BY ORDER OF THE COMMANDER
AIR FORCE SPACE COMMAND

AIR FORCE SPACE COMMAND
INSTRUCTION 99-103

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Test and Evaluation

CAPABILITIES-BASED TEST AND EVALUATION OF SPACE AND CYBERSPACE SYSTEMS

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This instruction implements Department of Defense (DoD) Directive (DoDD) 5000.01, *The Defense Acquisition System*; DoD Instruction (DoDI) 5000.02, *Operation of the Defense Acquisition System;* Air Force Policy Directive (AFPD) 99-1, *Test and Evaluation Process*; and Air Force Instruction (AFI) 99-103, *Capabilities Based Test and Evaluation*. Air Force Space Command (AFSPC) Instruction (AFSPCI) 99-103 establishes procedures and guidance for conducting Test and Evaluation (T&E) within AFSPC. AFSPCI 99-103 focuses on the AFSPC T&E processes, including the identification, assessment, assignment, planning, execution and reporting of test activities. This AFSPCI **must** be used in conjunction with AFI 10-601, *Capabilities Based Requirements Development;* AFI 63-101, *Operations of Capabilities Based Acquisition System;* AFSPCI 63-104, *Modifications to Systems and Implementation Approval Process*, DoDD 8115.01, *Information Technology Portfolio Management*, AFI 33-210 Air Force *Certification and Accreditation (C&A) Program (AFCAP), and* AFI 33-141, *Air Force Information Technology Portfolio Management and Information Technology (IT) Investment Review*. For recommended, non-mandatory guidance, use the *Defense Acquisition Guidebook.* This instruction assigns responsibilities to AFSPC organizations that participate in T&E and applies to Headquarters (HQ) AFSPC, subordinate units and external agencies that require the use of AFSPC test or operational assets for T&E. This instruction applies to Air Force Reserve Command (AFRC) units and to Air National Guard (ANG) units performing AFSPC operations missions and AFSPC operational tests. This AFSPCI affects all future procurements, systems in acquisition and any future changes/modifications to existing systems to include Advanced Concept Technology Demonstrations (ACTD), Joint Urgent Operational Needs (JUON) and Urgent Operational Needs (UON). This instruction does not constitute authority to direct contract modifications. All direction to contractors and any contract modifications must be made

by the cognizant, warranted, contracting officer. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/cfm**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847s from the field through the appropriate functional's chain of command. See Attachment 1 for a glossary of references and supporting information.

SUMMARY OF CHANGES

This is the second publication of AFSPCI 99-103. **The guidance in this document substantially revises previous direction; therefore this new document must be completely reviewed.** New guidance addresses AFSPC-specific processes for the following: requirements for integrated test planning; early tester involvement; test prioritization process; formation of Integrated Test Teams (ITT); and tester roles in the requirements development process. The method for requesting and tasking AFSPC test assets has been substantially changed. Test and Evaluation Master Plans (TEMP), Life Cycle Management Plans (LCMP), ITT charters and test report format, content, coordination and approval requirements are being modified to align with current AF requirements and standardized for both Cyberspace and Space applications. Test Readiness Review Board (TRRB) and Detailed Test Plan approval and coordination is assigned in accordance with (IAW) decisions supported or risk acceptance levels. Director of Developmental Test and Evaluation was established in Public Law 111-23-S. 454 Chapter 4 of Title 10, United States Code enacted 22 May 2009. Additionally, the transition of the Intercontinental Ballistic Missile (ICBM) mission to Air Force Global Strike Command and the incorporation of the cyberspace mission into AFSPC have created the need for responsibilities to be modified or deleted as applicable and new concepts specific to cyberspace testing to be addressed.

Chapter 1

VISION AND IMPLEMENTATION CONCEPTS

1.1. AFSPC Approach to Test and Evaluation (T&E). Collaboration and Early Tester Involvement: These two concepts are the cornerstones to achieving "Capabilities Based T&E" for Space and Cyberspace Systems. Even before an Integrated Test Team (ITT) is formed, testers should be involved early on in all acquisition and sustainment programs or projects to infuse testability and operational realism into requirements development while ensuring test assets and resources will be available to evaluate the potential capability. This includes commercial off-the-shelf (COTS) software and hardware, Government off-the-shelf (GOTS), non-developmental items (NDI), potential form-fit-function-interface changes, modifications, field service evaluations, shelf life evaluations, source qualifications, and acceptance tests. To the greatest extent possible Operational Test and Evaluation (OT&E) organizations will become actively involved early on in any program or project in order to leverage Developmental Test and Evaluation (DT&E) activities for any future dedicated OT&E effort. ITTs are critical to the AFSPC approach to test. They are cross-functional teams of empowered representatives from multiple disciplines and organizations, co-chaired by operational testers and program management representatives. Through early involvement, ITT coordination and an integrated test strategy, the operational test (OT) organization and end user will benefit from reduced costs and more timely and relevant acquisition decisions. In accordance with AFSPCI 10-604, *Space Operations Weapon System Management*, the policy of AFSPC is to make operational use of new and modified systems at the earliest possible time, in order to maximize their military utility and the return on our national investment. AFSPC T&E processes include: identification, assessment, assignment, planning, execution and reporting of test activities. Additionally, testers must be knowledgeable of capability gaps, which are identified via involvement with USAF/A5R's capabilities requirements process as outlined in AFI 10-601, *Capabilities Based Requirements Development*, and participation on their High Performance Teams (HPT).

1.2. Scope. This instruction provides policy and guidance to AFSPC units conducting or supporting DT&E and/or OT&E of space and cyberspace systems or providing test expertise to related activities. **Unless required for clarity, this instruction will not repeat guidance found in the governing instructions listed above.** The processes described herein are linked to acquisition or modification processes; therefore, this instruction must be used in conjunction with instructions governing those processes. This instruction does not cover programs exempted from AFI 99-103 nor activities governed by DoDD 3200.11, *Major Range and Test Facility Base (MRTFB)*, unless those programs themselves are AFSPC activities. Additionally, this instruction does not apply to developmental activities such as Technology Demonstrations, Flight Experiments, or other Research and Development (R&D) activities. Questions on applicability should be directed to HQ AFSPC/A3J (Test and Evaluation (T&E)) Command Lead (CL).

1.3. Approach to Developmental Testing. AFSPC systems are acquired by two Product Centers: the Space and Missile Systems Center (SMC) and the Electronic Systems Center (ESC). The SMC Commander (SMC/CC) is the AF Program Executive Officer (PEO) for Space and the ESC/CC is the AF PEO for Command and Control & Combat Support Systems (AFPEO/C2 & CS). AFSPC Cyberspace products are managed within ESC by the PEO for Cyber and Netcentric programs. As such, these PEOs have acquisition responsibility to include directing

DT&E and facilitating integrated testing. DT&E is conducted throughout the acquisition and sustainment processes to assist in engineering design and development, and to verify that Critical Technical Parameters (CTP) have been achieved. DT&E supports the acquisition of materiel or operational capabilities before Full-Rate Production (FRP) or fielding decisions. After FRP or fielding, DT&E supports the sustainment of systems to extend their useful life, performance, and capabilities. Where mission capability testing is not feasible or practical, an exceptions risk analysis will be performed to identify potential critical flaw escape paths and alternative methods of risk mitigation. AFSPC also relies on Air Force Material Command (AFMC),e.g., 850 ELSG, for developmental and sustainment DT&E support for those systems that fall within PEO Space portfolio and those select systems that fall under AFPEO/C2 & CS (e.g., Space Telemetry, Tracking and Control (TT&C), space crypto). Inter-command Memorandum of Agreements (MOA) exist detailing agreed upon support issues and procedures for these systems.

1.4. AFSPC Approach to Operational Testing and Evaluation. HQ AFSPC's T&E CL is HQ AFSPC/A3J. AFSPC Operational testing and evaluation is defined as any test or test support activity conducted by an Operational Test Organization (OTO), i.e., 346th Test Squadron (346 TS), 17th Test Squadron (17 TS), or14th Test Squadron (14 TS). OTO testing may also be used to assess and report on a system's maturity and potential to meet operational requirements. Military Utility Assessments (MUA) and any other assessment activities other than those described in this instruction and AFI 99-103 are not operational test activities and cannot be used as sole support for fielding, operational acceptance, early operational use, trial period entry or FRP decisions. Operational testing must represent how a system will perform in its intended operational environment. During an extended acquisition process, changes to a system's operational environment (e.g., threats, Concept of Operations [CONOPS], operational needs) may require operational testers to evaluate a system in a way that is not compatible with its Acquisition Program Baseline (APB) or contractual specifications. This can be seen in systems in which fiscal and/or schedule constraints prevent developers from keeping pace with the changing operational environment. Nonetheless, AFSPC operational testers must evaluate systems against the most current, valid operational requirements regardless of contractual specifications or baselines. The operational testers will highlight where operational demands deviate from APB or contractual specification to mitigate negative perceptions of a system required to operate in a manner in which it was not designed or intended. Additionally, the operational testers will base their fielding, operational acceptance, early operational use, or trial period entry recommendation on the totality of information gained during test and not simply on the answers to Critical Operational Issues (COIs).

1.5. DoDI 5000. 02, Operation of the Defense Acquisition System. Space and Cyberspace acquisitions will follow DoDI 5000.02. T&E activities must be tailored to the specific process milestone requirements dictated by the applicable policy, but are very similar in all other respects. This instruction will provide guidance on how AFSPC T&E organizations will support the development and maintenance of specific test-related documentation, but will defer to DoDI 5000.02 to specify when and for what specific purpose those documents are required.

1.6. Cross-command and Multi-service Cooperation. AFMC or Air Force Operational Test and Evaluation Center (AFOTEC) units may conduct Space and Cyberspace test activities, but AFSPC must ensure T&E continuity throughout the life of a program through liaison offices and early involvement activities. Multi-service or cross-domain programs may involve test agencies from other services. The processes outlined in this instruction rely on mutual support between

commands/services and clear understanding of what each pledges to the T&E effort. The ITT is a critical link in ensuring proper and effective communication among the involved organizations. The ITT Charter will document the lead AF/service OT&E and DT&E test organizations, specific roles and responsibilities of its members, governing T&E guidance and support agreements according to AFI 99-103.

1.7. Office of the Secretary of Defense (OSD) T&E Oversight List. OSD/Director of Operational Test & Evaluation (DOT&E) and the Director, Developmental Test and Evaluation (DDT&E) maintain a list of major programs that have congressional or other high-level interest. OSD may become involved in the test process, test plan development, and test execution and may require special briefings. Consequently, those programs will be identified on the Test Priority List (TPL) and their special requirements identified early on. All reports and briefings for those programs for which AFOTEC is determined to not be involved are the responsibility of AFSPC OTOs and will be coordinated through HQ AFSPC. All test briefings going to HQ United States Air Force (USAF) and OSD will be coordinated through HQ USAF Test and Evaluation Policy and Programs Division (HQ USAF/TEP).

1.7.1. For those oversight programs that AFSPC test agencies are responsible for testing, direct communication with OSD action officers by the ITT is authorized to determine OSD/DOT&E and DDT&E involvement, testing and reporting requirements.

1.7.2. Where OSD action officers decline participation in test planning or the T&E stakeholders are unable to make a determination as to OSD involvement or requirements, AFSPC test agencies will elevate their concerns through the T&E CL to HQ USAF/TEP for adjudication and resolution.

1.8. Office of the Secretary of Defense for Developmental Test and Evaluation (DDT&E). The mission of the DDT&E is to ensure that DT&E is effectively addressed throughout the entire acquisition life cycle. DDT&E has responsibilities in the areas of policy and guidance, program oversight, T&E workforce, and program development including the review and approval of Test and Evaluation Strategies (TES) and Test and Evaluation Master Plans (TEMP) for all Major Defense Acquisition Programs. In order to achieve technical results earlier, DDT&E requires participation in the Analysis of Alternatives (AoA) and Source Selection processes. The DDT&E works in coordination with the DOT&E to coordinate the integration of DT&E with OT&E.

1.9. Test Infrastructure and Resource Planning. AFSPC organizations managing or supporting DT&E or OT&E activities shall identify prior to Critical Design Review (CDR), or as early as possible, test requirement gaps based on expected capability development initiatives. Resources required to fill these gaps shall be planned and secured by HQ AFSPC IAW AFI 99-109, *Major Range and Test Facility Base (MRTFB) Test and Evaluation Resource Planning* and AFSPCI 10-1203, *Space Range Review Board (SRRB).*

1.10. Integrated Tactical Warning and Attack Assessment (ITW/AA) Testing. The North American Aerospace Defense Command Instruction (NI) 10-3, *Mission Integrity, Change Control Management, and Test Control for the Integrated Tactical Warning and Attack Assessment (ITW/AA) System*, and USSTRATCOM Instruction (SI) 508-10, *Mission Integrity, Change Control Management, and Test Control for the ITW/AA System* governs the control and conduct of test and exercise activities involving organizations that are part of, or interface with the ITW/AA system. For further guidance, testers using or interacting with ITW/AA systems

will reference NI 10-3 and SI 508-10. The Test Control Mission is assigned to the 721st Mission Support Group which is the final authority for possible compromise of ITW/AA systems, potential operations impacts and any other safety issues during the scheduling, conduct and control of all tests.

1.11. T&E Funding Sources. The funding sources for T&E depend upon the nature and purpose of the work and type of testing. Test agencies are referred to DoD 7000.14-R, *Financial Management Regulation,* Vol 2A, Chapter 1; AFI 65-601 Vol 1, *Budget Guidance and Procedures,* Chapter 14; and AFI 99-109, *MRTFB Test & Evaluation Resource Planning,* for explicit guidance.

1.11.1. Services or agencies requesting AFSPC operational test support or expenditure of test assets will be required to provide funding commensurate with test support requested IAW the Economy Act or other authorizing legislation. Funding source, specific fund site(s) and organizational financial point of contact information, must be included with test requests submitted to HQ AFSPC/A3JO.

1.11.2. 24 AF shall provide funding to the 346 TS for support of test and assessment of Real-time Operations and Innovation capabilities.

1.12. Counterspace Testing. For all counterspace testing activities, the Lead Test Organization (LTO) will ensure all test activities comply with AFSPCI 10-211, ***Counterspace Activity Approval Package***.

1.13. Cyberspace Real-time Operations and Innovation Testing. "Cyberspace Real-time Operations and Innovations" is defined as the tools and tactics generated in response to 1) critical Category 1 through 8 intrusion incidents (as outlined in the Chairman of the Joint Chief of Staff Manual 6510-01A. *Information Assurance (IA And Computer Network Defense (CND) Volume I (Incident Handling Program*) as determined by 24 AF; 2) discovered critical vulnerabilities not currently mitigated within the AF Enterprise network; and 3) critical joint cyberspace needs which 24 AF has been tasked to fulfill. In instances in which it is necessary to meet real time operational needs the associated testing will be equally responsive via delegation of risk acceptance to 24 AF Commander. This instruction is meant to cover these real-time operations and innovation test planning, processes and procedures in addition to rapid and foundational testing. If a specific T&E requirement does not fall precisely into one of the types of testing or processes described in this instruction, consult with the T&E CL to select and tailor the type of testing that best fits the need.

1.14. Annual Blanket Test Request and Order. If an organization anticipates numerous similar-type, short duration, and limited scope test supporting taskings, one Test Asset Support Request form may be submitted to cover all such events. These blanket test requests and task orders are not the norm, and will be considered on a case by case basis. In the blanket test request, all test support and test execution activities that will be accomplished under the authority of that test request will be stipulated. Once a HQ AFSPC/A3 tasking order number has been issued to execute, the blanket task order will provide the test squadron with the ability to support and/or execute evaluations of related systems, concepts, and tactics, techniques, and procedures.

1.14.1. Testing in response to a Joint Urgent Operational Need (JUON)/Urgent Operational Need (UON) is not authorized under a blanket test request and order, and will require separate request and tasking.

1.14.2. Currently, expected Blanket Test Requests and Orders consist of Emissions Security (EMSEC), Unified Capabilities, Rapid Assessment Team and cyberspace real-time innovations and operations testing.

Chapter 2

KEY TERMS AND CONCEPTS

2.1. Capabilities-Based Testing. The capabilities-based approach refers to a linking of T&E objectives, measures and issues to operational enabling concepts. It does not mean T&E will discourage the use of criteria in testing. Early tester involvement in the requirements development process is intended to facilitate the development of operationally meaningful criteria for use in T&E. While DT&E may continue to use a building block approach to technology development that will lead to operationally useful effects, testers must ensure their integrated strategy supports operationally relevant requirements.

2.2. Integrated Testing. Integrated testing is meant to convey an increased emphasis on a planned, concerted effort by operational and developmental testers, including both government and contractors, to structure all T&E as an efficient continuum spanning the entire program life cycle. The goals are to reduce risks, identify deficiencies, support decision makers, reduce time and cost and increase efficiency. It highlights the need to reduce the redundancies, missed opportunities and unnecessary risks incurred when T&E is approached through separate and independent DT&E, OT&E and contractor test strategies. It does not mean DT&E, dedicated OT&E or contractor testing will disappear. For some programs and projects, the traditional approach to testing may be the most effective, but programs and projects will make every attempt to build a strategy for an integrated testing and independent evaluation that exploits opportunities provided by sharing information and collaborating at all levels. For instance, OT&E input into DT&E designs may result in reaching operational conclusions earlier in development and shortening dedicated OT&E periods. Integrated test planning is accomplished by an ITT (or equivalent) and documented in an Integrated Test Concept (ITC) and the TEMP. It is incumbent upon the ITT to leverage all planned DT&E efforts for potential OT&E applicability.

