

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

**AIR FORCE MANUAL 99-108**

**6 JUNE 2023**



***Test and Evaluation***

**PROGRAMMING AND REPORTING  
AERIAL TARGET AND MISSILE  
EXPENDITURES IN TEST AND  
EVALUATION**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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OPR: Air Force/Test and Evaluation  
Programs and Policy  
(AF/TEP)

Certified by: AF/TEP  
(Col Steven W. Speares)

Supersedes: AFMAN 99-108, 9 May 2018

Pages: 20

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This manual implements Department of the Air Force Policy Directive (DAFPD) 99-1, *Test and Evaluation*. This Air Force Manual (AFMAN) is used in conjunction with Air Force Instruction (AFI) 10-601, *Operational Capability Requirements Documentation and Validation*; AFI 63-101\_20-101, *Integrated Life Cycle Management*; DoDI 5000.89\_DAFI 99-103, *Capabilities-Based Test and Evaluation*; AFMAN 99-120, *Forecasting and Programming Munitions Telemetry and Flight Termination Systems*; DAFMAN 21-201, *Munitions Management*; and AFMAN 11-212, *Requirements for Aircrew Munitions*. The purpose of this AFMAN is to provide guidance and procedures for programming, requesting, allocating, and reporting the expenditure of aerial targets and air-to-air missiles. It also establishes responsibility for programming and allocating aerial targets and missiles for all Air Force organizations that conduct Air Force developmental and operational testing (DT/OT), live-fire test and evaluation (LFT&E), tactics development and evaluation, Major Command (MAJCOM) force development evaluations (FDE), the Weapon System Evaluation Program (WSEP), and the Weapons Instructor Course (WIC). This publication applies to all Department of the Air Force civilian employees and uniformed members of the Regular Air Force, the Air Force Reserve, the Air National Guard, and those of a Department of Defense (DoD) component, command, or agency (e.g., Army, Navy, Northern Command) requiring Air Force aerial targets on a recurring basis. This publication does not apply to the United States Space Force. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Form 847 from the field through the appropriate functional chain of

command to the Director of Test and Evaluation, Policy and Programs Division (AF/TEP) workflow ([AF.TEP.Workflow@us.af.mil](mailto:AF.TEP.Workflow@us.af.mil)) or 1610 Air Force Pentagon, Washington, DC 20330-1610. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing/unit level requirements in this publication are identified with a Tier (“**T-0**, **T-1**, **T-2**, **T-3**”) number following the compliance statement. See DAFMAN 90-161, *Publishing Processes and Procedures*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor’s command for non-tiered compliance items. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System.

## ***SUMMARY OF CHANGES***

The publication has been revised by updating source regulations, office symbols, processes, e-mail addresses, and references.

**1. Overview.** The Air Force must test some new and modified systems by live-fire, as directed by Title 10 of the United States Code. **For planning purposes, the Air Force considers every air-to-air missile expenditure a Test and Evaluation (T&E) event.** The principal test and evaluation programs on which the Air Force expends its air-to-air missiles, aerial targets, and supporting resources are DT, OT, LFT&E, FDE, WSEP, and the WIC. This publication provides guidance and procedures to forecast and manage aerial targets, their associated payloads, and air-to-air missiles in support of live-fire events Air Force-wide, and to do same for DoD Components that request full-scale aerial target (FSAT) support from the Air Force, as the DoD Lead Service for FSAT. Air Force test units and acquisition program offices must ensure their planning processes follow the guidance herein to ensure aerial target requests are prioritized and supported correctly, expenditures are managed and reported, and the acquisition of aerial targets is informed by the kill/presentation requirements/allocation process.

1.1. WSEP. Air Combat Command (ACC) through the 53d Weapons Evaluation Group (53 WEG) conducts WSEP to determine the overall operational effectiveness and suitability of fully integrated fielded weapon systems (i.e., war reserve materiel (WRM)) in realistic operational scenarios while enhancing training. WRM includes all fielded munitions that are allocated to support combat plans and required reserves. The air-to-air portion is conducted under Combat Air Forces (CAF) Plan 53, *Weapon System Evaluation Program (WSEP)*, as COMBAT ARCHER.

