) opportunity to review and participate in planned M&S verification and validation activities.</p> <p>AFOTEC provides early influence review and input of M&S requirements. Provide M&S resource requirements for OT&E and advise about the development and VV&A of M&S resources.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Life Cycle Management Plan (LCMP) (SPO/OTA) AFI 63-101, AFI 99-103 MS A minus 7 mos</p>	<p>This document provides AFOTEC: 1) information on the integrated acquisition and sustainment strategy for the life of the proposed material solution, and 2) opportunity to review the required T&E summary (or TEMP level of information if TEMP is not expected to be required).</p> <p>AFOTEC provides early influence review and input for operational test relevant considerations. Review required T&E summary information from the OT and integrated perspectives (TEMP-like information if TEMP is not expected to be required).</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Information Support Plan (ISP) (SPO) AFI 63-101 MS A minus 7 mos</p>	<p>AFOTEC gains familiarity with the SPO's identification and documentation of information needs, infrastructure and intelligence support, information technology and National Security Systems interface requirements, as well as, net-centric, interoperability, supportability and sufficiency concerns. Ensure that mandated requirements: net-ready, information assurance, interoperability and electromagnetic environmental effects (E³) are considered by the SPO and included as part of the overall T&E strategy for the proposed material solution.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>



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Table 3. The Air Force Capability-Based Acquisition Process

 <p>Acquisition Decision Memorandum (ADM) Update (SPO) AFI 63-101 MS B minus 20 mos</p>	<p>AFOTEC needs to be cognizant of the decisions documented in the ADM, to include official acquisition program start and direction to establish an integrated test team (ITT). Support and implement the OT activities (such as involvement decision, early influence, test planning, co-developing the ITT) required by the ADM directing official acquisition program start.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Capabilities Document High Performance Teams (HPT) (User) AFI 10-601 MS B minus 18 mos</p>	<p>AFOTEC is invited to participate in the CDD HPT as a core team member to assist in developing capability requirements for a known mission capability gap. AFOTEC assists in the JCIDS process to develop capabilities requirements documented in the CDD by contributing considerations such as completeness, relevance, soundness of operational capability requirements, and the testability of those requirements.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Capability Development Document (CDD) (User) AFI 10-601 MS B minus 12 mos</p>	<p>AFOTEC is provided the opportunity to review the CDD and provide “operational tester” feedback. Gain understanding of the required KPPs and key system attributes (KSA) in relation to operational capability critical operational issues, performance operational measures and associated criteria expressed by thresholds and objectives. AFOTEC provides feedback to ensure the capability requirements reflect the needed operational capabilities. These capability requirements must be complete, operationally relevant, and testable. Feedback discovered during early influence activities is provided to the HPT. Initial test design and plans, to include TEMP parts III and IV inputs, are developed using the CDD.