2.3. Tester Collaboration. One of the keys to maximizing the benefits of integrated testing is the early and continued involvement of all testers in the requirements definition and acquisition processes. Throughout this document, the term "testers" will refer to a collaborative effort of developmental (contractor or government) and operational testers. If a specific test specialty is called for, the instruction will note the exception. Early tester involvement in requirements definition ensures operational requirements are testable in an operationally realistic environment and allows for meaningful test measures and criteria development. Early tester collaboration facilitates the development of a single integrated test strategy that incorporates DT&E and OT&E requirements/objectives. Tester collaboration and the creation of an integrated strategy serves to: increase the linkage between DT&E and OT&E measures; increase the likelihood that test events and data collected during development can be used to provide early insight to system effectiveness and suitability; and potentially shortens dedicated OT&E.

2.4. Test Priority List. The TPL is a comprehensive, prioritized list of all HQ AFSPC approved operational and integrated test asset support activities (to include requests for Sufficiency of Operational Test Reviews (SOTR) or Capabilities and Limitations (C&L) Reports) conducted by AFSPC test assets. The TPL sets the relative priority of projects for AFSPC operational test organizations and serves as a guide for allocating resources (e.g., scheduling and personnel). The TPL is managed by the T&E CL on behalf of the HQ

AFSPC/A3. It contains a prioritized listing of all AFSPC operational tests and integrated test events in the planning, execution, or reporting phase, as well as all test asset support activities and OTO early influence activities. These test events are identified during an annual test call and then appropriately prioritized. Test events that are not identified during the annual test call will be recognized as out-of-cycle and will be exposed to the same rigor with respect to prioritization and adjudication as those identified during the annual test call prior to being placed on the TPL. The approved and published TPL will contain all applicable information as identified by the T&E community in order to clearly describe AFSPC resource allocation and utilization.

2.4.1. Test Priority List Process. The TPL is the mechanism by which the HQ AFSPC T&E CL manages operational test asset support. Once the T&E CL has included a test asset support activity on the published TPL, the Space Innovation and Development Center (SIDC), or 688th Information Operations Wing (IOW) as appropriate will ensure that the proper test organization is tasked to support that activity. SIDC and 688 IOW will deconflict the use of test resources (test units, test infrastructure, etc.) and ensure HQ AFSPC test priorities are not impacted by internal organization test requirements. HQ AFSPC/A3 or designee will serve as the final adjudicator in those cases in which test resource deconfliction cannot be achieved at the unit level. The TPL process involves five distinct phases: Test Call, Test Resource Evaluation, Prioritization, Executability and Publication.

2.4.1.1. Test Call. During October each year, the T&E CL will disseminate a test call memorandum to all HQ AFSPC/A2/A3/A4/A5/A6/A7/A8 divisions, AFSPC Numbered Air Forces (NAF) and wings, United States Air Force Warfare Center (USAFWC), AFOTEC and other Major Command (MAJCOM) test and product centers. This test call will request that space or cyberspace systems, programs, projects and any external organizations requiring AFSPC test asset support within the next fiscal year will respond to the test call with a Test Asset Support Request sent to the T&E CL. These Test Asset Support Requests will then be screened and forwarded to the appropriate wing or center.

2.4.1.2. Test Asset Support Requests. Requests for AFSPC test support will be made as soon as a support requirement is identified or anticipated in coordination with the applicable Capability Command Lead (CCL)/ITT. Test Asset Support Requests are a formal request for operational test asset support. Test Asset Support Request forms must be completed to the best ability of the requestor given the maturity of the system and must be signed by an O-5 or equivalent before being forwarded to the T&E CL. To adequately portray the AFSPC operational test squadron tempo, SIDC and 688 IOW will provide one standing request a year at the annual test call to annotate the prioritized list for use of AFSPC operational test assets for internal real-time operations and innovation activities. Internal taskings must be placed on the TPL for HQ AFSPC/A3 visibility into resource availability. The Test Asset Support Request form can be found on the HQ AFSPC/A3JO portal (**https://www.my.af.mil/afknprod/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-TE-SP-15-9&Filter=OO-TE-SP-15**) or requested through the HQ AFSPC/A3JO workflow email (**a3to.wf@peterson.af.mil**).

2.4.1.2.1. Requests must include the desired supported decision date (i.e. decisions that support fielding, operational acceptance, early operational use, trial period entry, or FRP decision).

2.4.1.3. Resource Evaluation. The resource evaluation phase of the TPL process is defined as the response from the SIDC or 688 IOW to Test Asset Support Requests. Following appropriate initial system discovery and coordination with the requestor, test support responses will describe the system under test as well as provide the initial estimate of required resources (in terms of both funding and manpower). It must be understood these early resource estimates may change as all involved parties refine their knowledge of test requirements leading up to test execution. Test asset support responses are developed by the SIDC and 688 IOW and forwarded to the T&E CL within 45 days of receipt of test requests generated from the annual test call or an out-of-cycle test request.

2.4.1.4. Prioritization. Upon receipt of all test execution and support requirements, HQ AFSPC/A3JO will compile the T&E candidate list, and begin to populate the TPL scoring matrices. HQ AFSPC/A3JO will coordinate the proposed Fiscal Year (FY) test listing with the appropriate HQ AFSPC divisions and organizations. After completing their review, the applicable HQ AFSPC organizations will use the proposed FY test listing in their preparation for the January program review and prioritization scoring by the 3-Letter Test Prioritization Board. Following the 3-Letter board, the draft TPL will be sent to 2-Letter coordination to finalize Command test priorities.

2.4.1.4.1. Operational Test Coordination Meeting. HQ USAF/TEP will chair an AFOTEC-MAJCOM operational test coordination meeting prior to annual POM development and submission to establish clear resourcing responsibilities. In order to facilitate this discussion, the prioritized list of AFSPC test requirements for the proposed FY should be made available at this meeting.

2.4.1.5. Executability. Following prioritization, the resulting list of tests are forwarded by the T&E CL to the appropriate wing or center so that a determination can be made based on manning and available resources of how many of the tests can be executed for the fiscal year in question. This step will highlight those tests that will be executed for the fiscal year and those that may have to be held over until the next year or mitigated in some other fashion.

2.4.1.6. Publication. Once the prioritized list of tests has been reviewed for executability, HQ AFSPC/A3 will sign and publish the official list of executable tests for that year which includes task order numbers for all applicable tests. The TPL will be published on the HQ AFSPC/A3JO SIPR SharePoint site or may be requested via email to the HQ AFSPC/A3JO workflow (**a3to.wf@peterson.af.mil**). Once added to the TPL with an associated task order number, SIDC or 688 IOW as appropriate will task the proper test organization to support the new activity. Funding and/or a written commitment for funding as well as a list of testable requirements is required and must be provided to the test organization before task order numbers will be assigned on the TPL. Exceptions to this funding and requirements condition prior to receipt of a task order will be evaluated by the T&E CL on a case-by-case basis. Approved tests and test asset support activities will remain on the TPL until all test efforts are complete or at the direction of the T&E CL. Originating test asset support requestors may request removal of TPL activities via official memorandum signed by an O-5 or equivalent from the Program Office/Developer and test organization(s). The memorandum must be provided to the T&E CL at the earliest opportunity for approval of the request.

2.4.1.6.1. Due to security constraints, a separate annex to the TPL will be maintained by the T&E CL of all AFSPC approved, special access program operational and integrated tests and test asset support activities.

2.4.1.7. Out-of-Cycle Tests. Out of cycle tests will use the same TPL process as those that are developed through the annual test call. Out-of-Cycle test requestors must submit a Test Asset Support Request to the T&E CL, after which the request will be adjudicated and prioritized using the TPL process before being added to the TPL. Additions to the TPL must be approved by the HQ AFSPC/A3 unless delegated. UON/JUON activities that require test must still use the TPL process; however they will receive expedited adjudication and coordination. UONs and JUONs take precedence and are placed on the TPL immediately upon receipt of a Test Asset Support Request.

2.4.1.8. Urgent requests. Urgent requests must be clearly identified by the requesting organization. T&E CL will authorize, in writing, expedited test asset support as appropriate and, when applicable, identify test asset support taskings as urgent on the TPL.

2.5. Emissions Security (EMSEC). EMSEC program requirements and test roles and responsibilities are described in Air Force Systems Security Instruction (AFSSI) 7700 and 7702, Emissions Security. The 346 TS is the EMSEC / Telecommunications and Electrical Machinery Protected from Emanations Security (TEMPEST) testing organization for the Air Force and is tasked by the Air Force Network Integration Center (AFNIC)/Air Force- Certified TEMPEST Technical Authority (AF-CTTA). However, annual EMSEC activities requested by AFNIC/AF-CTTA will be maintained on the HQ AFSPC TPL for operational tempo situational awareness. AFNIC/AF-CTTA will provide one annual Test Asset Support Request to the T&E CL. Once agreed to and placed on the TPL, AFNIC/AF-CTTA will notify AFSPC/A3J of revisions to the TPL and inclusion of Test Asset Support Requests on the consolidated schedule. AFSPC/A3J will forward these requests to the 346 TS for schedule planning and resource requirements.

2.6. Specialized Tests and Assessments. Specialized tests and assessments for Information Assurance (IA) and Evaluated Level of Assurance (ELA) may support broader OT&E efforts or be conducted as standalone activities, but in either case, they vie for limited testing resources. All IA tests or ELA assessment support activities will be included in the TPL either as separate events or in association with another test activity (e.g., Force Development Evaluation (FDE)). Telecommunication System Security Assessment Program (TSSAP) assessments will also utilize the test request process and be portrayed on the TPL. Activities outside the scope of an OT&E effort will request stand-alone support through the Test Asset Support Request form.

2.7. 346th Test Squadron Range. For the purposes of AFSPCI 99-103, the 346 TS ranges are considered test assets. Organizations wishing to request only 346 TS range time or range assets will utilize the Test Asset Support Request form and forward it to the T&E CL with a courtesy copy to the 346 TS. 346 TS range activities will be prioritized and kept separately from the HQ AFSPC TPL. The range list and schedule will be maintained by 346 TS.

2.8. AFSPC Operational Assets. The definition of an AFSPC operational asset is an AFSPC-assigned space or cyberspace system, individual part of a system, AFSPC personnel or AFSPC-assigned supporting infrastructure whose primary mission is not T&E. Operational asset support is the assistance provided by an AFSPC operational system or unit for a test activity. A space system is a system with a major functional component that operates in the space environment or

which, by convention (e.g., ground-based sensors), is so designated. It usually includes a space element, a link element, and a terrestrial element. However, a space system may also consist of components that travel between space modes: space to ground, ground to space, or ground to ground through space. For the purposes of this instruction, Cheyenne Mountain Complex (CMC) command and control systems linked to more conventional space systems (e.g., Space Based Infrared Sensor (SBIRS)) and acquired, sustained and upgraded by AFSPC are, by convention, AFSPC operational assets. An AFSPC cyberspace system is one assigned to AFSPC and used for the special purpose of defense of the cyber domain, operations of the cyber domain and delivered for use to force providers.

2.9. Fielding Decision Authority. Fielding Decision Authority is defined as the authority to release a system for operational use by units in the field or fleet. A fielding decision is separate from an operational acceptance decision. AFSPCI 10-604 *Space Operations Weapon System Management* and AFSPCI 10-1204, *Satellite Operations*, should be referenced for information relating to operational acceptance decisions of AFSPC systems.

2.9.1. ITW/AA Fielding. NI 10-3 and SI 508-10 define the Operations Approval Board (OAB) and Operations Approval Panels (OAPs) as the decision authorities for configuration changes, communications and interface changes, development approval, trial period entry/exit, and fielding of ITW/AA software, hardware, and firmware. HQ AFSPC/A3 performs the AFSPC operational acceptance for ITW/AA systems per AFSPCI 10-604.

2.10. Sufficiency of Operational Test Reviews (SOTR). SOTRs are a formal type of OT&E and will only be conducted by SIDC or 688 IOW operational testers. SOTRs are used in the absence of any significant dedicated operational testing for systems of limited scope and complexity. SOTRs reduce unnecessary or duplicative OT&E if sufficient DT&E or integrated DT&E/OT&E data exists for a sound decision. They may be used in support of fielding decisions but cannot be the only source of data supporting milestone or acquisition decisions. To accomplish a SOTR, operational testers will conduct a review of all relevant contractor and government test data to determine if sufficient testing has been accomplished to support a fielding, operational acceptance, early operational use or trial period entry recommendation. Appropriate risk assessments must also be complete and reviewed by the applicable safety office. Approval for use of SOTRs as a test strategy must be obtained through coordination with the T&E CL.

2.11. Capability and Limitation (C&L) Report. The purpose of C&L reports is to support early fielding of prototypes or pre-production systems as well as technology transitions and urgent testing (e.g., Urgent Operational Need, Joint Urgent Operational Need) when a complete operational test is not feasible prior to a decision being required. No active testing is associated with a C&L Report. The C&L is only a compilation and organization of all existing and available data sources. The C&L report cannot make fielding, operational acceptance, early operational use, trial period entry or FRP recommendations. Approval for use of C&L Reports must be obtained through coordination with the T&E CL.

2.12. Operational Utility Evaluation (OUE). The OUE may be used in AFSPC to execute flexible OT&E in support of fielding, operational acceptance, early operational use, trial period entry, FRP or acquisition milestone decisions. While the FDE remains a principal type of operational test to supporting fielding, operational acceptance, milestone decisions and other upgrade activities as described in AFI 99-103 Para 2.6.5, the OUE provides a more adaptable test

mechanism when appropriate. The OUE may be used when other test types are not appropriate due to scope and rigor requirements or time limitations and may be used for any system in which a formal FDE is not applicable per AFI 99-103. In addition, OUEs can evaluate military-unique portions and applications of COTS, NDI, and GFE for military use. To maintain flexibility, test products and processes may be tailored to meet OUE objectives. An ITT or equivalent management structure (consisting of at least representation from the Test community, CCL, and Program Manager (PM)) will define test timelines and required products unless otherwise defined or directed in this instruction. Risks must be documented on a Test Execution Risk Matrix (TERM) assessment and is to be reviewed by HQ AFSPC/SE unless delegated.

2.13. Additional types of OT&E. Other types of operational testing, including FDEs, Early Operational Assessments (EOA) and Operational Assessments (OAs) are fully described in AFI 99-103.

2.14. Cyberspace Technology Assessments. These 346 TS assessments provide early operational data and feedback from testing to developers, operators, and decision makers and also support the assessment of new technologies. They are low risk assessments of current or evolving technology. Squadron commander or above will approve the applicable risk assessments. Safety office review and approval for these assessments are at the group level or higher.

2.14.1. The 346 TS's TSSAP is AFSPC's Interoperability and IA test component for supporting the Defense Information Systems Agency (DISA) Approved Products List (APL). All AFSPC units operate under the DISA Distributed Test Concept.

2.15. Certification and Accreditation (C&A). Most space and cyberspace systems are either classified as Information Technology (IT) systems, or contain IT components of systems, and must be certified and accredited IAW AFI 33-210, Air Force Certification and Accreditation (C&A) Program (AFCAP) prior to T&E activities. IT systems requiring C&A must be registered in the Enterprise IT Data Repository (EITDR). Program Managers of IT systems registered in EITDR are responsible for reporting Federal, DoD, and AF compliance areas such as C&A, Clinger-Cohen Act, Privacy Act, IT budget, Records Management, etc.

Chapter 3

ROLES AND RESPONSIBILITIES

3.1. AFSPC/CV:

3.1.1. Act as command focal point with responsibility for all MAJCOM-conducted Space and Cyberspace T&E.

3.2. HQ AFSPC/A3:

3.2.1. Approve and publish the TPL.

3.2.2. Ensure AFSPC executes T&E in accordance with AFI 99-103 and this instruction.

3.2.3. Unless decision authority has been delegated, release OT&E Test Reports resulting from AFSPC OT&E if the report will be distributed to organizations outside of AFSPC and supports fielding, operational acceptance, early operational use, trial period entry, or FRP decisions.

3.2.4. Advocate for and/or fund T&E to include sustainment and infrastructure requirements.

3.2.5. Ensure HQ AFSPC test representation on modification review boards.

3.2.6. Review and coordinate on TESs, ITCs, ITT Charters, TEMPs, and LCMPs that are being used in place of a TEMP as applicable.

3.2.7. Participate in C&A processes as applicable to the respective test effort.

3.2.8. Coordinate AFOTEC non-involvement determinations.

3.2.9. Final decision authority for AFSPC operational testing process and test resource conflict resolution.

3.2.10. Chair HQ AFSPC system Test Readiness Review Boards (TRRB) for high risk OT&E activities, unless HQ AFSPC/A3 has delegated decision authority. All other TRRBs (to include all operational assessment TRRBs) will be chaired by the applicable Group/CC unless delegated**.**

3.2.11. Ensure CONOPS and Operations Concepts are provided to OT&E units in support of test planning activities.

3.2.12. Coordinate with appropriate HQ AFSPC directorates to review and approve T&E policy MOAs between HQ AFSPC/A3 and other MAJCOMs as applicable.