1.2. WIC. WIC shots are conducted in conjunction with scheduled WSEP events to the maximum extent feasible. WIC shots support course objectives and can complement on-going WSEP investigative firings. WSEP investigative firings are a subset of the annual WSEP live-fire program that focuses on resolving or illuminating a War Fighter issue with fielded aircraft, weapons or tactics employment.

## 2. Planning for Aerial Target and Air-to-Air Missile Expenditures.

2.1. The complexity of air-to-air test missions and advanced threats to be emulated in today's test missions demands clearly understood processes to forecast requirements, allocate resources and execute missions, while minimizing the unnecessary loss of limited and very complex/expensive test resources. To support the Air Force allocation process, each user (MAJCOMs, the Air Force Operational Test and Evaluation Center (AFOTEC), and other Services) must use local processes that collect and prioritize requirements, justify test resources, and manage targets allocated to them for expenditure in accordance with the guidance provided in this manual. (T-1)

2.2. Aerial targets are requested by, and allocated to programs, based on the risk of target destruction when supporting program objectives for the test mission. [Attachment 3](#) is used to determine the risk of target destruction, that is communicated to decision makers when a program requests, and is issued either of two types of target authorizations:

2.2.1. Kill Authorization (KA). A KA is appropriate when it is likely the unmanned target will be expended/destroyed during the mission. A kill authorization may be issued even if the potential of saving the target through survivability maneuvers is likely; and is required to launch targets flying a Critical Profile as defined by DAFI 91-204, *Safety Investigations and Reports*.

2.2.2. Presentation Authorization (PA). A PA is appropriate when the intent is not to expend/destroy the unmanned target during the mission. A PA will be requested/issued if no live weapons will be fired at the target, or weapons are planned to be terminated or kinematically defeated prior to impact.

2.3. Programs will obtain a KA or PA prior to the launching of an unmanned target. (T-1)

2.4. To expedite how full-scale aerial targets are allocated annually, a tiered system is managed by AF/TEP to assign priorities to test programs requiring target allocations. In the target tiering hierarchy Tier I (highest priority) includes programs on Office of the Secretary of Defense (OSD) oversight being tested by AFOTEC for operational test, or Air Force Materiel Command (AFMC) for developmental test. Tier II is used for MAJCOM (primarily ACC) developmental/operational test of systems not typically on OSD oversight or in sustainment. Tier III is for WSEP—primarily surveillance testing of fielded systems. The tiered allocation process ensures high-priority, schedule driven programs are supported to the maximum extent. Tier III priority program allocations are also managed to maintain a predictable expenditure or burn rate for the aerial target inventory in the current execution year and over the Future Years Defense Program.

2.5. WRM air-to-air missiles are requested by, and allocated to programs, using [Attachment 2](#), informed by objectives for the test mission, and Warfighter needs as ascertained by the Weapons Requirements Division (USAF/A5DW).

2.6. Compliance Items (IAW DAFMAN 90-161).

2.6.1. The AFOTEC/CC is delegated waiver authority for AFOTEC “T-1” compliance items with concurrence of AF/TE.

2.6.2. IAW AFI 63-101/20-101, mandates to the acquisition execution chain are not considered Wing level mandates and DAFMAN 90-161 tiering does not apply.

**3. Applicable Aerial Targets and Missiles.** For missile requirements/allocations, this manual only applies to those to be removed from WRM in support of a test program. WRM does not include developmental munitions that are currently in test. MAJCOMs and AFOTEC will not include missiles that are procured directly from a contractor, specifically for the developmental or operational test of that missile, in the missile expenditure requests. **(T-1)** This manual applies to the following types of aerial targets and missiles under Air Force control:

3.1. Air Force Subscale Aerial Target (AFSAT): BQM-167.

3.2. Full Scale Aerial Target (FSAT): QF-16.

3.3. Air Intercept Missile (AIM): AIM-7, AIM-9, AIM-120.

3.4. Non-USAF Aerial Target Support:

3.4.1. USAF kill/presentation authorizations are not transferable via the program office to the Navy or Army in return for one of their targets. Interservice transfers will only be managed by AF/TE as discussed in [paragraph 4.4](#).