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Test and Evaluation Master Plan (TEMP) (SPO/RTO/OTA) AFI 63-101, AFI 99-103 MS B minus 6 mos</p>	<p>The SPO, using the ITT and starting with the TES, initiates the development of the TEMP by recording: the critical technical parameters; integrated master test schedule (to include but not limited to acquisition milestones, development schedule, integrated test and evaluation, and OT activities); T&E management responsibilities; detailed DT strategy and objectives; dedicated OT&E readiness entrance and exit criteria; and final T&E resources. AFOTEC provides input to Part III Test and Evaluation Strategy. AFOTEC develops OT&E details based on the CDD, employment and support concepts, and threats, which include: 1) COIs; 2) TEMP measure summary reflecting the CDD; 3) OT&E events with configuration description, objectives, scenarios, scope, methodology, integrated test and evaluation opportunities, and limitations; and 4) entrance criteria for starting dedicated IOT&E. AFOTEC’s input to Part IV OT&E resources includes funding, manpower, and test articles/ capabilities, including modeling and simulation.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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 <p>MSSP</p>	<p>Modeling and Simulation Support Plan Update (MSSP) (SPO) AFI 16-1002 MS B minus 6 mos</p>	<p>This document provides AFOTEC updated: 1) Information on the integrated use of M&S within program planning activities and across functional disciplines, 2) opportunity to review M&S requirements and development (or use) strategy, and 3) opportunity to review and participate in planned M&S verification and validation activities. AFOTEC provides input of M&S requirements based on initial test design. Provide M&S resource requirements for OT&E and advise about the development and VV&A of M&S resources.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>LCMP</p>	<p>LCMP Update (SPO) AFI 63-101, AFI 99-103 MS B minus 6 mos</p>	<p>This document provides AFOTEC: 1) updated information on the integrated acquisition and sustainment strategy for the life of the proposed material solution, and 2) opportunity to review the required T&E summary (or TEMP level of information if TEMP is not expected to be required). AFOTEC provides review and input for OT-relevant considerations. Review and input on the required T&E summary information from the OT and integrated test and evaluation perspectives (TEMP-like information if TEMP is not expected to be required).</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>AoA</p>	<p>AoA Update (if applicable) (User) AFI 10-601 MS B minus 6 mos</p>	<p>This document provides AFOTEC updates to the AoA as a result of technology development phase efforts, if applicable. AFOTEC provides input to the updated AoA including updated OT&E construct, which includes COIs, measures of operational effectiveness/ suitability and associated criteria, resulting form early influence and EOA activities.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>ITT Charter</p>	<p>ITT Charter Update (ITT) AFI 63-101, AFI 99-103 MS B minus 6 mos</p>	<p>The SPO updates the ITT charter with applicable impacts resulting from the technology development phase efforts. The charter should address required deliverables as well as the Readiness to Test (RTT) approach and review schedule for OT&E readiness certification. As co-chair of the ITT, AFOTEC provides charter updates on the OT roles and responsibilities and integrated test and evaluation products resulting from early influence and EOA activities.