3.3. HQ AFSPC/A4/7:

3.3.1. Ensure the Modification Management Process is adhered to IAW AFSPCI 63-104 *Modifications to Systems and Implementation Approval Process*. Provide guidance on the execution of the USAF Deficiency Reporting Process (Technical Order (TO) 00-35D-54 *USAF Deficiency Reporting and Resolution, Chapter 2), and the Joint Deficiency Reporting System (JDRS).*

3.3.2. Ensure operational test personnel representation at Requirements Validation Boards (RVB) and Configuration Review Boards through the Modification Control Point (MCP).

3.3.3. Provide inputs to the system acquisition, system modifications and operational acceptance processes.

3.3.4. Participate in ITTs as required.

3.3.5. Participate in TPL prioritization of acquisition programs.

3.4. HQ AFSPC/A5:

3.4.1. Coordinate on C&A processes as applicable to the respective test effort.

3.4.2. Support HQ AFSPC/A3 and the T&E CL by providing a focal point for DT advocacy, policy development and guidance.

3.4.3. Assist HQ AFSPC/A3 and the T&E CL in ensuring AFSPC programs execute DT&E in accordance with AFI 99103 and this instruction.

3.4.4. Assist the T&E CL in the development of integrated policy and guidance.

3.4.5. Participate in modeling and simulation (M&S) verification, validation and accreditation (VV&A) process for M&S capabilities supporting operational test activities (e.g., ITW/AA) as required.

3.4.6. Review AFSPC ITT Charters, TESs, and TEMPs to ensure Measures of Effectiveness/Performance/Suitability adequately address program key performance parameters/system attributes.

3.4.7. Assist the T&E CL in coordination with ESC and SMC, as appropriate, to resolve DT&E requirement issues.

3.4.8. Assist the T&E CL with test infrastructure planning and funding advocacy via Air Force Test Investment Planning and Programming (TIPP) and Central Test and Evaluation Investment Program (CTEIP) processes.

3.4.9. Participate in TPL prioritization of acquisition programs.

3.4.10. Support the T&E CL by providing AFSPC DT&E input to the annual DT&E report to Congress in support of the Weapons System Acquisition Reform Act.

3.4.11. Ensure requirements (or equivalent) are provided to OT&E units for space and cyberspace systems in support of test planning activities.

3.4.12. Participate in ITTs and HPTs as required.

3.4.13. Ensure appropriate AFSPC T&E OPRs are included in distribution for notification of establishment of HPTs and Integrated Concept Teams (ICTs) and through all phases of JCIDS document development.

3.4.14. Ensure AFSPC T&E entities are notified of capabilities-based requirements training courses for which A5 has oversight.

3.5. HQ AFSPC/A6:

3.5.1. Review and coordinate on documentation (e.g. Detailed Test Plans (DTP)) to ensure IA, security T&E and system accreditation issues have been adequately addressed.

3.5.2. As the Designated Accreditation Authority (DAA) function as the issuing authority for Initial Authority to Test (IATT) and Initial Authority to Operate (IATO).

3.5.3. As the DAA, approve IT penetration testing of systems undergoing security/IA testing.

3.5.4. Participate in C&A processes to support IA and operational acceptance as required.

3.5.4.1. Through HQ AFSPC/A6N, function as the Certification Authority for certifying IA in space systems.

3.5.5. Participate in ITTs as required.

3.5.6. Review and coordinate on ITT Charters, TESs, ITCs and TEMPs as required.

3.5.7. Advocate for and fund T&E communications and C&A requirements.

3.5.8. Define required certifications and levels of testing necessary to field AFSPC systems.

3.5.9. Participate in TPL prioritization of acquisition programs.

3.6. HQ AFSPC/A8/9:

3.6.1. Provide guidance to HQ AFSPC/A3 regarding the releasability of test related information to outside agencies and foreign nationals.

3.6.2. Oversee treaty compliance and international affairs issues.

3.6.3. Provide M&S policy and guidance on the VV&A process.

3.6.4. Participate in ITTs and HPTs as required.

3.6.5. Review ITT charters.

3.6.6. Coordinate long range planning activities with T&E infrastructure planning and development activities, including support for the TIPP and CTEIP processes.

3.6.7. Participate in TPL prioritization of acquisition programs at the 3-Letter review board.

3.7. HQ AFSPC/JA:

3.7.1. Review all ITT charters requiring cross-command or multi-organization agreements as requested.

3.7.2. Coordinate on Programmatic Environmental, Safety, Health Evaluation, environmental reviews and other documentation for test activities as requested.

3.7.3. Coordinate on safety and liability issues related to test activities, including contractor liability relationships.

3.7.4. Review all joint/multi command/agency agreements.

3.7.5. Review T&E documents/programs for compliance with international treaties and international arms control and non-proliferation content according to AFPD 16-6, *International Arms Control and Non-Proliferation Agreements*.

3.8. HQ AFSPC/SE:

3.8.1. Establish AFSPC test safety policy, including test safety planning; Safety Review Board (SRB) or SRB portions of a Combined Review Board (CRB) process; Risk Management (RM) training; and mishap response/investigation.

3.8.2. Advocate for DT&E and OT&E test safety requirements and DT&E/OT&E mishap prevention funding.

3.8.3. Provide operational test safety expertise to ITTs as required.

3.8.4. Coordinate with external safety organizations (e.g., AFMC/SE, ESC/SE) on test safety policy, including test safety planning.

3.8.5. Examine risk assessment products from test teams (i.e. TERM assessment) for review/approval at the SRB or CRB when those products are not reviewed and approved by SIDC or 688 IOW Wing Safety Offices IAW **Para 3.16.1.1**

3.8.6. Ensure Test Managers/Directors are trained in Test Safety and Test Mishap Response.

3.8.7. Participate in TPL prioritization of acquisition programs at the 3-Letter review board.

3.9. T&E Command Lead (HQ AFSPC/A3J):

3.9.1. Act as single focal point for management and oversight of AFSPC T&E responsibilities.

3.9.2. On behalf of HQ AFSPC/A3, coordinate with CCLs and ITTs to develop and maintain the TPL.

3.9.3. Monitor AFSPC test execution to ensure compliance with AFI 99-103 and this instruction.

3.9.4. Coordinate release to organizations outside of AFSPC for Final Results Briefings, Final Reports and associated documents resulting from AFSPC operational testing and test asset support activities.

3.9.5. Support HQ AFSPC/A3 advocacy for and/or funding of T&E to include sustainment and infrastructure requirements. Coordinate with HQ AFSPC/A5 for DT&E requirements.

3.9.6. Participate in ITTs and HPTs as required.

3.9.7. Coordinate O-6-level and HQ AFSPC/A3 TRRBs and Final Results Briefings.

3.9.8. Coordinate with CCLs to ensure HQ AFSPC test representation on modification review boards.

3.9.9. Review and approve ITT Charters, TESs, ITCs and non-OSD oversight TEMPs as applicable. Review LCMP for test requirements if a LCMP is being used in lieu of a TEMP.

3.9.10. Coordinate on C&A processes as applicable to the respective test effort.

3.9.11. Jointly coordinate with CCL on staff responses to AFOTEC non-involvement determinations.

3.9.12. Act, with HQ AFSPC/A3 delegation, as TPL approval authority for out-of cycle Test Asset Support Requests.

3.9.13. Act as HQ AFSPC focal point for the development of T&E policy, procedures, test nominations and final staff coordination.

3.9.14. Coordinate with CCLs for operational test participation in ICTs, Integrated Product Teams (IPT), HPTs, and DT&E as required.

3.9.15. Coordinate and release AFSPC input to the annual DT&E report to Congress in support of the Weapons System Acquisition Reform Act.

3.9.16. Serve as final decision authority for ITT conflict resolution with respect to T&E policy and guidance.

3.9.17. Approve the use of SOTR and C&L Reports recommended by program ITTs.

3.9.18. On behalf of the HQ AFSPC/A3 consolidate OT&E program information and test infrastructure and resource gaps/requirements identified by ITTs and product center test organizations.

3.9.19. On behalf of the HQ AFSPC/A3 support HQ USAF/TEP-chaired T&E Test Coordination meetings.

3.9.20. Release annual TIPP and CTEIP inputs.

3.9.21. Coordinate on AFSPC operational test plans when the test activity has been identified as high risk by a SRB, TRB or CRB.

3.9.22. Act as the focal point for the AFOTEC Test Resource Plan (TRP) coordination process.

3.9.23. Participate on AFSPC Capability Teams.

3.9.24. Act as central repository of T&E information to include lessons learned, best practices and other information as required.

3.9.25. Act as command focal point for test infrastructure planning and funding advocacy via Air Force TIPP and CTEIP processes. Consolidate requirements for test infrastructure, resource and capabilities and advocate for funding.

3.10. AFSPC Capability Command Leads with Programs of Record:

3.10.1. Coordinate with the T&E CL to ensure DT&E/OT&E community participates at ICTs, IPTs and HPTs.

3.10.2. Ensure testing incorporates current threats and vulnerabilities throughout the life of a program or project.

3.10.3. Provide test organizations with required program or project documentation (e.g., Enabling/Operating Concept, Joint Capabilities Integration and Development System (JCIDS) documents, System Architecture documents) to include all updates IAW AFSPCI 10-604 timelines.

3.10.4. Provide representation to ITTs and other test forums (SMC Test and Evaluation Working Group (TEWG), ESC Wing Test Manager Conference, etc.).

3.10.5. Jointly coordinate with T&E CL on AFOTEC non-involvement determinations.

3.10.6. Provide personnel and funding to the applicable organization for early test planning activities including ICTs, IPTs, AoAs, HPTs, and strategic planning meetings.

3.10.7. Ensure testable operational system test criteria are provided to the ITT or OTO in an adequate timeframe to support test planning activities in association with the TPL process. Create and approve a Statement of Requirements (SOR) memorandum to document, clarify and/or update requirements and criteria for each operational test, as applicable.

3.10.8. Advocate for and/or fund T&E to include sustainment and infrastructure requirements.

3.10.9. Ensure AFSPC DT&E/OT&E test representation on modification review boards as requested.

3.10.10. In coordination with the T&E CL, review and approve Non-OSD Oversight TEMPs, ITCs and ITT Charters.

3.10.11. Review AFSPC TESs, TEMPs and ITT charters.

3.11. Space and Missile Systems Center:

3.11.1. Act as the Command focal point for executing Space developmental testing.

3.11.2. Resource and sustain a T&E branch to oversee DT&E policy implementation for PEO Space programs.

3.11.3. Establish local procedures for implementing the center's T&E processes and ensuring they are consistent with the DoD 5000-series regulations or other applicable acquisition directives, AFI 99-103 and this instruction.

3.11.4. Coordinate with SIDC/CC and C-NAF/CC to deconflict DT&E activities.

3.11.5. Coordinate or approve test documentation for space programs including, TESs, TEMPs, ITCs, ITT Charters, LCMPs, Detailed Test Plans and Test Reports as applicable.

3.11.6. Provide System Safety/Systems Engineering personnel in the Center Safety Office for direct support to Center test activities.

3.11.7. Provide Systems Engineering, Systems Safety/Risk Management, and DT&E training to command personnel. SMC will also provide and ensure Programmatic Environmental, Safety, and Heath Evaluation (PESHE) documents comply with DoD policy and Federal Law.

3.11.8. Provide personnel and funding for early test planning activities including AoAs, HPTs, and strategic planning meetings as required.

3.11.9. Task test units (e.g., Space Development and Test Wing (SDTW) or PM) to support (space) developmental testing.

3.11.10. Coordinate with the Space Test Integration Office (STIO) to allocate (space) programs to standing ITTs or approve development of new ITTs.

3.11.11. Develop T&E policies, procedures, guidance and MOAs to supplement AFI 99-103 and any MAJCOM generated instruction or supplement. Submit draft documentation to the T&E CL for review prior to publication.

3.11.12. Monitor system maturity throughout the acquisition process; ensure systems are ready to enter dedicated OT&E per AFMAN 63-119 and issue the appropriate certification memo at least 15 days prior to scheduled start of operational testing.

3.11.13. Identify test capabilities, resources, and infrastructure necessary to execute testing.

3.11.13.1. Provide inputs to TIPP/CTEIP processes as appropriate.

3.11.13.2. Submit operational asset requests for DT&E/IT events to C-NAF (14 AF (AFSTRAT-SP)/24 AF) as appropriate.

3.11.14. Develop and maintain a Developmental Test Facilities/Resources database.

3.11.15. Ensure a Responsible Test Organization (RTO) is identified for acquisition programs as applicable.

3.11.16. Coordinate with the operational test community upon the initiation of a new acquisition program to ensure OT&E is included in the earliest stages of acquisition.

3.11.17. SMC/SE:

3.11.17.1. Maintain safety oversight of SMC test programs, including support for test planning meetings, chairing SRBs, and serving as a voting member on test readiness reviews.

3.11.17.2. Review test procedures, participate in test reviews and incorporate overall system safety into space acquisition programs. SMC/SE is the AFSPC OPR for incorporating system safety into space acquisition programs; therefore, SMC/SE will be advised of all system safety issues related to DT&E or OT&E and will forward results of Safety Reviews to HQ AFSPC/SE.

3.11.17.3. Maintain situational awareness of testing impacts on developmental systems and safety issues related to test waivers.

3.11.17.4. Forward results of SRBs to HQ AFSPC/SE.

3.11.18. SMC/EA:

3.11.18.1. Maintain environmental oversight of SMC test programs. Review test plans and procedures for environmental impacts. SMC/EAF, Center Acquisition Environmental Management Office, is the AFSPC OPR for insuring all space programs comply with federal, state, and local environmental laws.

3.11.18.2. Provide qualified test engineers to support and sustain STIO-led integration efforts.

3.11.18.3. Ensure T&E requirements are incorporated into contractual processes.

3.11.18.4. Ensure interoperability requirements are defined early in the acquisitions process and adequately evaluated during test.

3.11.18.5. Support Verification and Validation of program office VV&A of M&S capabilities used in support of DT&E.

3.11.18.6. Provide qualified test engineers to support and sustain DT&E/OT&E integration efforts.

3.11.18.7. Coordinate with DDT&E for space programs.

3.12. Space Innovation and Development Center:

3.12.1. Command focal point for executing AFSPC space systems operational testing.

3.12.2. Appoint the STIO to facilitate integration of developmental and operational testing.

3.12.3. Establish local procedures for implementing the center's T&E processes consistent with DoDI 5000.02, DoDD 8500.1, DoDD 4630.05, CJCSI 3170.01, CJCSI 6212.01, , AFI 99-103, the Defense Acquisition Guidebook (DAG), and this instruction.

3.12.4. Identify and provide personnel for early test planning activities including AoAs, HPTs, and strategic planning meetings as required.

3.12.5. Identify dedicated System Safety/Systems Engineering personnel in the Center Safety Office for direct support to Center test activities.

3.12.6. Prioritize resources and task subordinate units to provide support to programs IAW the current AFSPC TPL.

3.12.7. Coordinate with Product Centers, Logistics Centers and NAF/CCs to integrate and deconflict OT&E activities.

3.12.8. Coordinate or approve space system test documentation including ITT Charters, ITCs, TEMPs, LCMPs, Detailed Test Plans and Test Reports for space systems as applicable.

3.12.9. Provide Space OT&E training to command personnel including Test Managers (TM), Test Support Managers (TSM) and other project leads for OT&E activities.

3.12.10. Coordinate and chair space TRRBs as required.

3.12.11. Receive OT&E readiness certification from the Milestone Decision Authority (MDA), developmental organization or program office as applicable for non-AFOTEC tests and provide acceptance/exception memo.

3.12.12. Support RVBs and Configuration Review Boards to determine OT&E requirements.

3.12.13. Develop T&E policies, procedures, guidance and MOAs to supplement this AFSPCI. Submit to HQ AFSPC/A3J for review prior to publication.

3.12.14. Coordinate with HQ AFSPC/FM to authorize release of resources to test agencies as applicable.

3.12.15. Participate in C&A processes as applicable to the respective test effort.

3.12.16. Identify test capabilities, resources, and infrastructure necessary to execute testing, and provide inputs to TIPP/CTEIP processes as appropriate.

3.12.17. SIDC/SE will maintain safety oversight of SIDC test programs, including support for test planning meetings, chairing SRBs, and serving as a voting member on test readiness reviews for test activities that are approved at the wing level**.** For the SIDC this coverage includes the appropriate test organizations and Tactical Exploitation of National Capabilities (TENCAP).

3.12.18. SIDC/CC will be the final approval authority for Final Results Briefings and Final Reports unless delegated.

3.12.19. Task SIDC test units to support Test Asset Support Requests and any test related taskings.

3.12.20. Submit blanket annual Test Asset Support Requests for SIDC internal test activities. Provide updates on individual execution quarterly.