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>ISP</p>	<p>ISP Update (SPO) AFI 63-101 MS B minus 6 mos</p>	<p>AFOTEC reviews changes/updates to the SPO's identification and documentation of information needs, infrastructure and intelligence support, information technology and National Security Systems interface requirements, as well as, net-centric, interoperability, supportability and sufficiency concerns derived from the technology development phase results. Ensure that mandated requirements: net-ready, information assurance, interoperability and E³ are considered and implemented by the SPO.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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<p>Deficiency Reporting (SPO/User) AFI 63-101, AFI 99-103, AFTO 00-35D-54 MS B minus 6 mos</p>	<p>The SPO establishes and administers a deficiency reporting (DR) process according to Technical Order (TO) 00-35D-54, <i>USAF Deficiency Reporting and Investigating System</i> and AFI 63-501, <i>Air Force Acquisition Quality Program</i>.</p> <p>AFOTEC will use and participate in the DR process throughout all phases of OT, early influence, test planning, execution and reporting.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>System Threat Assessment (STA) or System Threat Assessment Report (STAR) (SPO) DoDI 5000.02 MS B minus 6 mos</p>	<p>The DIA-validated STA/STAR provides the test/acquisition community with validated, current threat analysis specific to the system under test (SUT). In the case where no STA/STAR is available, the appropriate Capstone Threat Assessments (CTA) provides similar information for a broader category of system.</p> <p>AFOTEC uses the STA/STAR/CTA to delineate approved threats and determine which threats the SUT should be tested against, as well as coordinate the expected threat environment with range personnel to plan range costing, and to state limitations to threat testing.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Request for Proposal (RFP) (SPO) AFI 63-101 MS B minus 6 mos</p>	<p>The SPO provides a draft RFP and statement of work (SOW) supporting the TES, contractor support to integrated test and evaluation, a common T&E data base and DR system.</p> <p>AFOTEC reviews requirements and provides feedback concerning developing contractor support to such items as the OT strategy and concept, specific integrated logistics support requirements if implemented by the program's concept of operations, the deficiency reporting process, a common T&E data base (including access to contractor test data), and system modeling and simulation requirements.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Security Classification Guide (SCG) (SPO/User) AFPD 63-17 AFPAM 63-1701 MS B minus 6 mos</p>	<p>A SPO-developed guide that informs T&E planners of the proper classification of all data associated with the system under test. Ensure that all aspects of operational and integrated test and evaluation planning and documentation accurately classify all the appropriate testing data for security of the system.</p> <p>There is no direct OT&E contribution to this document.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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Table 3. The Air Force Capability-Based Acquisition Process