3.13. 688th Information Operations Wing:

3.13.1. Command focal point for executing AFSPC cyberspace systems operational testing.

3.13.2. Establish local processes and procedures for implementing the wing's T&E process consistent with DoDI 5000.02, DoDD 8500.01, DoDD 6430.05, CJCSI 3170.01, CJCSI 6212.01, the DAG, and this instruction.

3.13.3. Identify and provide personnel for early test planning activities including AoAs, HPTs, and strategic planning meetings as required.

3.13.4. Identify dedicated System Safety/Systems Engineering personnel in the Wing Safety Office for direct support to Wing test activities.

3.13.5. Prioritize resources and task subordinate units to provide support to programs in accordance with the current HQ AFSPC TPL.

3.13.6. Coordinate with Product Centers, Logistics Centers and C-NAF/NAF/CCs to integrate and deconflict test activities.

3.13.7. Coordinate or approve cyberspace test documentation including ITT Charters, ITCs, TEMPs, LCMPs, Detailed Test Plans and Test Reports as applicable.

3.13.8. Coordinate and chair cyberspace TRRBs as required.

3.13.9. Receive OT&E readiness certification from the MDA, developmental organization or program office as applicable for non-AFOTEC tests and provide acceptance/exception memo.

3.13.10. Support RVBs and Configuration Review Boards to determine OT&E requirements.

3.13.11. Develop T&E policies, procedures, guidance and MOAs to supplement this AFSPCI, and submit to HQ AFSPC/A3J for review prior to publication.

3.13.12. Coordinate with HQ AFSPC/FM to authorize release of resources to test agencies as applicable.

3.13.13. Participate in C&A processes as applicable to the respective test effort.

3.13.14. Identify test capabilities, resources, and infrastructure necessary to execute testing, and provide inputs to TIPP/CTEIP processes as appropriate.

3.13.15. Ensure command personnel, including TDs, TSMs and other project leads for OT&E activities are provided with appropriate OT&E training.

3.13.16. Maintain safety oversight of 688 IOW test programs, including support for test planning meetings, chairing SRBs, and serving as a voting member on test readiness reviews for test activities that are approved at the wing level or below.

3.13.17. Task 688 IOW test unit with Test Asset Support Requests and any test related taskings.

3.13.18. Submit blanket annual Test Asset Support Requests for 688 IOW internal test activities. Provide updates on individual execution monthly.

3.14. C-NAF (14 AF (AFSTRAT-SP)/24 AF):

3.14.1. Approve the use of AFSPC operational assets for testing except when the required assets are under the Operational Control (OPCON) of a Combatant Command. In these cases the C-NAF Commander will coordinate with the Combatant Command for approval or to obtain their assistance with another Combatant Command. This applies to Developmental Testing, Operational Testing and integrated test efforts in which testing procedures are not covered by a system TO, but are covered in whole or in part by an approved DTP. C-NAF approval is not required for routine maintenance actions covered by a system TO or user documentation. Reference AFSPCI 99-103, **Para 5.3**. for additional information.

3.14.2. Ensure unit TSM is appointed to support testing, as necessary.

3.14.3. Coordinate with the appropriate organization within SMC, ESC, SIDC, 688 IOW, 950th Electronic Systems Group (ELSG), 753 ELSG, 754 ELSG and 850 ELSG to deconflict test activities.

3.14.4. Approve waivers to TO procedures related to operational weapon system components/hardware as required.

3.14.5. Coordinate on or approve applicable test-related waivers as required.

3.14.6. Participate in C&A processes as applicable to the respective test effort.

3.14.7. Provide dedicated System Safety/Systems Engineering personnel in the CNAF Safety Office for direct support to test activities.

3.14.8. When requested, provide a letter informing external agency test requesters of intent to support testing along with any deviations and requirements.

3.14.9. Coordinate or review test documentation including ITT Charters, TESs, ITCs, TEMPs and Detailed Test Plans as applicable.

3.15. Operational Wings:

3.15.1. Maintain situational awareness of testing impacts on operational systems and ensure testing does not adversely impact operational systems and/or overall mission accomplishment.

3.15.2. Assign a unit TSM to support the TM/TD in executing the test.

3.15.3. Identify test capabilities, resources, and infrastructure necessary to support testing, and provide inputs to TIPP/CTEIP processes as appropriate.

3.15.4. Participate in C&A processes as required.

3.15.5. Ensure compliance with applicable treaties (i.e., arms control and non-proliferation), federal, state, and local environmental laws, Security Technical Implementation Guides (STIG) and Security Classification Guides (SCGs) and/or Operations Protection Guides (OPGs).

3.15.5.1. Wing Information Assurance Manager (IAM) is responsible for ensuring the STIGs and SCGs are in place and in compliance.

3.16. Wing Safety Offices:

3.16.1. Maintain safety oversight of all T&E related activities of the wing.

3.16.1.1. SIDC and 688 IOW Safety offices will chair SRBs and review and approve TERM assessments for test activities that are approved at the Wing level**.** SIDC and 688 IOW Wing Safety offices shall send copies of SRBs and CRBs to HQ AFSPC/SE for situational awareness, tracking and trending.

3.16.2. In addition to traditional DT&E and OT&E activities, wing safety offices will have safety oversight of Installation and Checkout (I&C), Verification and Validation (V&V), and Initial Operational Checkouts.

3.16.3. Chair or participate as a member of the SRB for test programs conducted by outside test organizations that use or involve assets, resources, or activities under the purview of the wing.

3.16.4. Evaluate all programs, test products and test activities against published, applicable Wing Safety Requirements to ensure all programs and testing is conducted IAW approved Risk Management criteria on behalf of the MRTFB Commander's Range Safety responsibilities (Ref DoDD 3200.11) if applicable.

3.16.5. Provide tailored training for Test Managers/Directors in Test Safety and Test Mishap Response.

3.17. AFSPC Units:

3.17.1. Provide TSM and other test support as directed.

3.17.2. Operate equipment IAW specific TOs, user manuals, associated waivers, and/or detailed test procedures.

3.17.3. Comply with RM/Safety guidance included in all test related documentation.

3.18. Space Test Integration Office:

3.18.1. The STIO, assigned to the 595th Space Group, is AFSPC's focal point for the integration of all T&E and early AFSPC OT&E involvement for AFSPC Space Programs. The STIO manages and coordinates SIDC participation in the development of T&E strategies for AFSPC supported integrated operational space test activities. The STIO coordinates SIDC involvement in pre-IOC activities such as shadowing and/or supporting developmental, integrated and AFOTEC-led operational test events and manages the transition between AFOTEC-led OT&E and AFSPC-led OT&E. The STIO acts as a test representative for the SIDC and provides on-site liaison between the SIDC and their product center customer(s) for space programs. The STIO facilitates networking between testers and product center PMs of space systems, while bringing test wing/group resources to bear to assist PMs in executing their programs. The assignment of STIO representatives will be contingent on specific host center needs, test wing/group desires, and the corresponding agreement between the host center and the owning test wing/group. The number of STIO positions at each center is at the host center commander's discretion, by mutual agreement with the appropriate owning test wing/group commander.

3.18.2. STIO representatives will:

3.18.2.1. Advise the owning test wing/group, host center leadership, and PMs on issues related to test infrastructure requirements and test resource availability.

3.18.2.2. Assist in the formulation of host center T&E policies and processes.

3.18.2.3. Provide advice and consultation to local T&E organizations, and PMs on the development of T&E strategies, plans, and other related T&E documentation.

3.18.2.4. Participate in meetings in which emerging test requirements may be identified and coordinate future requirements with the owning test wing/group.

3.18.2.5. As required, participate on Configuration Control Boards (CCBs) product improvement working groups, and test management councils.

3.18.2.6. Ensure oversight requirements are met through test program introduction sheets, TRBs and SRBs, and/or other means.

3.18.2.7. Provide physical oversight and assistance, when appropriate and authorized, at test execution locations.

3.18.2.8. Provide inputs to affected organizations for AF TIPP investments for future test capabilities that are in line with program office and test wing/group T&E requirements.

3.18.2.9. Assist the program office with establishing ITTs for AFSPC managed space test efforts.

3.19. Responsible Test Organization (RTO):

3.19.1. RTOs are developmental test agencies qualified to plan, conduct, and report on government DT&E and oversee contractor DT&E. RTOs provide PMs with technical insight into contractor testing. In addition, the RTO provides insight to the PM as to how well the system design and performance is likely to meet warfighter needs as it matures during DT&E. The ITT will recommend an RTO based on a thorough analysis of the potential RTO's capabilities and resource availability. The PEO or his designated representative will select the RTO.

3.19.2. Participate in ITTs as early as possible and assist Test Integrated Product Teams (TIPT) as required.

3.19.3. Assist the requirements and acquisition communities in developing studies, analyses, and program documentation IAW AFI 10-601 and AFI 63-101.

3.19.4. Plan, manage, and conduct government DT&E, Live Fire Test and Evaluation (LFT&E), and integrated testing according to the TES, ITC, TEMP, DT&E, and LFT&E plans. Maintain insight into contractor activities and oversee Participating Test Organization (PTO) T&E activities.

3.19.5. Help PMs make technically informed, objective judgments about contractor DT&E results.

3.19.6. Provide government DT&E results and final reports to the PM, PEO and other stakeholders in support of decision reviews and certification of readiness for dedicated operational testing. Provide results and reports to common T&E databases.

3.19.7. Coordinate with PTO to ensure corporate expertise and required capabilities are brought to bear in support of PMs.

3.19.8. Ensure DT&E plans are coordinated with the appropriate test agencies, PTOs, and all other stakeholders.

3.19.9. Participate on TRBs and SRBs, CCBs, product improvement working groups, and test management councils as required.

3.19.10. Ensure DT&E is conducted IAW approved test plan and test safety documentation, regardless of whether the RTO conducts the test or assigns conduct to a PTO.

3.19.11. Ensure safety concerns, deficiencies, and watch items are tracked and reported according to TO 00-35D-54.

3.19.12. Provide recommendations in support of required certifications, and incremental and major and milestone decisions.

3.19.13. Ensure that valid test measurement and data acquisition methods are utilized.

3.19.14. Coordinate with DDT&E for space programs.

3.20. Integrated Test Team:

3.20.1. In accordance with AFI 99-103 each AFSPC program and/or mission area will have an ITT to coordinate and oversee the development and execution of integrated testing to support the acquisition and sustainment of systems. Programs/missions having more than one segment or component to be tested could have an umbrella ITT, or enterprise ITT, with sub-IPTs for each test activity.

3.20.2. Define scope of responsibility in the ITT charter. ITT tasks may require members to expend funds or other resources, and the ITT charter will document agreement as to which member(s) is/are responsible for funding the various efforts.

3.20.3. Coordinate on and designate T&E documentation approval authorities in compliance with DoD and AF guidance.

3.20.4. Engage with the appropriate CCL using the TPL process to coordinate T&E requirements that need to be added to the TPL.

3.20.5. Standardize activities of subgroups (e.g., TIPTs, Combined Test Forces (CTF)).

3.20.6. Develop and ensure appropriate and timely staffing of essential T&E documentation (TES, ITC, TEMP, etc.).

3.20.7. Prioritize test activities for programs under their purview and ensure test requests are generated and sent to the T&E CL as applicable.

3.20.8. Ensure respective chains of command are aware of all relevant T&E issues. CCLs and stakeholders may request updates be provided at O-6 forums.

3.20.9. Develop and implement, to the greatest extent possible, an integrated DT&E/OT&E test methodology that allows the OT&E organization to leverage DT&E activities for OT&E-relevant data.

3.20.10. Maintain a forecast of T&E events and resource requirements for all assigned programs and provide this information to the appropriate CCL in support of TPL development.

3.20.11. Ensure there is an OT&E strategy for IA evaluation to be conducted at an appropriate level of IA testing according to DoDI 8500.2 and CJCSI 6212.01. This applies to all AFSPC Dedicated Operational tests to include sustainment, modernizations and upgrades.

IA evaluation environments will include systems and networks to be operated by representative end users and system/network administrators. Where applicable, DTPs must include end-to-end IA strategies, including the links to other systems that accept, use, or provide data/information to the system being evaluated.

3.20.11.1. AFSPC ITTs forward an IA testing level recommendation to HQ AFSPC/A5/A6 in a timely manner in order to facilitate early tester involvement. It is highly recommended that IA assessments occur prior to the start of formal OT&E, assuming the baseline configuration is stable and frozen.

3.20.12. Determine the level and types of IA testing required and document these decisions in TESs, ITCs, TEMPs, and other program documents as applicable. This includes validating that OT&E strategy incorporates IA measures and metrics in a timely manner to facilitate early tester involvement.

3.21. AFSPC Operational Test Units:

3.21.1. Act as OTO when appointed.

3.21.2. Develop and execute test plans IAW the TPL.

3.21.3. Co-chair AFSPC -internal ITTs once systems have transitioned from early influence or as required.

3.21.4. Provide TPL executability list IAW available resources and schedules.

3.21.5. Act as LTO when tasked.

3.21.6. Prescribe processes associated with planning, executing and reporting specific integrated test efforts consistent with appropriate guidance.

3.21.7. Transmit appropriate messages (e.g., Test Start/Test Stop, Test Complete/Test Stop, Test Not Complete) associated with specific test events.

3.22. Lead Test Organization:

3.22.1. Test organization with the responsibility for coordinating actions leading to planning, executing and reporting on test activities during OT&E involving multiple test organizations. The LTO may be lead for a team consisting of more than one service, command or testing discipline.

3.22.2. Act as single point of contact for a test event described in a detailed test plan.

3.22.3. Prescribe processes associated with planning, executing and reporting specific integrated test efforts consistent with appropriate guidance. Arbitrate differences among PTOs consistent with direction from the ITT and described in the ITC.

3.22.4. Coordinate for the use of required test assets, to include operational assets, from the appropriate agencies.

3.22.5. Transmit appropriate messages (e.g., Test Start/Test Stop, Test Complete/Test Stop, Test Not Complete) associated with specific test events.

3.22.6. Provide test resource estimate to the agency responsible for funding or coordinating test effort(s).

3.23. Test Support Manager:

3.23.1. The individual(s) identified at the wing or unit level that supports the test organization and/or LTO in planning and conducting the test. The TSM is assigned from operational units supporting the test activity and serves as a liaison between the operational unit and the test organization/LTO. The TSM will support the testing process from test planning through reporting.

3.23.2. Typically provided by unit operating the system under test (SUT).

3.23.3. Assists the test team in developing the test plan and detailed test procedures.

3.23.4. Assists in developing test criteria and metrics.

3.23.5. Oversees the system during test execution.

3.23.6. Assists in data collection as required.

3.23.7. Participates in all data scoring boards.

3.23.8. Assists in mission-specific analysis as required.

3.24. Test Manager (TM)/Test Director (TD):

3.24.1. Act as single point of contact for a test event described in a detailed test plan.

3.24.2. Arbitrate differences among PTOs consistent with direction from the ITT and described in the ITC.

3.24.3. Coordinate for the use of required test assets, to include operational assets, from the appropriate agencies.

3.24.4. Provide test effort funding inputs to the ITT for consolidation.

3.24.5. Provide a functional risk assessment (i.e. TERM assessment) for review and approval at the program SRB or CRB.

Chapter 4

TEST PLANNING

4.1. Early Involvement. AFI 10-601, AFI 63-101, AFI 99-103, AFSPCI 10-103 and IT Lean Guidebook direct early tester participation in the development of a capability and its requirements. The requirement process begins with an operator (e.g., MAJCOM) identifying a capability shortfall to the Joint Staff and Air Staff. Upon identification of the capability shortfall, the Air Staff will contact HQ AFSPC/A5 and request tester representation on a HPT. Early Tester Involvement should occur at the front end of acquisition planning to include meeting with potential offerors to guide discussions on test strategy. Involvement continues post-vendor selection through early involvement with contractor DT&E planning and execution at segment, sub-system, and system levels to ensure the operational view is captured in contractor test documents and tests. HQ AFSPC/A5 will coordinate with appropriate HQ AFSPC directorates to identify the required representatives. **Table 4.1** describes how test representatives will normally support the various activities associated with each step contained in the major milestone acquisition process. Refer to the appropriate acquisition instruction (e.g., DoDI 5000.02) for information on when this activity will occur and what decision it will support. Refer to AFSPC Cyber acquisition guidance for further guidance on cyberspace timelines.

Table 4.1. Test Support Activities

Need	How	OPR
Enabling Concept	Generate the Enabling Concept and provide T&E expertise as required.	HQ AFSPC/ A5/A3
Initial Capabilities Document (ICD)	Generate the ICD and provide T&E expertise as required. Review CONOPS to ensure operational requirements are addressed in ICD.	HQ AFSPC/ A5/A3
Functional Solution Analysis (FSA)	Review FSA and provide T&E input to each proposed solution.	HQ AFSPC/A5/A3
Concept Decision/ Acquisition Decision Memorandum (ADM) and Acquisition Plan	Review ADM and ensure T&E concerns are addressed during contracting efforts Ensure test & evaluation and operations personnel are included in acquisition planning.	HQ AFSPC/A3
Standup Integrated Test Team (ITT)	Establish ITT Charter and ensure all testing stakeholders are represented. Recommend assignment of programs to standing ITTs or establish new ITT.	Program Office, HQ AFSPC/A6 and OTO or STIO
Analysis of Alternatives (AoA)	Develop COIs, Measures of Effectiveness (MOEs), Measures of Suitability (MOSs), and Measures of Performance (MOPs) to evaluate concept alternatives.	Program office and OTO or STIO
Develop Courses of Action (COA)	Document T&E aspects of COAs.	Program office and OTO or STIO
Concept of Operations (CONOPS)	Review CONOPS and provide T&E expertise as required. Attend requirements and deployment forums as requested by HQ AFSPC/A3/A5.	HQ AFSPC/A3
Test and Evaluation (T&E) Strategy	Developmental and Operational testers collaborate to lay the foundation for the refinement of an integrated test strategy. The TES is the first iteration of the TEMP and should follow TEMP format (AFI 99-103, Para 5.14).	Program office and OTO or STIO
Information Support Plan (ISP)	Review ISP to ensure program documentation is consistent and complementary. Ensure ISP documents information needs, infrastructure and intelligence support, information technology, and National Security Systems interface requirements, and net-centric, interoperability, supportability and sufficiency concerns. Ensure the required net-ready key performance parameter (NR-KPP) and DOT&E special interest items (SII) centered on information assurance, interoperability and electromagnetic environmental effects (E^3) are considered and included as part of the overall T&E strategy for the proposed material solution.	Program Office and HQ AFSPC/A6
Technology Development Strategy (TDS)/ /Architectural Products	Review TDS and Architectural Products to assure that test strategy and plans are reflected in both documents. **Note*:*** AFI 63-101 Para 4.3.4.2 (COA development) relates the iterative nature between COA development, TES and Technology Development Strategy.	Program office and OTO or STIO
Modeling and Simulation Support Plan (MSSP)	With support of AFMC (IAW Air Force Acquisition M&S Master Plan) provide a consistent source of information for M&S use in the program.	Program Office and HQ AFSPC/A9
Capability Development Document (CDD)	Participate as member of HPT to develop CDD. Review CDD for operational performance attributes associated with KPPs and provide T&E expertise to effectiveness and suitability measure development. Review CONOPS to ensure operational requirements are addressed in CDD. Following CDD approval, refine TES in support of TEMP/ITC	Program office, OTO or STIO, and HQ AFSPC /A3

Need	How	OPR
	development. Ensure MOS, MOPs and MOEs have testable objectives	
Life Cycle Management Plan (LCMP)	Through IPTs, develop a proposed life cycle strategy as early in the program as possible based on AoA and technology development strategy.	Program Office
System Threat Analysis (STA)/System Threat Assessment Report (STAR)/Information Operations Capstone Threat Assessment/Capability Threat Assessments	Review STA/STAR/ Capability Threat Assessments and ensure requirements are addressed in T&E documents.	Program Office and HQ AFSPC /A3
Test and Evaluation Master Plan (TEMP)	Use/tailor format in Defense Acquisition Guidebook, Appendix 2. Include all known developmental (government and/or contractor) and operational events required to execute the overall integrated TES.	Program office, OTO or STIO, RTO, and HQ AFSPC /A3
Initial Integrated Test Design Process	Process to support transition from TES and high level TEMP to individual test plans.	ITT
Integrated Test Concept (ITC)	The ITC in conjunction with the TEMP will serve as the vehicle to facilitate test strategy and conduct. Elaboration of the Initial Integrated Test Design Process to describe an executable test approach for the validated operational capability requirements.	OTO or STIO and RTO
Request for Proposal (RFP)	Ensure proper language is included in the RFP so the government has adequate access to contractor test plans, objectives, and other T&E related data. Ensure RFP addressee contractor use of common government DR database.	Program Office or equivalent
Capability Production Document (CPD)	Generate the CPD and incorporate T&E results as appropriate.	HQ AFSPC/A6 /A3
Technical Requirements Document (TRD)	Participate in the development of the TRD, ensuring technical requirements and critical technical parameters are testable. Ensure requirements are testable.	Program Office, OTO or STIO, and HQ AFSPC /A3
Note: The program office, OTO (MAJCOM Testers), and RTO (MAJCOM funded) are the OPRs for respective activities as applicable.		

4.2. T&E Supporting Acquisition Programs.

4.2.1. AFSPC personnel tasked to participate in HPTs developing ICDs and CDDs, and those HPTs following Requirements Strategy Reviews (RSR) will consult with developmental and operational testers to ensure T&E concerns are addressed. As a minimum, AFSPC testers will coordinate on all AFSPC-sponsored ICDs and CDDs. Testers will provide T&E expertise to the development of ICDs to ensure smooth transition to development of follow-on measures of effectiveness, suitability and performance. The PM will establish or join an ITT as soon as feasible, but no later than directed in the program's first ADM. AFSPC PMs will ensure testers coordinate on RFPs, Statements of Objectives (SOO) and Statements of Work (SOW) to ensure testing concerns are adequately addressed. AFI 99-103 gives AFOTEC the first right of refusal to test a new system acquisition. AFSPC operational testers will continue to participate in ITTs regardless of AFOTEC participation. If OT&E is warranted and AFOTEC decides not to test an acquisition, the T&E CL in conjunction with SIDC and 688 IOW will determine the OT&E organization that will lead the test program using the TPL process.

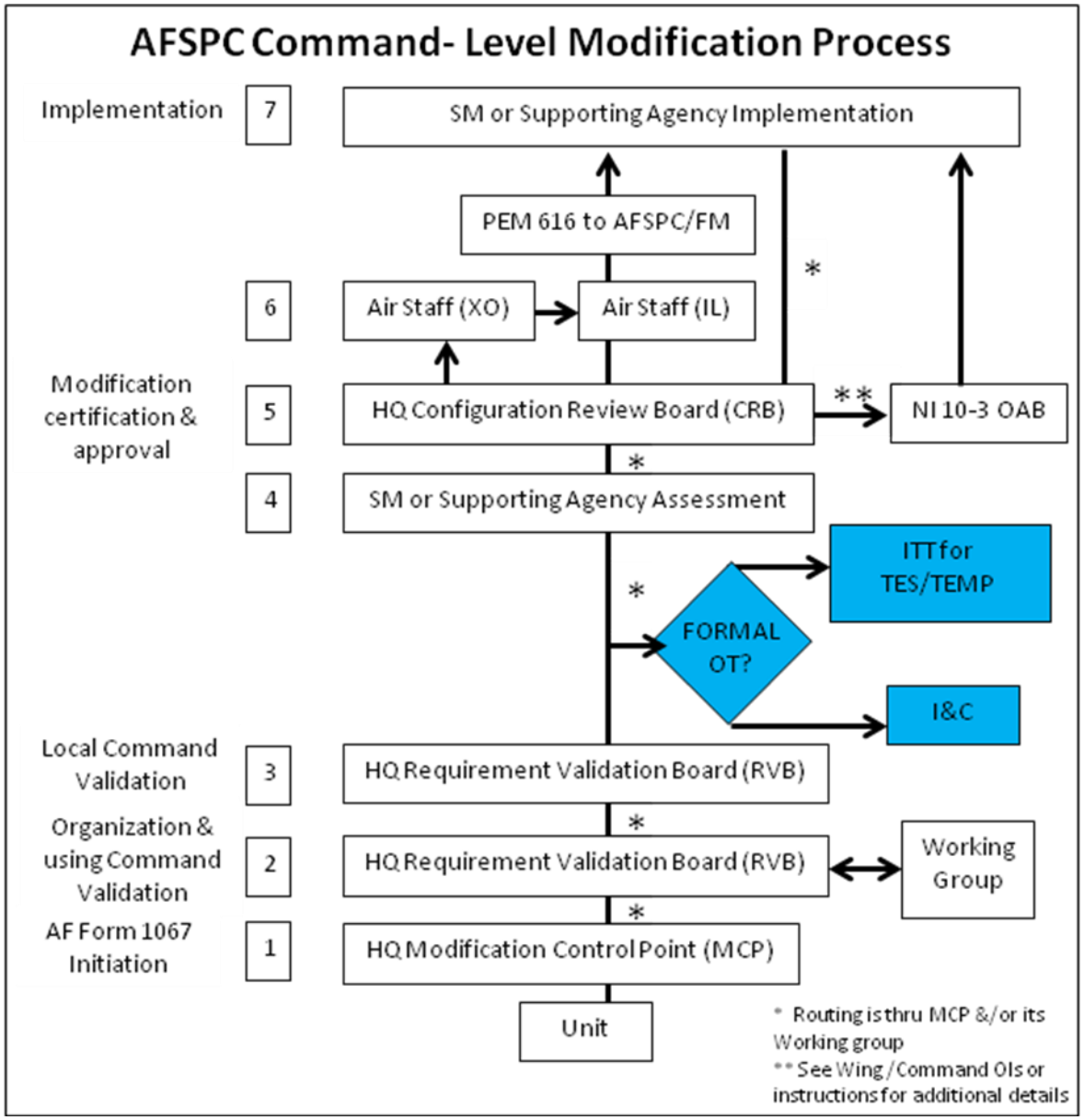
4.2.2. **Accelerated Programs.** Regardless of the entry point in the acquisition process, all programs, with the exception of TENCAP, Joint Capability Technology Demonstrations (JCTD), UONs/JUONs and ACTDs, will be aligned with an existing ITT or stand up a new one where possible. If, after coordination with the applicable test and program stakeholders a formal ITT is not applicable to an accelerated developmental activity, an informal management body made up of CCL, program office, any additional stakeholder and OTO representatives can be used to manage and adjudicate test issues. Testable requirements and supplemental documentation must be provided to the OTO by the CCL or program office (as appropriate).

4.2.3. **AFSPC Support to Oversight Programs.** AFSPC test organizations may be required to support testing of Oversight Programs if AFOTEC defers. In those cases AFSPC testers will follow applicable guidance provided in AFI 99-103.

4.3. T&E Supporting Modification Programs.

4.3.1. **Command-Level Modifications.** The process for modifying existing systems (i.e., 1067 Programs) is defined in AFI 63-101, AFI 63-131 and AFSPCI 63-104. For those modifications defined as command-level, ITT co-chairs or designated representatives will participate as a voting member in RVBs and Configuration Review Boards. See **Figure 4.1** The wings will develop procedures for the Configuration Review Boards and required membership. Specifically, they will develop processes for supporting level of test determinations from ITTs and ensuring full visibility into configuration review procedures by the applicable ITT. If an ITT does not exist and board members determine that program risk dictates possible OT&E, the PM or supporting agency will convene an ITT or join an existing ITT to identify and validate level of test determinations and develop an integrated test strategy as applicable. The ITT and AFSPC capability team will also be responsible for ensuring any OT effort is identified on the AFSPC TPL. If OT&E is determined through the ITT process to not be required, the PM or supporting organization will document necessary testing according to wing procedures. For all modifications, the Configuration Review Board will specify and document the type of testing required.

Figure 4.1. Test Support to Command-Level Modifications.



4.3.2. **Wing-Level Modifications.** Installation and Checkout (I&C) are modifications defined by the MCP as operational wing-level form, fit and function replacements. The Wing/CC will provide guidance for documenting and conducting I&C as required. I&C are not forms of operational test activities performed by AFSPC operational test assets. The process for identifying requirements and modifying existing systems is defined in AFI 63-101, AFI 63-131, AFSPCI 63-104 and DOTE's *Guidelines for Conducting Operational Test and Evaluation for Software-Intensive System Increments*. If the MCP refers the modification for AFSPC attention, the Configuration Review Board will assess the type and level of test required with ITT input. For all modifications the Configuration Review Board will specify and document the type of testing required.

4.4. Technology Transitions/Innovations. Test Asset Support Requests for technology transition/innovation initiatives such as TENCAP projects, ACTDs, Advanced Technology Demonstrations (ATD), and any other activities undertaken by an OTO must be prioritized and placed on the TPL. Requirements, test documentation, and test activities will be coordinated between the testing organization and the technology transition lead (e.g., TENCAP). AFSPC-sponsored leads for technology transition efforts are highly encouraged to attend Test Manager training conducted by the SIDC.

4.4.1. T&E CL will be informed of Test Asset Support Requests to technology transition/innovation initiatives undertaken in support of SIDC/CC or 688 IOW or 595 SG or 318 IOG, etc. T&E CL will add such activities to the TPL to ensure a complete picture of test asset utilization and availability is maintained.

4.5. Security. Standard security practices and procedures will be followed throughout the test process. The LTO and unit are jointly responsible to ensure that appropriate security measures are followed. The test plan will be classified IAW the applicable system SCGs or System Protection Guides. In the event a SCG is not available, the Program office of the SUT will provide security classification guidance. Tests conducted with foreign nationals or in which test data will be released to foreign nationals must have their test materials reviewed by HQ AFSPC/A8 for staffing to other appropriate authorities.

4.6. Modeling and Simulation.

4.6.1. **Verification and Validation.** All M&S capabilities intended for use in support of system development and testing must be supported by appropriate documentation and adequate V&V activities IAW guidance provided in AFI 16-1001, *Verification, Validation and Accreditation (VV&A)* and AFI 161002, *Modeling and Simulation (M&S) Support to Acquisition*. Organizations developing M&S capabilities must work with product end-users, developmental and operational testers and other relevant organizations to develop and implement an M&S strategy (documented in a M&S Support Plan (MSSP)) that supports the entire acquisition lifecycle. The MSSP provides test organizations with information on the integrated use of M&S within program planning activities and across functional disciplines and provides an opportunity to review M&S requirements and development strategies. Participation in the development of the MSSP ensures that the test organization has early influence into M&S requirements and provides M&S resource requirements and information about VV&A resources. The M&S developer is responsible for documenting and executing an appropriate V&V approach IAW guidance provided in AFI 16-1001 and AFI 16-1002. Organizations will develop local procedures to define staffing requirements for V&V plans and reports. This guidance on M&S does not apply to range management.

4.6.2. **Accreditation.** Upon successful completion of V&V activities, model proponents shall request formal accreditation of M&S capabilities for their intended use. M&S accreditation will be conducted IAW AFI 16-1001. The accreditation report will address the intended use of the capability, the impact of non-accreditation and any known limitations or risks based on supporting V&V results and the scope of intended use. All accreditation requests must be coordinated through the affected functional stakeholders, to include HQ AFSPC/A9 prior to submission for approval by the appropriate Accreditation Authority(ies). If accreditation is requested for multiple uses, a consolidated accreditation request may be submitted for approval. The Accreditation Authority for developmental testing support is the

appropriate Commander of the product center program wing and the Accreditation Authority for operational testing support is SIDC/CC or 688 IOW/CC or as delegated.

4.7. Integrated Test Team.

4.7.1. In accordance with AFI 99-103 each AFSPC program or mission area will have an ITT to coordinate and oversee the development and execution of integrated testing to support the acquisition and sustainment of subordinate systems. Programs and projects that do not fall under a program office will be placed under an applicable ITT in coordination with the appropriate CCL unless they are following an accelerated acquisition timeline. Reference **Para 4.2.2** for additional information on accelerated programs. ITTs may have oversight of more than one related program to facilitate better coordination of limited resources and expertise.

4.7.2. **ITT Membership.** The ITT leadership will tailor the membership, structure, and protocols as necessary to help ensure program success. ITT membership will include the system contractor, DT&E representative, SMC or ESC test representative as applicable, and OT&E representative. Contractor participants are not voting members of the ITT.

4.7.2.1. **Developmental Contractor.** Developmental contractor support to the ITT is required to ensure a collaborative test planning approach with integrated objectives and adequate government oversight up to and including IOC declaration. The ITT does not nor will ever provide contractual direction; however, ITT actions may be manifested as contract modifications when submitted through the contracting officer.

4.7.2.2. **DT&E Representative.** The materiel wing, group, staff agency, or designated RTO (as applicable) will supply a developmental testing representative for the ITT. This person will be the product center's point of contact between the ITT, the wing, and development contractors dealing with test issues.

4.7.2.3. **OT Representative.** OT representation throughout the life of the ITT is critical to successful test management and program success. The OT representative serves as the MAJCOM or AFOTEC test organization interface who uniquely represents the respective user community's interests in assuring required, successful capabilities are fielded and sustained; operational tactics, techniques and procedures are developed and evaluated; and weapon systems are evaluated in a full end-to-end, operational context.

4.7.3. **ITT Charter.** Each ITT will have a charter, whose signatories will scope the ITT's responsibility to ensure it can provide necessary resources, adequate oversight and effectively integrate testing. The PM (or equivalent) of a program assigned to an existing ITT will coordinate any necessary changes to the ITT Charter and ensure his/her program is effectively integrated into the ITT structure and process. To assist in developing and executing program TESs, ITTs may charter or task subordinate working groups such as Combined Test Force (CTF), TIPT, Joint Reliability & Maintainability Evaluation Team, etc. to develop T&E documents or execute testing. The ITT will be co-chaired by program management (or equivalent) and operational test representatives. If the scope of an ITT encompasses both AFOTEC and AFSPC testing, AFOTEC and the AFSPC tester in accordance with AFI 99-103 will determine the preponderance of test workload and coordinate to determine chair responsibilities.