 <p>Environment, Safety and Occupational Health (ESOH) (SPO) AFI 63-101, AFI 99-103, AFI 63-1201 MS B minus 6 mos</p>	<p>This SPO-developed document provides AFOTEC support strategy containing programmatic, environment, safety, and health evaluation (PESHE) document summarizing: ESOH risks, strategy for integrating ESOH considerations into systems engineering process; method for tracking progress; completion schedule for National Environmental Policy Act (NEPA); Operational Safety, Suitability, and Effectiveness (OSS&E) strategy.</p> <p>AFOTEC performs an initial evaluation of safety aspects of T&E plans prior to commencement of test activities via Safety Review Board. Ensure strategy is in place to identify/mitigate health and safety hazards. Determine if humans are to be used as test subjects and evaluate anticipated level of risk.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>OT&E Early Operational Assessment (EOA) Plan (OTA) AFI 99-103 MS B minus 6 mos</p>	<p>AFOTEC requires access to all program documentation in order to execute the EOA.</p> <p>AFOTEC will develop the OT&E EOA Plan using available program information to include: operational capability requirements, acquisition strategy, developmental test activities, and concept of operations.</p> <p>This is an AFOTEC-produced document outlining the OTA's plan to provide insight into the program's progress toward operational effectiveness, suitability, and mission capability, as well as readiness for IOT&E.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>OT&E Early Operational Assessment (EOA) Report (OTA) AFI 99-103 MS B minus 45 days</p>	<p>AFOTEC requires access to all program documentation in order to execute the EOA.</p> <p>The results of the EOA are documented in an AFOTEC EOA report. The report will cover the degree to which the proposed mission capability will provide coverage of the identified gap; feasibility of the capability based on current or expected maturity of technology; and potential issues related to the proposed test concept with regards to operational effectiveness, operational suitability, and mission capability. The EOA report will be provided in sufficient time to support the milestone decision, but it will not advocate or recommend an alternative.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Acquisition Decision Memorandum (ADM) Update (SPO) AFI 63-101 MS C minus 20 mos</p>	<p>AFOTEC needs to be cognizant of the decisions documented in the ADM, to include official acquisition program start and direction to establish an integrated test team (ITT). Support and implement the OT activities (such as involvement decision, early influence, test planning, co-developing the ITT) required by the ADM directing official acquisition program start.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

MS B

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Table 3. The Air Force Capability-Based Acquisition Process

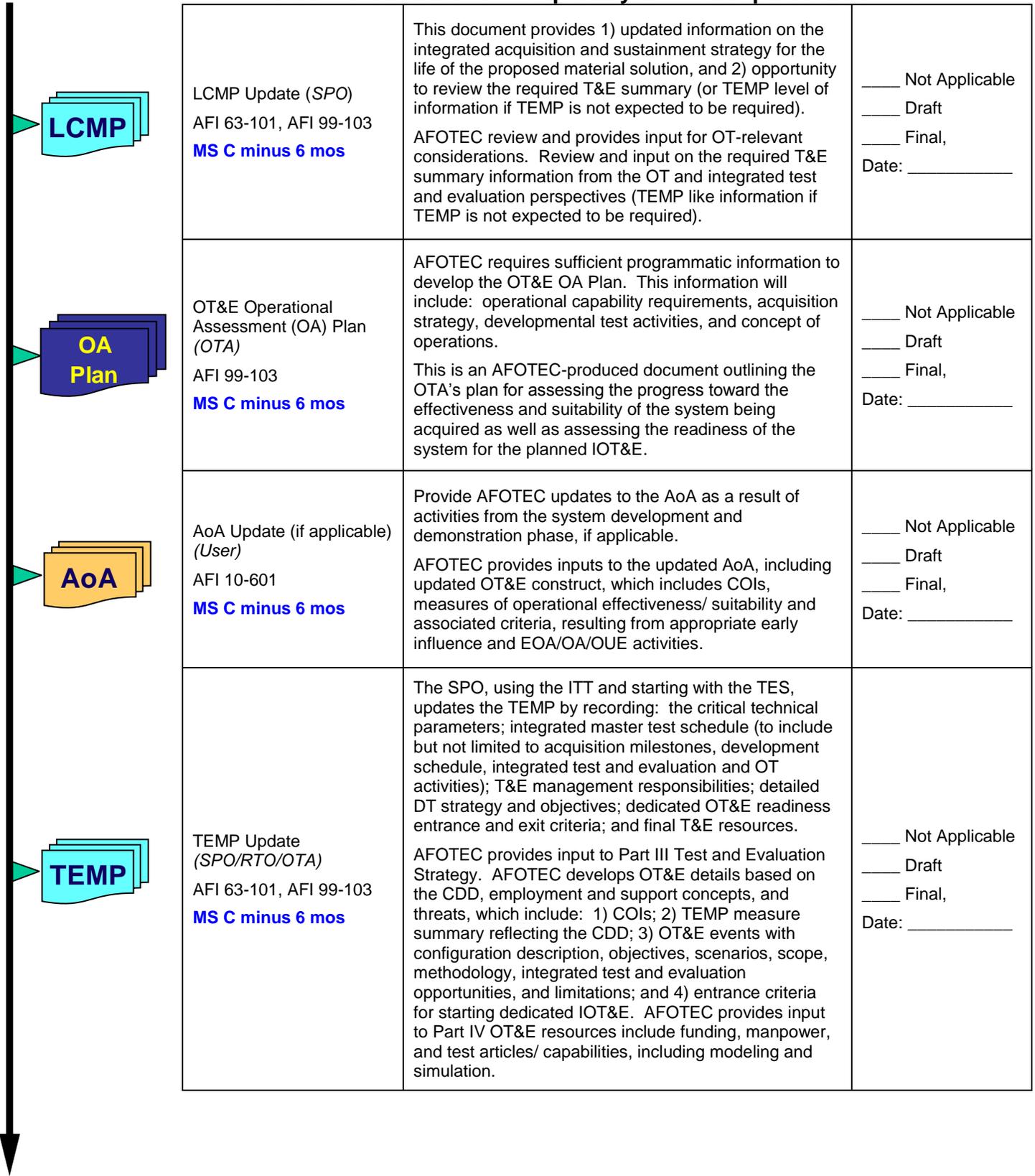
<p>Capabilities Document High Performance Teams (HPT) (User) AFI 10-601 MS C minus 18 mos</p>	<p>AFOTEC is invited to participate in the CPD HPT as a core team member to assist in developing capability requirements for a known mission capability gap.</p> <p>AFOTEC assists in the JCIDS process to develop capabilities requirements documented in the CPD by contributing considerations such as completeness, relevance, soundness of operational capability requirements, and the testability of those requirements.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Capabilities Production Document (CPD) (User) AFI 10-601 MS C minus 12 mos</p>	<p>AFOTEC is provided the opportunity to review the CPD and provide “operational tester” feedback. Gain understanding of the finalized required KPPs and KSA in relation to operational capability critical operational issues, performance operational measures and associated criteria expressed by thresholds and objectives.</p> <p>AFOTEC provides feedback to ensure the capability requirements reflect the needed operational capabilities. These capability requirements must be complete, operationally relevant, and testable. Feedback discovered during test planning activities including any conducted OA to determine progress towards capability performance is provided. Initial test design and plans, to include TEMP Part III inputs, are developed using the CPD.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Concept of Operations (CONOPS) (User) AFI 63-101, AFI 99-103 MS C minus 12 mos</p>	<p>The user develops a system CONOPS (aka. Enabling Concept) detailing the user/operator’s concept for operations, maintenance and training associated with employing the system.</p> <p>AFOTEC ensures the system CONOPS is reflected in the OT&E and integrated test strategies and planning, to include OT&E documents, so that the OT&E of the system is executed as the user/operator plans to employ the system in mission operations. System CONOPS may negate the need for certain threat/range testing previously planned.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Modeling and Simulation Support Plan Update (MSSP) (SPO) AFI 16-1002 MS C minus 6 mos</p>	<p>This document provides AFOTEC updated: 1) Information on the integrated use of M&S within program planning activities and across functional disciplines, 2) opportunity to review M&S requirements and development (or use) strategy, and 3) opportunity to review and participate in planned M&S verification and validation activities.</p> <p>AFOTEC uses the verification and validation plans and resulting information developed for the planned models and simulations to produce an independent accreditation plan and report.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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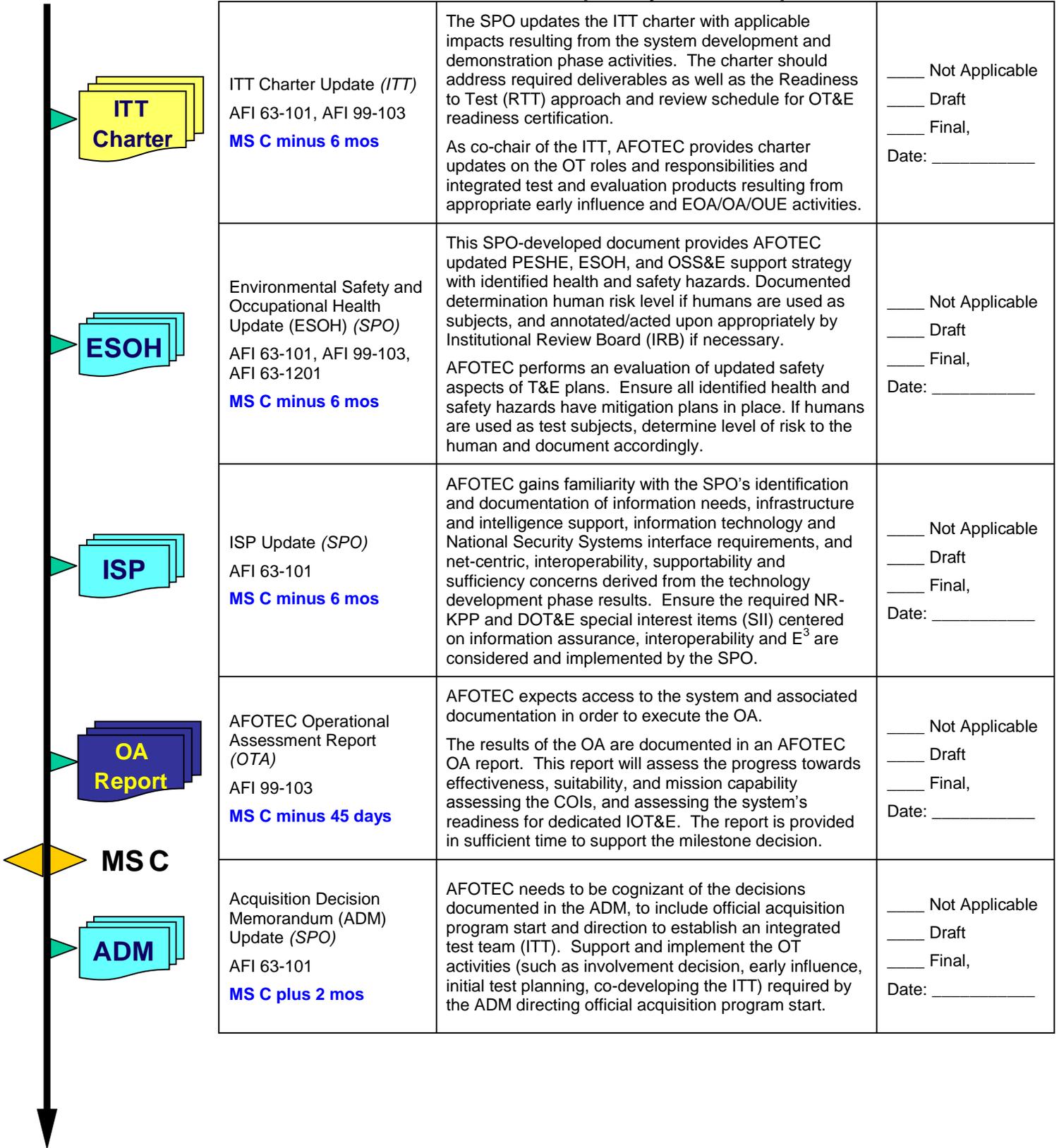
<p>LCMP Update (SPO) AFI 63-101, AFI 99-103 MS C minus 6 mos</p>	<p>This document provides 1) updated information on the integrated acquisition and sustainment strategy for the life of the proposed material solution, and 2) opportunity to review the required T&E summary (or TEMP level of information if TEMP is not expected to be required).</p> <p>AFOTEC review and provides input for OT-relevant considerations. Review and input on the required T&E summary information from the OT and integrated test and evaluation perspectives (TEMP like information if TEMP is not expected to be required).</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>OT&E Operational Assessment (OA) Plan (OTA) AFI 99-103 MS C minus 6 mos</p>	<p>AFOTEC requires sufficient programmatic information to develop the OT&E OA Plan. This information will include: operational capability requirements, acquisition strategy, developmental test activities, and concept of operations.</p> <p>This is an AFOTEC-produced document outlining the OTA's plan for assessing the progress toward the effectiveness and suitability of the system being acquired as well as assessing the readiness of the system for the planned IOT&E.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>AoA Update (if applicable) (User) AFI 10-601 MS C minus 6 mos</p>	<p>Provide AFOTEC updates to the AoA as a result of activities from the system development and demonstration phase, if applicable.