4.7.3.1. **Coordination requirements for AFSPC-ITT Charters.** The minimum coordination requirements are: Submitted by PM (or equivalent ITT co-chair) and OTO unit commander; concurrence (at the O-6 or equivalent level) by the T&E CL, CCL, Operations Group representative and SMC or Electronics Systems Center (ESC) test representative (as applicable); approved and signed by PM O-6 and 595 SG/CC (space) or 318 IOG/CC (cyberspace).

4.7.4. **Conflict Resolution Process.** Whenever a non-resolvable disagreement occurs within the ITT, the action officer co-chairs will use the conflict resolution process identified in the ITT Charter.

4.8. Test and Evaluation Master Plan and Life Cycle Management Plans. All programs (other than those programs or projects referenced in **Para 4.4**) require either an approved TEMP or LCMP, regardless of ACAT level, if they are to become a system of record or part of a system of record. For programs or projects that fall under the definition of UON, JUON, or a transition of technology that have a limited lifespan and limited or no sustainment do not require a TEMP or LCMP. For programs on the OSD T&E Oversight List and within SMC's space portfolio, a stand-alone TEMP is required. For non-OSD T&E Oversight programs or other ESC programs not within the PEO Space portfolio, the PM can produce a stand-alone TEMP (separate or as an annex) and reference the program LCMP for details, or include critical elements of the TEMP in the LCMP. The LCMP must fully complement the content of a TEMP, particularly manpower and resource allocations. LCMPs will clearly state that they are being used in the place of a TEMP. LCMPs used in lieu of a TEMP must undergo rigorous review by the STIO (for space systems), or the 318 IOG (for cyberspace systems), and the supporting OTO to ensure LCMP fidelity and organization matches TEMP T&E content requirements. LCMPs used in lieu of a TEMP must also follow the TEMP approval process. The TEMP or LCMP presents more mature and detailed information than is available in the TES. It will direct the system testing approach over the life of a system, including sustainment. A TEMP should also provide sufficient guidance to develop Integrated Test Concepts (ITC) as applicable. Non-ESC sustainment programs approaching a Milestone or ADM deadlines that only have an LCMP will produce a TEMP unless waived from this requirement by HQ AFSPC/A3. Reference Air Force Pamphlet 63-128, *Guide to Acquisition and Sustainment Life Cycle Management*, AFI 99-103 and DoD 5000-series for more specific instructions on LCMP or TEMP development and approval guidance for ACAT I, ACAT II, or OSD Oversight list programs. TEMPs for remaining programs will normally be co-signed by the CCL and T&E CL.

4.8.1. All TEMPs and LCMPs must contain an OT&E strategy for IA evaluation in an operational environment, to include systems and networks to be operated by representative end users/network administrators. The TEMP or LCMP shall identify all IA T&E resources required to execute the IA portion of OT&E, to include funding sources and responsible organizations. TEMPs and LCMPs must also address the necessity for scheduling and conducting IA evaluations prior to a dedicated OT&E phase of test.

4.8.2. The minimum coordination requirements for Non-ACAT I/II and non-OSD Oversight TEMPs are: Submitted by PM and OTO unit commanders; Concurrence by the 595 SG/CC (space) or 381 OG/CC (cyberspace), SMC or ESC test representative and Operations Group Commander, approved and signed by the CCL and T&E CL. For LCMPs that are being developed in lieu of a TEMP, T&E CL will review for test requirements prior to approval.

4.8.3. All AFSPC Non-ACAT I/II and non-OSD Oversight TEMPs will use the current format as described in the Defense Acquisition Guide (available from the Defense Acquisition University website (**https://dag.dau.mil/Pages/Default.aspx**)). If a legacy program has an existing TEMP, that TEMP will be updated to the four part format and approved prior to the next mandatory review cycle or milestone decision.

4.9. Integrated Test Concept. The ITC links developmental and operational test objectives to specific test events necessary to determine system performance and effectiveness/suitability. It also serves as the guiding document for development of subordinate detailed test plans covering integrated testing, contractor testing, DT&E and OT&E. An ITC may cover a specified period of time, particular phase of a program (e.g., Design Phase, Build Phase, Sustainment Phase), but may also be tailored to fit ITT needs. ITC format is flexible and can be adapted to meet the needs of individual programs.

4.10. Detailed Test Plans. The LTO will prepare detailed test plans. Approved detailed test plans are required for testing AFSPC systems. Unless otherwise directed by HQ AFSPC, detailed test plan approval authority will be based on overall technical or safety risk (whichever is higher) of the test as validated by the CRB or TRB/SRB Chair(s). See **Table 5.1** for minimum approval levels based on assessed risk. OT&E safety risks shall be validated as assessed from TERM assessment at the SRB or CRB; software system safety and security shall be a part of such assessments. Unless delegated, all detailed OT&E plans and those integrated test plans which have been identified as high risk activities by a SRB, TRB or CRB will be coordinated at the action officer level with the following offices: HQ AFSPC/SE, HQ AFSPC/A6N, T&E CL, CCL, PM, NAF/A3, affected Operations Group, and the USAFWC if the test incorporates USAFWC assets/support. If the planned test is low-medium risk, coordination requirements identified above may instead be accomplished by the corresponding agencies at the Wing or Center level.

4.10.1. OT&E Detailed Test Plans will include: description of operational system and SUT; Critical Operational Issues, Operational Capabilities, Measures of Effectiveness and Measures of Suitability; test limitations; safety and technical risk assessments, any anticipated collateral and second-order effects identified during test execution as well as requirements for a Final Results Brief (FRB) and/or Final Report (Reference **Para 6.3**).

4.10.1.1. OTO detailed test plans will reflect the requirement to conduct an appropriate level of IA testing, according to DoDI 8500.2 and CJCSI 6212.01. The OTO will use technical and non-technical methodologies to evaluate IA, to include conducting IA vulnerability evaluations and penetration/exploitation tests. For systems on the OSD T&E Oversight List for OT&E, the OTO will use DOT&E's *Procedures for Operational Test and Evaluation of Information Assurance in Acquisition Programs* memorandum dated 21 January 2009.

4.10.2. **Single Integrated DT&E/OT&E Test Plans.** If a single integrated Test Plan is chosen to be used, the AFSPC OT&E test plan approval authority level is maintained.

4.10.3. Cyberspace Specialized Test/Assessment Plans -- EMSEC testing, ELAs, Information Assurance Testing, and Telephonic Assessments. These individual activities will utilize the test request process to include placement on TPL; however, 688 IOW will dictate the format, content and level of coordination and approval authority of reports and report briefs.

4.11. T&E Risk Management.

4.11.1. **Test Planning.** Prior to test execution, each detailed test plan will be subjected to technical and safety reviews IAW AFI 99-103 and AFI 91-202, *The US Air Force Mishap Prevention Program*. The OT&E TRB conducts an independent review of the test program to ensure the technical adequacy and validity of the plan to meet stated test objectives. The OT&E SRB conducts an independent review of the test program with respect to the unique risks generated by the test. The TRB and SRB can be conducted during a single CRB if appropriate. The decision to combine the review boards will be made jointly by the review board chairs. CRB will be chaired by the TRB chair. DT&E risk management will be accomplished using the established procedures of the product center or program office responsible for test execution.

4.11.1.1. The appropriate review board (e.g., TRRB) will be provided the identified initial risk and the resulting revised risk based on mitigation plan actions. Additionally, at the TRRB the risks identified from an evaluation of the AFMAN 63-119 templates will be provided. The highest safety or technical risk rating after an approved mitigation plan will determine the TRRB chair level IAW **Para 5.4**.

4.11.2. **Technical Review Board.** The TRB chair must be an appropriate technical representative (e.g., Technical Director or Chief Engineer) from the next higher echelon in the chain of command (with the appropriate security clearances) for the organization executing the test program. The TRB chair determines the timing of the TRB, but TRBs must occur prior to release of the detailed test plan for formal coordination beyond the squadron commander or equivalent level. At the conclusion of the TRB, the TRB chair will generate formal, written minutes, including a statement of the final technical risk level assessed for the test. These minutes must be published prior to final coordination of the detailed test plan. Each test team must brief and or provide the following to the TRB chair:

4.11.2.1. Test requirements, objectives and test start, stop, pause guidelines.

4.11.2.2. Test techniques and strategies, to include associated rationale, limitations, risks and issues.

4.11.2.3. Identify applicable SCGs and issues involving COMSEC, OPSEC, INFOSEC and Physical Security.

4.11.3. **Safety Review Board.** The appropriate safety office (i.e., Center, Wing) with the appropriate security clearances will chair the SRB. The SRB chair determines the timing of the SRB. Although external factors may preclude completing the SRB prior to release of the detailed test plan for coordination, as a minimum, the SRB chair must provide a preliminary overall test safety risk rating for inclusion in the detailed test plan. If an operational asset is being used in the test, the Wing with responsibility over the asset will take precedence over the Center safety office. At the conclusion of the SRB, the SRB chair will generate formal, written minutes, including a statement of the final safety risk level assessed for the test. Each test team must brief the items identified in **Para 6.3.1** at its SRB briefing.

4.11.4. **Safety Planning Requirements.**

4.11.4.1. Early safety involvement is critical to the overall success of the planning process, so test teams will include safety representatives in the planning from the

beginning. Additionally, test teams will consult with HQ AFSPC/JA on liability issues that arise during safety planning. During the development of any test plan, the test team shall clearly identify the following essential elements within the body of the plan. These elements do not necessarily have to be contained in the plan's safety section itself, but may be contained in an attached TERM assessment since they provide context for the safety considerations within the plan.

4.11.4.2. Identification of the risks to test and support personnel, including test training and the sources of risk of injury to personnel (test, support and collateral).

4.11.4.3. Identification of the risks to collateral assets, including risks to personnel not associated with the test, non-involved systems, other AFSPC systems, and any additional risks to operational missions of the systems.

4.11.4.4. Determination of whether the test methods or procedures introduce additional risks.

4.11.4.5. Identification of software system safety risk - this should have been accomplished through the software criticality index during the functional hazard analysis (FHA); which determines associated tests for reducing high and serious SCI items. Identify in the TERM assessment the residual risk if testing that was identified as needed in the software integrity assurance matrix (or equivalent format). (For help contact HQ AFSPC/SE or Joint Software System Safety Handbook found on **http://www.acq.osd.mil/atptf/guidance/index.html**).

4.11.4.6. Detailed explanation of how risks are mitigated.

4.11.4.7. Determination of which individual is assuming the risk of the test and how they have been notified they are assuming that risk and associated liabilities.

4.11.4.8. Identification of all safety critical actions that must occur during the test operations and who is responsible for ensuring the actions are accomplished.

4.11.4.9. Determination of an overall risk level for the test.

4.11.4.10. Planning shall include consideration of contractor responsibilities, interaction and relationships, and access to contractor information.

Chapter 5

TEST EXECUTION

5.1. Test Support Tasking.

5.1.1. Test support activities can be broken into two broad categories: test asset support and operational asset support. Test asset support is the effort provided by an AFSPC test organization or dedicated test asset (e.g., test bed). AFSPC test organizations and dedicated test assets are High Demand, Low Density assets requiring HQ AFSPC oversight. As such, organizations seeking test asset support will follow the Test Asset Support Request process described in **Para 2.4** and will explain the details of the support in the applicable test documentation (e.g., ITT Charter, TEMP, DTP). The definition of an AFSPC operational asset is a space or cyberspace system, individual part of a system, operational personnel or supporting infrastructure whose primary mission is not T&E. Operational asset support is the assistance provided by an AFSPC operational system or unit for a test activity. Organizations seeking operational asset support will follow the process described in **Para 5.3** The HQ AFSPC/A3 or designee will serve as the final adjudicator in those cases in which test resource deconfliction cannot be achieved at the unit level.

5.2. Test Asset Support.

5.2.1. Early Influence (Pre-ITT standup). AFSPC will provide T&E oversight and support for programs prior to ITT standup through the appropriate SMC test organization, ESC CTA, STIO and Responsible Test Organizations (RTO), as applicable. Support will also be provided through participation of operational test assets per the TPL. Requests for test squadron early influence involvement will be submitted to T&E CL using the TPL process. HQ T&E CL will evaluate the need for test asset support and forward the request to the appropriate organization (e.g., T&E CL Staff, STIO, 688 IOW). The organization tasked with supporting early influence will notify T&E CL via official memorandum once the program progresses past its early influence stages, thus requiring transition of involvement responsibilities to an operational test unit. The T&E CL will evaluate the rationale provided for transition. If transition is warranted, the T&E CL will notify the program manager and ensure they are aware of the TPL process described in **Para 2.4** so that at the earliest opportunity an OTO may be designated for post-early influence and ITT support. This involvement is defined as day-to-day support of ITT activities and is separate from specific test events.

5.2.1.1. **Test asset support for systems with standing budgets.** ITTs or equivalent with standing budgets (as opposed to ITTs using a fee for service model) and habitual relationships with a tasked OTO will develop a Test Asset Support Request form as required in **Para 2.4**, IAW with their budget availability and the ITT's OT&E prioritization. The ITT will forward listings through the applicable CCL to the T&E CL for inclusion on the TPL.

5.3. Operational Asset Support. C-NAF/CC or their designee is the approval authority for Operational Asset Use Requests (OAUR) involving AFSPC operational assets unless those assets are under the OPCON of a Combatant Command. In that case, C-NAF/CC or designee will verify that the requested asset is operationally ready to support testing, evaluate mission

impact and assess risk, after mitigation efforts. Based on this information the C-NAF/CC or designee will approve or disapprove the use of the requested asset for test. The Combatant Command CDR or designee is the release authority for operational use in support of test activities for those requested assets in testing activities to deconflict mission priorities and test requirements. The C-NAF/CC or designated representative will adjudicate conflicting requests for use of operational assets.

5.3.1. **Requesting AFSPC operational assets.** All OAURs will be forwarded to the applicable NAF HQ with a draft test plan for processing. After receipt of the OAUR, NAF and Wing representatives will coordinate the use of their respective assets. During coordination, Wing representatives ensure the amount and duration of testing does not adversely impact overall mission accomplishment while maximizing support to AFSPC test initiatives.

5.3.2. **Use of AFSPC operational assets in test activities.** The RTO/OTO is responsible for coordinating with the appropriate TSM and ensuring that the appropriate CCL or program office generates each request for use of AFSPC operational assets. The process for requesting the use of operational assets in testing also applies to their use in demonstrations, experiments and studies. The request must include a detailed list of impacted systems, operational resources required (to include personnel), test schedule with fallback plan and downtime required, test points of contact and a Test Execution Risk Matrix (TERM) assessment. For AFSPC test units, **Para 4.10** provides test plan approval guidance. For other agencies, test and demonstration plan approval will be IAW the appropriate guidance (e.g., AFOTEC Instructions). The NAF will establish a process for requesting and approving the use of operational assets. At the NAF/CC's or designee's discretion, TRRB approval will be in accordance with RTO/OTO procedures and specific directions from NAF/CC or designee. The final authority to begin testing lies with the asset unit commander. Unit commanders will ensure that testing does not adversely impact overall mission success or safety. Operational asset support for test events will be documented on maintenance schedules or other documents as required. This process does not preclude the need to request MRTFB assets through the Universal Documentation System process or request space or cyberspace range assets through their respective processes. **Para 1.10** provides additional guidance for the ITW/AA system.

5.3.3. **AFOTEC Test Resource Plans.** AFOTEC TRPs serve as a planning tool for the command, but will not take the place of a formal response to the AFSPC external test request process. AFOTEC TRP identifies the resources and timelines required to support an AFOTEC conducted IOT&E, FOT&E, MOT&E, OUE, or OA. All projects that support AFOTEC managed tests require a TRP. The T&E CL is the focal point for the AFOTEC TRP coordination process. The T&E CL will task the appropriate organization to coordinate and concur on the resource requirements cited in the AFOTEC TRP. For non-concurrence, a formal non-concur memorandum directed back to AFOTEC by the T&E CL is required.

Table 5.1. Test Plan Approval Matrix.

Type	Lead Test Organization	Low Risk	Med Risk	High Risk
DT&E	**Program Office**	**Group/CC**	**Wing/CC**	**Center CC/CV**
	RTO*	**Test Sq/CC**	**Group/CC**	**Center CC/CV**
OT&E	**Test Squadron**	**Squadron or Group/CC**	**Group/CC**	**688 IOW/CC or Center CC/CV**

*RTO risk acceptance level will be in accordance with units MAJCOM instruction if unit is not assigned to AFSPC.

5.4. Test Readiness Review Boards. Test Readiness Review Boards (TRRB) are required for all DT&E, OT&E or integrated DT&E/OT&E testing. HQ AFSPC/A3 will chair OT&E TRRBs for high risk operational tests (e.g., FDE, OUE, SOTR), unless HQ AFSPC/A3 has delegated decision authority. All low to medium risk TRRBs and all OA TRRBs will be chaired by the OTO Group level. The TRRB will be co-chaired by an equivalent individual from the developmental program for integrated DT&E/OT&E activities. TRRBs for OT&E will be held no later than five days prior to test execution and after receipt of a certification letter per AFMAN 63-119 (as applicable). For high risk integrated testing the TRRB must be co-chaired by HQ AFSPC/A3 unless delegated. As a minimum, the OTO, PTOs, system developer, operating unit, AFSPC CCL, PM, safety representative and supporting units will be present for all TRRBs. HQ AFSPC/SE representative is a mandatory member of all TRRBs chaired by the HQ AFSPC/A3. **Note:** All cyberspace Real-time Operations and Innovation risk management processes and TRRBs have been delegated to the 24 AF/CC.

5.4.1. TRRBs will address: description of operational system and SUT; Critical Operational Issues*, Operational Capabilities*, system maturity; deficiency summaries; test limitations; safety and technical risk assessments; and any anticipated collateral and second-order effects identified of test execution. **Note:** Items identified with an asterisk (*) are requirements for OT&E only.

5.4.2. **Cyberspace Specialized Test/Assessment Readiness Review Boards.** EMSEC testing, ELAs, Information Assurance Testing and Telephonic Assessments. These individual activities will utilize the Test Asset Support Request process to include placement on TPL; however, 688 IOW will dictate the level of approval and chair of TRRBs.

5.5. Certification to Enter Dedicated Operational Test and Evaluation.

5.5.1. **Certification of readiness to enter test letter.** To certify systems are ready to enter dedicated OT&E, the PM will coordinate a letter from the certifying official to the SIDC/CC or 688 IOW/CC (as applicable) with courtesy copies to HQ AFSPC/A3, the appropriate HQ AFSPC CCL, HQ AFSPC/A3 functional manager, HQ AFSPC/A5 requirements lead, applicable C-NAF and applicable Operational Wing/CC NLT 30 days prior to TRRB. The SIDC or 688 IOW will concur or non-concur with the certifying official's assessment, and restate any reservations or positions on unresolved issues. However, operational test squadron commanders are obligated to proceed to TRRB. System certification letters are not required for integrated DT&E/OT&E where there will be no separate OT&E phase or for OAs.

5.5.2. **AFMAN 63-119 templates.** AFMAN 63-119 templates will be utilized for any AFSPC test or assessment Test Readiness Review. Templates may be tailored for specific use. All IATT/IATO requirements must be met prior to execution of test activities.

5.6. Pre-test Activities using Operational Assets. Pre-test activities are those efforts intended as precursors to formal developmental or operational testing. Pre-test activities which will change the OPSCAP of an operational site will have an approved detailed test plan. If testers wish to include pre-test activities in an overarching detailed test plan, the plan must include contingency procedures for reacting to unexpected outcomes from pre-test activity execution. All pre-test activities which will change the OPSCAP of an operational site will be preceded by a TRRB approved at the appropriate level based on risk assessment. A chair may elect to combine TRRBs for related test events occurring close to each other such as pre-test activities immediately followed by formal testing. Pre-test activities that will not change the OPSCAP of an operational site must have prior approval from the operational site's squadron commander.

5.7. Test Start/Pause/Stop Procedures.

5.7.1. The purpose of these procedures is to inform the operational community of certain test activities and provide the test schedule, contact points, and guidance for interacting with the unit/SUT.

5.7.2. **Test Start**. The OTO or LTO as applicable will transmit a Test Start message no later than 24 hours prior to the start of execution of tests for all OUEs and FDEs as well as any tests using operational assets. The message will be distributed to all units at or above wing level that may be impacted by test activities, to include inadvertent release of data outside the SUT. The distribution list for the Test Start message will be used for all subsequent test messages.

5.7.3. **Test Pause.** There may be occasions that require some form of intervention short of a formal "stop test." In these instances, the LTO or OTO as applicable may pause test. The decision to pause test must be coordinated with the TM, PM and test plan approval authority. In the event of a test pause, the OTO or LTO will notify the T&E CL within 24 hours.

5.7.3.1. **Safety/Security Test Pause.** The LTO or OTO as applicable will ensure that all procedures and criteria for pausing a test event for safety or security concerns are briefed at the TRRB and included in Test Team training and all site in-briefs. For all safety and security test pauses, the TM will submit an incident report per **Para 6.1** A follow-up incident report will be issued in the event of a test restart and will explain the corrective actions taken.

5.7.4. **Test Restart Message.** Following the decision to pause testing, the test plan approval authority will establish restart criteria after consulting with the PM. A formal TRRB is not required prior to restarting test after pausing, unless the test plan approval authority requests one.

5.7.5. **Test Stop Message.** The primary purpose of a Test Stop message is to inform the operational community that on-site test activities have ceased. The Test Stop message is released under one of two conditions, either the test is complete or the test is not complete based on preliminary status of test objectives. Refer to the following sections for details on the circumstances and requirements for each condition.

5.7.5.1. **Test Stop, Test Complete Message.** When testing activities have ceased and test objectives have been met, the OTO or LTO as applicable will transmit a Test Stop, Test Complete message no later than 24 hours after all on-site test activities have ceased. This message serves to inform the operational community that the units and personnel involved in supporting the test may resume normal operations. It also provides situational awareness for leadership on the status of test activities and at a minimum will be transmitted at the conclusion of all OUEs, FDEs and any other tests using operational assets. The message will summarize test execution success or failure, initial deficiency listing (if available) and date of the last dedicated test event (LDTE). LDTE should normally occur no later than 75 days prior to the supported decision date. This message will also indicate the dates of the initial post-test DRB and reporting timelines. This message will not include test results, analysis, conclusions or recommendations and will not be used to support fielding, operational acceptance, early operational use, trial period entry, or FRP decisions.

5.7.5.2. **Test Stop, Test Not Complete Message.** When testing activities are halted because of significant system performance or safety issues and the test cannot be restarted within a reasonable amount of time following a test pause, the LTO or OTO as applicable will transmit a Test Stop, Test Not Complete message. This message serves to inform the operational community the on-site test has ceased prematurely and the units and personnel involved in supporting the test may resume normal operations. It also provides situational awareness for leadership on the status of test activities and at a minimum will be transmitted for all OUEs, FDEs and any other tests using operational assets. For dedicated operational tests, the Test Stop, Test Not Complete message will be accompanied by, or followed up with, a letter decertifying the system for dedicated operational test. Operational test organizations are responsible for documenting a process for decertifying systems for dedicated operational test.

Chapter 6

TEST REPORTING

6.1. Incident Reports. The LTO's TM/TD will transmit an incident report whenever a test is halted due to safety, security or other event where immediate notification of higher authority is warranted. If operational reporting per AFI 10-206, *Operational Reporting*, is required, the TM/TD need not send a separate incident report, but must ensure all applicable organizations are addressed. As a minimum, for safety and security related issues, HQ AFSPC/A3/A5/SE, SIDC/CC/CV, 688 IOW/CC/CV, SMC/CC/CV, 595 SG/CC, 318 IOG/CC/CV, Program Office/CC, applicable Wing/CC/SE and, as required, CC2SG/CD will be addressed.

6.2. Developmental Test Reports. Specific reporting details such as timelines and address lists will be specified in the detailed test plan. As a minimum, results of DT&E will be published to an ITT-approved data repository available to all stakeholders. The PM is responsible for establishing the data repository and ensuring proper protection is afforded to all sensitive information.

6.3. Operational Test Reports.

6.3.1. **OT&E Test Reports.** OT&E Test Reports come in the form of both written Final Reports and FRBs. In either event, the OTO will address: description of operational system and SUT; results regarding Critical Operational Issues*, Operational Capabilities*; system maturity*; deficiency summaries*; test limitations*; and any observed collateral* and second-order effects* of test execution. Additionally, OT&E Test Reports must include adequate details of test scenarios, processes and deviations from planned test procedures to support decision-maker requirements. Finally, OT&E Test Reports must include supported decision recommendations* when the test event directly supports such decisions. An executive summary including all asterisked (*) items will be included in Final Reports. Final reports will also include Measures of Effectiveness and Measures of Suitability.

6.3.1.1. **OT&E Report Approval Authority.** The approval authority for the test plan also approves the OT&E Test Report, unless otherwise specified.

6.3.1.2. **OT&E Report Release Authority.** Unless decision authority has been delegated, HQ AFSPC/A3 will release OT&E Test Reports resulting from AFSPC OT&E if the report will be distributed to organizations outside of AFSPC and supports fielding, operational acceptance, early operational use, trial period entry, or FRP decisions. If test activity did not support fielding, operational acceptance, early operational use, trial period entry, or FRP decisions, the report approval authority is also the release authority.

6.3.1.3. **OT&E FRBs.** FRBs are required for all AFSPC OT&E that supports fielding, operational acceptance, early operational use, trial period entry, or FRP decisions and may be required for other OT&E at the discretion of the requesting organization in coordination with the CCL and OTO. OT&E FRBs will be chaired by HQ AFSPC/A3 unless delegated if the decision being supported is a fielding, operational acceptance, early operational use, trial period entry, or FRP. In cases in which an AFSPC OTO is conducting test activities and the appropriate decision authority is in an external organization, the CCL will coordinate the FRB through HQ AFSPC/A3 prior to external presentation. In all other cases, the FRB will be chaired by the requesting organization or

as annotated in the Test Asset Support Request form. The FRB should normally be provided to the appropriate decision authority 30 days prior to the supported decision date. The FRB timeline will be determined and identified in the test plan and confirmation will be provided at the TRRB.

6.3.1.4. **OT&E Final Reports.** Final Reports that are being used to support a fielding, operational acceptance, early operational use, trial period entry or FRP decision will be submitted to the appropriate decision maker no later than 30 days after the FRB.

6.3.1.5. **HQ AFSPC CCL Key Considerations for OT&E.** If a fielding, operational acceptance, early operational use, trial period entry or FRP decision is being made in conjunction with the FRB/Final Report, in addition to the OTO-provided FRB/Final Report, the appropriate CCL, in coordination with the program office, will provide the decision authority, under separate cover but in support of the final FRB/ Final Report, any relevant concerns regarding system maturity, potential collateral effects or second-order effects of concern caused by system operation and any other information pertinent to the decision.

6.3.2. **Single Integrated DT&E/OT&E Test Reports.** If a single integrated DT&E/OT&E Test Report is chosen to be used, the AFSPC OT&E Test Report approval authority level is maintained.

6.3.3. **Specialized Test/Assessment Reports.** EMSEC testing, ELAs, Information Assurance Testing, and Telephonic Assessments. These individual activities will utilize the Test Asset Support Request process to include placement on TPL; however, 688 IOW and SIDC will dictate the format, content and level of coordination, approval and release authority of reports and report briefs.

6.3.4. **Interim Summary Reports.** A written interim summary report is required in the event that a final report cannot be ready in time to meet established timelines. The T&E CL will help to identify a new final report due date; the results from any additional data collected will be added to the final report.

6.3.5. **Interim Status Reports.** The test community will provide relevant, timely status reports to decision makers. Status reports identify and report technical maturation and performance and related impacts to test design, resources, infrastructure, and schedule. These reports may be integrated (one combined product from DT&E & OT&E) or non-integrated (separate DT&E or OT&E product), are event-driven, and are prepared as necessary after completion of significant program events. Interim Status Reports may be used in situations where a test is broken into discrete phases and the final test report will not be available for an extended period of time. Interim status reports may be in written or presentation form at the discretion of the decision authority. These reports may be signed at the squadron commander level. If this approach is used, the test organization will first coordinate with the T&E CL for applicability, concurrence and any additional requirements.

6.4. Deficiency Reports.

6.4.1. **AFSPC Systems.** The Joint Deficiency Reporting System (JDRS) applies to AFSPC, contractor members and organizations who operate or sustain AFSPC-owned or managed systems, to include joint systems, subsystems, and end items; to include trainers, test and support equipment and vehicles. For all systems, JDRS shall be established, IAW TO 00-

35D-54, not later than acquisition design baseline (Milestone B) and will continue throughout the system life cycle. HQ AFMC/LG may grant waivers on a case-by-case basis. Waiver requests will be coordinated through HQ AFSPC/A4/A7 who will make recommendations for waiver approval/disapproval. The ITT is responsible for generating a Deficiency Review Board (DRB) charter that documents key members, roles and specific processes. Testers will ensure Deficiency Reports (DR) validated during testing are entered into JDRS and the appropriate CCL is notified of JDRS tracking and resolution responsibilities. Validated IA deficiencies will also be assigned DRs for tracking and visibility as applicable.

6.4.2. **Joint Systems.** Joint systems under test, operated and/or maintained by AFSPC will use these procedures to ensure commonality of reporting and resolution. The individual program office or lead service may establish specific reporting and resolution requirements over and above these requirements as long as those requirements are transparent to AFSPC users.

6.4.3. **Reporting Requirements.** The test team will ensure all DRs are reported to the appropriate PM and HQ AFSPC/A3/A5/A6 CCLs. As a minimum, all CAT I through CAT II Urgent deficiencies will be included in final test reports. The appropriate HQ AFSPC/A3/A5 CCL is responsible for tracking the resolution of DRs after the final test DRB. More information on deficiency reporting can be found in AFI 99-103 and TO 00-35D-54.

6.5. Distribution of Test Information. In addition to AFI 99-103 requirements, test information will be published on the programs test data repository. DT&E reports and Final Reports will be made available electronically to ITT Chairs, and all stakeholders (upon request). Outside agencies may request test information from the T&E CL, who will coordinate with the ITT Chairs, CCL and HQ AFSPC/A8/A9/PA regarding release.

6.6. Proprietary Information. Any proprietary information that is communicated to the test team will not be transferred or communicated to any commercial organization or entity without the documented permission of the originator in order to avoid penalties described in the Trade Secrets Act, 18 USC 1902.

6.7. Archive Requirements. The appropriate knowledge owner (PM for program information, OTO for test information) will ensure proper archive procedures are followed for each program. The ITT co-chairs must take into account the need for rapid recall of T&E data for future use or use by similar programs.

6.8. Prescribed Forms. This publication does not prescribe any forms.

6.9. Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

TOD D. WOLTERS, Brigadier General, USAF
Director of Air, Space and Cyberspace Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Abbreviations and Acronyms

ACAT—Acquisition Category

ACTD—Advanced Concept Technology Demonstration

ADM—Acquisition Decision Memorandum

AF-CTTA—Air Force-Certified TEMPEST Technical Authority

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFNAS—AF Network Architecture Solution Assessments

AFNIC—Air Force Network Integration Center

AFOTEC—Air Force Operational Test & Evaluation Center

AFPD—Air Force Policy Directive

AFPEO/SP—Air Force Program Executive Office for Space

AFRC—Air Force Reserve Command

AFROCC—Air Force Requirements for Operational Capabilities Council

AFSPC—Air Force Space Command

AFSPCI—Air Force Space Command Instruction

AFSSI—Air Force Systems Security Instruction

AF/TEP—HQ USAF Test and Evaluation Policy and Programs Division

ANG—Air National Guard

AoA—Analysis of Alternatives

APB—Acquisition Program Baseline

APL—Approved Products List

ATD—Advanced Technology Demonstration

CC—Commander

CCB—Configuration Control Board

CCL—Capability Command Lead

CDD—Capability Development Document

CDR—Critical Design Review

CJCSI/M—Chairman of the Joint Chiefs of Staff Instruction/Manual

CL—Command Lead

CMC—Cheyenne Mountain Complex

CDR JFCC SPACE—Commander, Joint Forces Component Command for Space

CDRUSSTRATCOM—Commander, United States Strategic Command

C&A—Certification and Accreditation

C&L—Capabilities and Limitations

C-NAF—Component Numbered Air Force

COA—Course of Action

COI—Critical Operational Issue

COMSEC—Communication Security

CONOPS—Concept of Operations

COTS—Commercial Off-The-Shelf

CPD—Capability Production Document

CRB—Combined Review Board

CTEIP—Central Test and Evaluation Investment Program

CTF—Combined Test Force

CTP—Critical Technical Parameters

DAA—Designated Accreditation Authority

DISA—Defense Information Systems Agency

DMS—Defense Message System

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DOT&E—Director of Operational Test & Evaluation

DR—Deficiency Report (Directorate of Requirements if used as office symbol)

DRB—Deficiency Review Board

DRIS—Deficiency Reporting and Investigating System

DT&E—Developmental Test and Evaluation

DTP—Detailed Test Plan

ELA—Evaluated Level of Assurance

ELSG—Electronic Systems Group

EMSEC—Emissions Security

ESC—Electronic Systems Center

FDE—Force Development Evaluation

FOC—Full Operational Capability

FRP—Full Rate Production

FSA—Functional Solution Analysis

FOT&E—Follow-On Test and Evaluation

FY—Fiscal Year

GOTS—Government off-the-shelf

HPT—High-Performance Team

HQ—Headquarter

I&C—Installation and Checkout

IA—Information Assurance

IATT—Initial Authority to Test

IATO—Initial Authority to Operate

IAW—In Accordance With

ICBM—Intercontinental Ballistic Missile

ICD—Initial Capabilities Document

ICT—Integrated Concept Team

IDEA—Intrusion Detection Exploration and Analysis

INFOSEC—Information Security

IOC—Initial Operational Capability

IOT&E—Initial Operational Test & Evaluation

IOW—Information Operations Wing

IPT—Integrated Product Team

IT—Information Technology

ITC—Integrated Test Concept

ITT—Integrated Test Team

ITW/AA—Integrated Tactical Warning / Attack Assessment

JCIDS—Joint Capabilities Integration and Development System

JCTD—Joint Concept Technology Demonstration

JDRS—Joint Deficiency Reporting System

JROC—Joint Requirements Oversight Council

JUON—Joint Urgent Operational Need

LCMP—Life Cycle Management Plan

LFT&E—Live Fire Test and Evaluation

LTO—Lead Test Organization

MAJCOM—Major Command

MCP—Modification Control Point

MDA—Milestone Decision Authority

MilStd—Military Standard

MOA—Memorandum of Agreement

MOE—Measure of Effectiveness

MOP—Measure of Performance

MOS—Measure of Suitability

MOT&E—Multi-Service Operational Test and Evaluation

MRTFB—Major Range and Test Facility Base

M&S—Modeling and Simulation

MUA—Military Utility Assessment

NAF—Numbered Air Force

NDI—Non-Developmental Items

NI—North American Aerospace Defense Command/United States Space Command Instruction