</p> <p>AFOTEC provides inputs to the updated AoA, including updated OT&E construct, which includes COIs, measures of operational effectiveness/ suitability and associated criteria, resulting from appropriate early influence and EOA/OA/OUE activities.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>TEMP Update (SPO/RTO/OTA) AFI 63-101, AFI 99-103 MS C minus 6 mos</p>	<p>The SPO, using the ITT and starting with the TES, updates the TEMP by recording: the critical technical parameters; integrated master test schedule (to include but not limited to acquisition milestones, development schedule, integrated test and evaluation and OT activities); T&E management responsibilities; detailed DT strategy and objectives; dedicated OT&E readiness entrance and exit criteria; and final T&E resources.</p> <p>AFOTEC provides input to Part III Test and Evaluation Strategy. AFOTEC develops OT&E details based on the CDD, employment and support concepts, and threats, which include: 1) COIs; 2) TEMP measure summary reflecting the CDD; 3) OT&E events with configuration description, objectives, scenarios, scope, methodology, integrated test and evaluation opportunities, and limitations; and 4) entrance criteria for starting dedicated IOT&E. AFOTEC provides input to Part IV OT&E resources include funding, manpower, and test articles/ capabilities, including modeling and simulation.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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<p>ITT Charter Update (<i>ITT</i>) AFI 63-101, AFI 99-103 MS C minus 6 mos</p>	<p>The SPO updates the ITT charter with applicable impacts resulting from the system development and demonstration phase activities. The charter should address required deliverables as well as the Readiness to Test (RTT) approach and review schedule for OT&E readiness certification.</p> <p>As co-chair of the ITT, AFOTEC provides charter updates on the OT roles and responsibilities and integrated test and evaluation products resulting from appropriate early influence and EOA/OA/OUE activities.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Environmental Safety and Occupational Health Update (ESOH) (<i>SPO</i>) AFI 63-101, AFI 99-103, AFI 63-1201 MS C minus 6 mos</p>	<p>This SPO-developed document provides AFOTEC updated PESHE, ESOH, and OSS&E support strategy with identified health and safety hazards. Documented determination human risk level if humans are used as subjects, and annotated/acted upon appropriately by Institutional Review Board (IRB) if necessary.</p> <p>AFOTEC performs an evaluation of updated safety aspects of T&E plans. Ensure all identified health and safety hazards have mitigation plans in place. If humans are used as test subjects, determine level of risk to the human and document accordingly.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>ISP Update (<i>SPO</i>) AFI 63-101 MS C minus 6 mos</p>	<p>AFOTEC gains familiarity with the SPO's identification and documentation of information needs, infrastructure and intelligence support, information technology and National Security Systems interface requirements, and net-centric, interoperability, supportability and sufficiency concerns derived from the technology development phase results. Ensure the required NR-KPP and DOT&E special interest items (SI) centered on information assurance, interoperability and E³ are considered and implemented by the SPO.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>AFOTEC Operational Assessment Report (<i>OTA</i>) AFI 99-103 MS C minus 45 days</p>	<p>AFOTEC expects access to the system and associated documentation in order to execute the OA.</p> <p>The results of the OA are documented in an AFOTEC OA report. This report will assess the progress towards effectiveness, suitability, and mission capability assessing the COIs, and assessing the system's readiness for dedicated IOT&E. The report is provided in sufficient time to support the milestone decision.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
<p>Acquisition Decision Memorandum (ADM) Update (<i>SPO</i>) AFI 63-101 MS C plus 2 mos</p>	<p>AFOTEC needs to be cognizant of the decisions documented in the ADM, to include official acquisition program start and direction to establish an integrated test team (ITT). Support and implement the OT activities (such as involvement decision, early influence, initial test planning, co-developing the ITT) required by the ADM directing official acquisition program start.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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Table 3. The Air Force Capability-Based Acquisition Process

 <p>Test Concept Briefing DoDI 5000.02 IOT&E minus 6 mos</p>	<p>DOT&E requires a test concept briefing for oversight programs at least 180 days prior to test start. The tasking order for the program directs when the test concept is expected to be briefed. Depending on the complexity and duration of the program, the test concept may be briefed once or there may be several phases to the test concept briefings.</p> <p>The purpose of presenting the test concept is to introduce the test team's executable approach for testing the system.</p> <p>AFOTEC/CC approves all test concept briefings.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Initial OT&E Test Plan (OTA) AFI 99-103 IOT&E minus 60 days</p>	<p>AFOTEC requires sufficient programmatic information to develop the OT&E Test Plan. This information will include: operational capability requirements, acquisition strategy, developmental test activities, and concept of operations.</p> <p>This is an AFOTEC-produced document outlining the OTA's plan for determining the effectiveness and suitability of the system being acquired. The plan will contain Integrated Test events.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Environmental Safety and Occupational Health Update (ESOH) (SPO) AFI 63-101, AFI 99-103, AFI 63-1201 IOT&E minus 30 days</p>	<p>The SPO provides AFOTEC: 1) Safety Release to testers prior to any test using personnel. 2) Final ESOH evaluations of the system. 3) Human Use Protocol and final human risk level annotated/acted upon appropriately by Institutional Review Board (IRB) if humans are used as subjects.</p> <p>AFOTEC performs a final evaluation of the safety aspects of T&E plans prior to IOT&E. Ensure all identified health and safety hazards have been mitigated and accepted at the appropriate Risk Authority level. If humans are used as test subjects, evaluate validity of IRB protocols for IOT&E.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Operational Test Readiness Review (OTRR) AFI 99-103, AFMAN 63-119 IOT&E start minus 45 days</p>	<p>SPO briefs the PEO for certification of system readiness for dedicated operational testing based on DT results, assessment of the system's critical technical parameters performance, analysis of identified technical risk and resolution during DT, and a review of OT&E entrance criteria.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>