OA—Operational Assessment

OAB—Operations Approval Board

OAP—Operations Approval Panels

OAUR—Operational Asset Use Request

OO-ALC—Ogden Air Logistics Center

OPG—Operations Protection Guides

OPR—Office of Primary Responsibility

OPCON—Operational Control

OPSCAP—Operational Capability

OPSEC—Operational Security

OSD—Office of the Secretary of Defense

OT—Operational Test

OT&E—Operational Test and Evaluation

OTA—Operational Test Agency

OTO—Operational Test Organization

PDR—Preliminary Design Review

PEO—Program Executive Officer

PESHE—Programmatic Environmental, Safety, and Heath Evaluation

PM—Program Manager

PMD—Program Management Directive

POM—Program Objective Memorandum

PTO—Participating Test Organization

RDS—Records Disposal Schedule

RFP—Request for Proposal

RM—Risk Management

RSR—Requirements Strategy Review

RTO—Responsible Test Organization

RVB—Requirements Validation Board

SBIRS—Space-based Infrared System

SCG—Security Classification Guide

SDR—Software Design Review

SI—USSTRATCOM Instruction

SIDC—Space Innovation and Development Center

SG—Space Group

SM—Single Manager

SMC—Space and Missile Systems Center

SOC—Satellite Operations Center

SOR—Statement of Requirements

SOTR—Sufficiency of Operational Test Review

SOW—Statement of Work

SRB—Safety Review Board

SRR—System Requirement Review

SRS—System Requirements Specification

SDTW—Space Development and Test Wing

STIG—Security Technical Implementation Guides

STIO—Space Test Integration Office

SUT—System Under Test

SW—Space Wing

T&E—Test and Evaluation

TD—Test Director

TD&E—Tactics Development & Evaluation

TDS—Technology Development Strategy

TEMP—Test and Evaluation Master Plan

TEMPEST—Telecommunications and Electrical Machinery Protected From Emanations Security

TENCAP—Tactical Exploitation of National Capabilities

TERM—Test Execution Risk Matrix

TES—Test and Evaluation Strategy

TEWG—Test and Evaluation Working Group

TIPP—Test Investment Planning and Programming

TIPT—Test Integrated Product Team

TM—Test Manager

TO—Technical Order

TPL—Test Priority List

TRB—Technical Review Board

TRP—Test Response Plan

TRRB—Test Readiness Review Board

TS—Test Squadron

TSM—Test Support Manager

TSSAP—Telecommunication System Security Assessment Program

TT&C—Telemetry, Tracking and Control

TTP—Tactics Techniques and Procedures

UON—Urgent Operational Need

USAF—United States Air Force

USAFWC—United States Air Force Warfare Center

V&V—Verification and Validation

VV&A—Verification, Validation and Accreditation

Terms

Air Force Space Command System—Any system that is accepted/received by an AFSPC authorized entity/office via the signing of a DD250, *Material Inspection and Receiving Report* or is considered an AFSPC acquisition/sustainment program.

Capabilities-Based Testing—A mission-focused methodology of verifying that a capabilities solution will enable operations at an acceptable level of risk. Capabilities-oriented evaluations are emphasized throughout system testing in addition to traditional evaluations of system performance measured against specification-like requirements. It requires understanding CONOPS and involves developing T&E strategies and plans to determine whether a capability solution option merits fielding.

Combined Test Force (CTF)—A method for testing systems as a continuum--throughout acquisition and development and up to dedicated operational test. The CTF team is subordinate to the ITT and led by a test professional. It is composed of key members representing the Program Office, functional area, development, security, and others with a test interest in a project. Additionally, AFOTEC representatives and/or SIDC-appointed operational testers will participate as members for any project with operational test requirements. CTF members are active participants in all test activities, and use their corporate knowledge to focus integrated team efforts on management, planning and preparation, testing, evaluation and reporting of all Development Test. The CTF may culminate with DT&E, or it may continue in a support role with the Operational Tester conducting operational testing.

Critical Operational Issue (COI)—1. Operational effectiveness and operational suitability issues (not parameters, objectives, or thresholds) that must be examined during operational testing to determine the system's capability to perform its mission. (paraphrased from DAU's *Test and Evaluation Management Guide)* 2. A key question that must be examined in OT&E to determine the system's capability to perform its mission. Testers normally phrase a COI as a question to be answered in evaluating a system's operational effectiveness or suitability.

Cyberspace System—An AFSPC cyberspace system is one assigned to AFSPC and used for the special purpose of defense of the cyber domain, operations of the cyber domain and delivered for use to force providers.

Deficiency Report (DR)—The report used to identify, document, and track system deficiency or enhancement data while a system is in advanced development, operational test, or operational transition.

Category I deficiencies are those which may cause death, severe injury, or severe occupational illness; may cause loss or major damage to a weapon system; critically restricts the combat readiness capabilities of the using organization; or result in a production line stoppage.
Category II deficiencies are those that impede or constrain successful mission accomplishment (system impacts OSS&E but does not meet the safety or mission impact criteria of a Category I deficiency).

Detailed Test Plan (DTP)—Detailed test plans generally cover a single test activity specified in the ITC, but may be developed to cover multiple, related test activities, such as dry runs and formal testing.

At a minimum each detailed test plan will contain: A description of the SUT, to include the basic system design, specific modifications, test specific configurations (including critical changes for instrumentation), system interfaces with support and collateral assets, and (as appropriate) safeguards to isolate the SUT from the real world.

The detailed test plan will also identify criteria for starting, pausing, stopping, and restarting the test. Also it will identify specific individuals/positions that have the authority to start, pause, stop, and restart the test, including thresholds for various levels of required approval.

Developmental Test and Evaluation—T&E conducted to evaluate design approaches, validate analytical models, quantify contract technical performance and manufacturing quality, measure progress in system engineering design and development, minimize design risks, predict integrated system operational performance (effectiveness and suitability) in the intended environment, and identify system problems (or deficiencies) to allow for early and timely resolution. DT&E includes contractor testing and is conducted over the life of the system to support acquisition and sustainment efforts. (***Defense Acquisition Guidebook***)

Dry Run—Dry runs are a process in which a test team verifies that their test procedures and scenarios function as intended and are likely to collect sufficient data to meet test objectives.

Experiment—A scientific, technological, or developmental investigation or test. An experiment may include several instrument packages from the same or different sponsoring agencies. A given payload may include several experiments from the same or different sponsoring agencies. They may be primary or secondary mission experiments.

Fielding—The decision to release a system for operational use by units in the field or fleet.

Fit—The "mating" characteristics of an item that allow it to physically interface or interconnect with or become an integral part of another item. **Note:** limited to hardware items.

Force Development Evaluation (FDE)—The OT&E of fielded, operational systems during the sustainment portion of the system life cycle after acceptance for operational use. The focus is on

maintaining or upgrading operational systems after the initial acquisition process is complete. An FDE may also support acquisition of AFSPC-managed systems.

Form—The defined configuration, including the geometrically measured configuration, density, and weight or other visual shape/size parameter that uniquely characterize the physical characteristics of an item. **Note:** limited to hardware items.

Function—The action or actions that an item is designed to perform and must be capable of doing for a defined set of conditions. **Note:** may apply to hardware and/or software items.

High Performance Team (HPT)—The HPT is the preferred method to (quickly) develop an ICD, Stage I, ICD, Stage II, CDD, or CPD, and is used unless waived by AF/A3R at the RSR. An HPT consists of a lead (normally the sponsor), core and support team members. (AFI 10-601).

Installation and Checkout (I&C)—AFSPC units conduct I&C to support the operational acceptance of sustaining engineering activities and processing equipment swaps covered by operational technical manuals and checklists. I&C activities are also appropriate for routine updates to operational databases which do not directly affect or have the potential to affect mission accomplishment and following maintenance of software that does not add new capabilities to the system (e.g., maintenance releases, database changes, COTS updates). Additionally, I&C activities may be used to support acceptance of Program Office modifications being installed at multiple sites after the initial site passes a successful OT&E.

Integrated Test Team (ITT)—A cross-functional team of empowered representatives from multiple disciplines and organizations and co-chaired by operational testers and the program management representative. The ITT is responsible for developing the TES and TEMP, assisting the acquisition community with T&E matters, and guiding the development of integrated test plans. There is one cognizant ITT for each acquisition program. ITTs are responsible for ensuring testers collaborate to minimize the amount of resources, time and cost required to meet program objectives. The results of this collaboration will be evident in the TES/TEMP and associated ITCs. ITTs will also ensure test teams plan for contingencies such as lack of test squadron support or operational asset availability. These steps will minimize required changes to program ITCs.

Integrated Testing—Any combination of two or more types of testing used to achieve greater test efficiency, reduced cost, and schedule savings without compromising the objectives and needs of the participating test organizations.

Lead Test Organization (LTO)—Test organization with the responsibility for coordinating actions leading to planning, executing and reporting on test activities involving multiple test organizations. The LTO may be lead for a team consisting of more than one service, command or testing discipline (DT&E/OT&E).

Measure of Effectiveness (MOE)—A qualitative or quantitative measure of a system's performance or a characteristic that indicates the degree to which it performs the task or meets a requirement under specified conditions. MOEs should be established to measure the system’s capability to produce or accomplish the desired result.

Measure of Performance (MOP)—A quantitative measure of a system's capability to accomplish a task. Typically in the area of physical performance (e.g., range, velocity, throughput, payload).

Measure of Suitability (MOS)—A qualitative or quantitative measure of a system suitability parameter; that is, one which could impact reliability, maintainability, availability, logistics, supportability, training, etc. It is not mandatory to use MOSs in a TEMP, but if they aren't there, the MOEs should adequately cover all suitability requirements.

Operational Effectiveness—Measure of the overall ability to accomplish a mission when used by representative personnel in the environment planned or expected for operational employment of the system considering organization, doctrine, tactics, supportability, survivability, vulnerability and threat. (CJCSI 3170.01F)

Operational Suitability—The degree to which a system can be placed satisfactorily in field use with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates, maintainability, safety, human factors, manpower supportability, logistics supportability, natural environmental effects and impacts, documentation and training requirements. (CJCSI 3170.01F)

Operational Test—AFSPC Operational test is defined as any test or test support activity conducted by an OTO. OT&E may also be used to assess and report on a system's maturity and potential to meet operational requirements. Types of test that require TPL submissions are OAs, OUEs, FDEs and SOTRs. 346 TS Cyberspace technology assessments (TSSAP, EMSEC and IPv6 Information Assurance Support activities conducted by the 346 TS) are a subset of OA. They are low risk assessments of current or evolving technology. Cyberspace technology assessment test documentation and TRRBs that fall under the definition of low risk will be coordinated and chaired at the Group or Squadron level. Military Utility Assessments (MUA) and any other assessment activities other than those listed above are not operational test activities and cannot be used to support fielding, operational acceptance, early operational use, trial period entry or FRP decisions.

Operational Test Agency (OTA)—An independent agency reporting directly to the Service Chief that plans and conducts operational tests, reports results, and provides evaluations of effectiveness and suitability on new systems. (DoDD 5000.01) **Note*:*** Each Service has one designated OTA: The Air Force has the Air Force Operational Test and Evaluation Center (AFOTEC). The Navy has the Operational Test and Evaluation Force (OPTEVFOR). The Army has the Army Test and Evaluation Command (ATEC). The Marine Corps has the Marine Corps Operational Test and Evaluation Activity (MCOTEA).

Operational Test Organization—The generic term for any organization that conducts operational testing as stated in its mission directive. For AFSPC, OTOs are those organizations specifically identified in this instruction.

Operational Test and Evaluation (OT&E)—A generic term describing the T&E options and levels of effort available to an operational test organization. Within AFSPC operational test is also defined as any test or test support activity conducted by an OTO.

Participating Test Organization (PTO)—Any test organization required to support a lead test organization by providing specific T&E data or resources for a T&E program or activity.

Program Manager (PM)—1. The designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the MDA. (DoDD 5000.01) 2. Applies collectively to system program directors, product group managers, single managers, acquisition program managers, and weapon system managers. Operating as the single manager, the PM has total life cycle system management authority. **Note*:*** This AFSPCI also uses the term "PM" for any designated person in charge of acquisition activities prior to MS A (i.e., before a technology project is officially designated an acquisition program).

Responsible Test Organization—The lead government developmental test organization on the ITT that is qualified to conduct and responsible for overseeing DT&E.

Safety Review Board—The SRB will review the test products (e.g., test plan, test and collateral risk assessments, failure modes and effects analyses) and presentation to validate or revise the final safety risk level for the test. The SRB assesses whether the T&E project's safety plan has identified and mitigated all health and safety hazards according to AFI 91-301, ***Air Force Occupational and Environmental Safety, Fire Protection and Health (AFOSH) Program,*** a Programmatic Environmental, Safety, and Health Evaluation (PESHE) review according to RM principles, and an environmental impacts/compliance/pollution prevention IAW federal, state and local environmental laws.

Space System—A system with a major functional component that operates in the space environment or which, by convention (e.g., ground-based sensors), is so designated. It usually includes a space element, a link element, and a terrestrial element. However, a space system may also consist of components that travel between space modes: space to ground, ground to space, or ground to ground through space.

System Safety—The principle objective of a system safety program is to ensure safety, consistent with mission requirement, is included in technology development and designed into systems, subsystems, equipment, facilities, and their interfaces and operation.

Sustainment—1. The provision of personnel, logistic, and other support required to maintain and prolong operations or combat until successful accomplishment or revision of the mission or of the national objective. (JP 1-02) 2. The Service's ability to maintain operations once forces are engaged. (AFDD 12, ***Air Force Glossary***) 3. Activities that sustain systems during the operations and support phases of the system life cycle. Such activities include any investigative T&E that extends the useful military life of systems, or expands the current performance envelope or capabilities of fielded systems. Sustainment activities also include T&E for modifications and upgrade programs, and may disclose system or product deficiencies and enhancements that make further acquisitions necessary.

Technical Review Board (TRB)—The TRB will review the following as applicable: enabling concepts; test personnel composition; training and proficiency requirements for testers, operators and maintainers; logistics requirements to include test items and infrastructure; RM&A approaches; system up/downtime to support testing; system hardware/software maturity; capabilities being tested or specified requirements; software, hardware and network baselines; and schedules. The TRB chair will review test products (e.g., test plan, test measures and methods, detailed test procedures, operational risk assessments) to evaluate the technical complexity and risk of the test program and determine the need for a formal board. The TRB

chair will review the test products, presentation and inputs from other board members (if applicable) to validate or revise the final risk level for the test. The TRB will ensure that environmental analyses have been completed as required by AFI 32-7061, ***The Environmental Impact Analysis Process,*** and referenced in the test plan. Additionally, the TRB will assess Operational Security (OPSEC), Communication Security (COMSEC) and Information Security (INFOSEC) concerns. The TRB can occur as soon as the TRB chair is satisfied that sufficient test planning detail exists to determine technical adequacy and validity of the plan's ability to meet test objectives and determine overall test risk.

Test Director (TD)—A person holding an organizational position charged with overseeing testing or test activities.

Test Manager (TM)—The individual(s) identified by the commander of the test organization to act as the focal point for overall test planning, test conduct and reporting on the test program. The commander of the test organization will appoint the TM and ensure the rank is commensurate with the risk associated with the testing. The TM has overall responsibility for the safe conduct of the test.

Test Readiness Review Board (TRRB)—The TRRB is a meeting to determine the readiness to begin executing test activities. While the format and structure of the TRRB is at the discretion of the approval authority, TRRBs should, as applicable, confirm the following: approved detailed test plan, test team, operators and maintainers are ready to support to include test specific and system operations training; all safety aspects have been addressed and residual risks have been accepted at the appropriate level; test halt procedures with associated criteria established and trained; TRB and SRB recommendations and resolutions, configuration management processes in place; and significant DRs have been resolved.

Test Support Manager (TSM)—The individual(s) identified at the wing or unit level that supports the test organization and/or LTO in planning and conducting the test. The TSM is assigned from operational units supporting the test activity and serves as a liaison between the operational unit and the test organization/LTO. The TSM will support the testing process from test planning through reporting.

Test Team—A group of testers and other experts who carry out integrated testing according to a specific test plan. **Note:** A combined test force is one way to organize a test team for integrated testing.