 <p>Operational Test Readiness Certification Letter (following AFMAN 63-119 templates) (PEO) AFI 99-103, AFMAN 63-119 IOT&E start minus 15 days</p>	<p>The SPO provides a certification readiness memo from the system program's PEO (or designated OT&E Certification Official), sent to the AFOTEC commander approximately 15 days prior to start of dedicated IOT&E, or as agreed.</p> <p>The AFOTEC commander will acknowledge the certification before starting dedicated IOT&E and either concur or non-concur with the OT&E Certification Official's assessment, restating any reservations or positions on unresolved issues.</p>	<p>___ Not Applicable ___ Draft ___ Final, Date: _____</p>

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 OT&E Final Report (OTA) AFI 99-103 FRP minus 45 days	AFOTEC expects a fully production representative system to be delivered to execute the dedicated OT&E. Representative system users and maintainers are also required to execute the OT&E. The results of the OT&E are documented in an AFOTEC final report. This report will make a determination of effectiveness and suitability, rate the COIs, and determine the overall mission capability of the system. Any limitations/shortfalls encountered during test are documented, along with any impacts observed/expected in the operational environment.	___ Not Applicable ___ Draft ___ Final, Date: _____
 TEMP Update (SPO/RTO/OTA/ MAJCOM OT) AFI 63-101, AFI 99-103 FRP minus 45 days	The SPO, using the ITT, updates the TEMP by recording: the critical technical parameters; integrated master test schedule (to include but not limited to acquisition milestones, development schedule, integrated test and evaluation and OT activities); T&E management responsibilities; detailed DT strategy and objectives; dedicated OT&E readiness entrance and exit criteria; and final T&E resources. AFOTEC provides an updated input, using appropriate IOT&E findings to Part III Test and Evaluation Strategy. The OT&E details are based on initial test design and planning which include 1) COIs; 2) measures/identified standards and associated criteria reflecting the CPD; 3) OT&E events with configuration description, objectives, scenarios, scope, methodology, integrated test and evaluation opportunities, and limitations; 4) entrance criteria for starting dedicated IOT&E. Part IV OT&E resources include funding, manpower and test articles and capabilities. If there are any changes to threat and range limitations, detail them in the TEMP update.	___ Not Applicable ___ Draft ___ Final, Date: _____

 **FRP/IOC/
Fielding**

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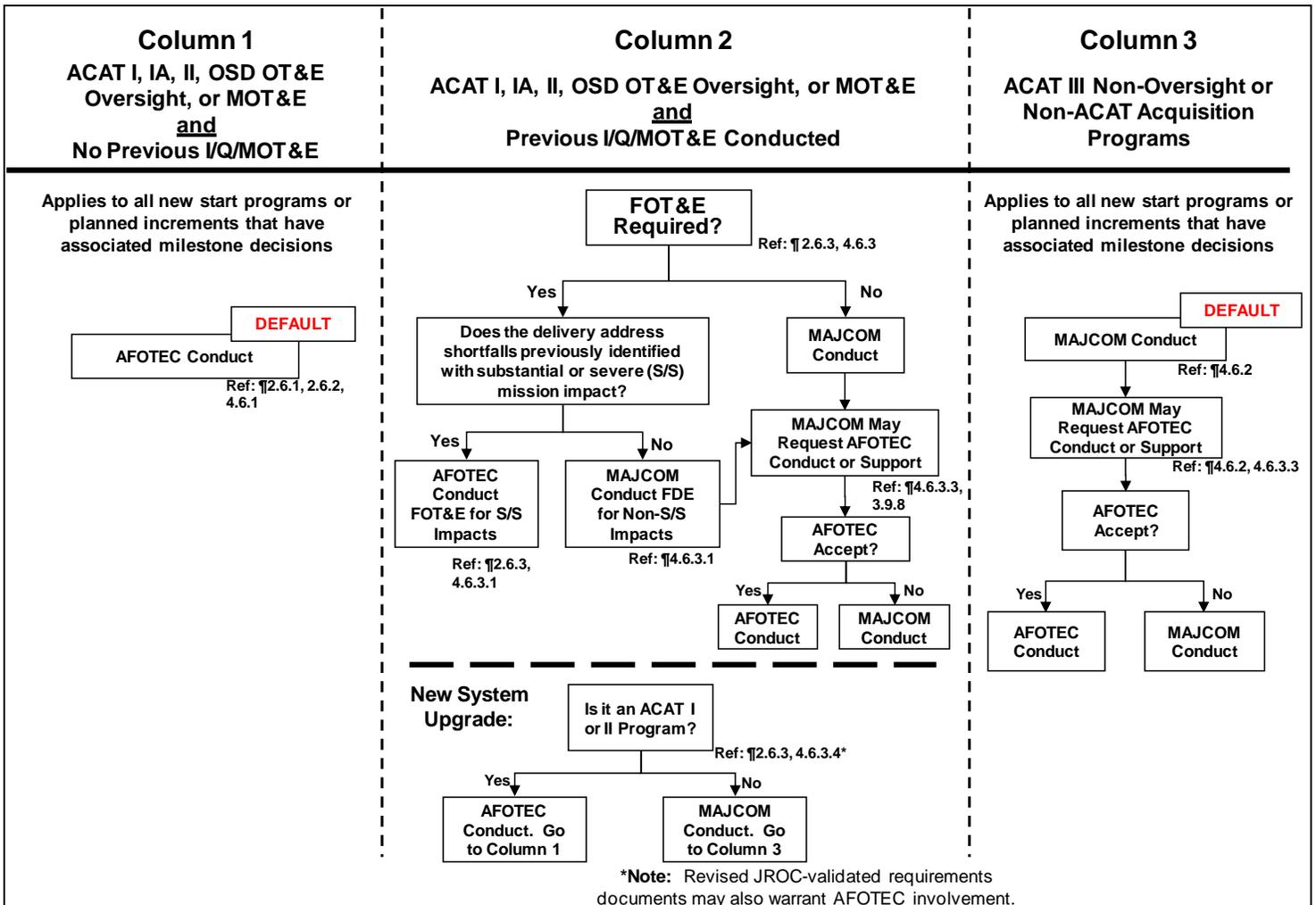
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Summary

Integration of the acquisition, requirements, and test process is essential. Without an integrated test and evaluation approach the potential exists for wasted time, money, and expertise. An acquisition program needs to involve both the developmental and operational testers from the outset. Figure 2 will help a program manager determine who to contact for determining the lead operational test organization for the program. The process shown in this figure is dependent on knowing the acquisition category for the program, the oversight status of the program, whether or not the program is a multiservice program, as well as if IOT&E has previously been conducted.

Figure 2. Determining the Operational Test Organization



* References in this figure refer to AFI 99-103, *Capabilities-Based Test and Evaluation*, 26 Feb 08, Change 2 20 Mar 09