3.4.2. AF programs requiring Navy subscale aerial target (SSAT) support at Naval Base Ventura County (NBVC) Point Mugu, Naval Air Weapons Station China Lake, or the Utah Test and Training Range (UTTR) must initiate requests with the Navy aerial target office at NBVC Point Mugu. These requests will then be forwarded to T&E Infrastructure, Training Ranges and Targets (OPNAV/N943), under the Office of the Deputy Chief of Naval Operations, Warfare Systems Directorate; Office of Director of Innovation, Technology and Test and Evaluation (OPNAV/N943) for approval, after coordination with AF/TEP. The OPNAV/N943 approval will also confirm costs to be paid by the Air Force program.

3.4.3. The same process applies when requesting support from the Army. Contact the Army Targets Management Office (TMO), under the Project Manager Instrumentation, Targets and Threat Simulators, and Special Operations Forces (SOF) Training Systems (PM ITTS, Aberdeen Proving Ground MD), which falls under the U.S. Army Program Executive Officer for Simulation, Training and Instrumentation (PEO STRI, Orlando FL). **Note:** When programs pre-coordinate for aerial target support from another Service, they will not commit the Air Force to provide in-kind aerial target support for expended targets.

3.4.4. Air Force targets will be provided on suitably equipped Air Force ranges.

#### **4. Roles and Responsibilities.**

4.1. Director, Operational Test and Evaluation (DOT&E).

4.1.1. Determines, in coordination with Under Secretary of Defense for Research and Engineering (USD/R&E) and the Services, what programs are on OSD oversight for OT and LFT&E, which informs Tier 1 target allocations.

4.1.2. Determines adequacy of OT test resources in a program's Test and Evaluation Master Plan (TEMP) or Test Strategy which informs Tier 1 allocations.

4.1.3. Oversees the International T&E Program for the Secretary of Defense that approves activities authorized under international agreements for reciprocal use of ranges and resources, and cooperative T&E programs.

4.2. Office of the Under Secretary of Defense for Research and Engineering (USD/R&E), through the Deputy Director, Developmental Test, Evaluation and Assessment (DD(DTE&A)).

4.2.1. Determines, in coordination with DOT&E and Services, what programs are on OSD oversight for DT, which informs Tier 1 target allocations.

4.2.2. Determines adequacy of DT test resources in a program's TEMP or Test Strategy which informs Tier 1 allocations.

4.3. Headquarters, U.S. Air Force, Deputy Chief of Staff, Strategic Plans and Requirements (AF/A5D), through the Weapons Requirements Division (AF/A5DW).

AF/A5D will:

4.3.1. Approve and include the WRM missile expenditure allocations IAW AFMAN 11-212 and the annual Peacetime Conventional Ammunition Requirements (PCAR) policy memo.

4.3.2. Coordinate with AF/TEP, MAJCOM, and AFOTEC to determine priorities and resolve shortages in required test missiles, including out-of-cycle requests in the current execution year.

4.4. Headquarters, U.S. Air Force, Director of Test and Evaluation (AF/TE), through the Policy, Programs and Resources Division (AF/TEP).

AF/TE will:

4.4.1. Manage the aerial target allocation process and be responsible to the Chief of Staff of the Air Force for establishing Air Force T&E target allocation processes, advocating through Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics Global Power Programs (SAF/AQP) for T&E aerial target resources required to support weapons system development and sustainment, and resolve T&E aerial target issues and disputes.

4.4.2. Ensure TEMP (or Test Strategy) and test plan aerial target requirements are captured in the allocation process and executable.

4.4.3. Respond to and mediate Air Force T&E aerial target issues between HQ USAF principals, MAJCOMs, Air Force testers, the Services, and OSD.

4.4.4. Negotiate target exchanges between Services, on behalf of programs.

4.4.5. Manage aerial target allocations.

4.4.5.1. Allocate aerial targets for all T&E programs, including WSEP. Aerial target and associated munition inventories do not typically allow 100% support of all target requests. AF/TEP allocates targets using the 3-Tiered priority system described in [paragraph 2.4](#) and will send a draft target allocations letter to all MAJCOMs and AFOTEC before the beginning of each Fiscal Year. This is to allow programs to begin expending their initial planned allocations, while the final product is adjudicated.

4.4.5.2. Coordinate with ACC Director of Plans, Programs and Requirements, Test and Training Division (ACC/A5TT), OPNAV/N943, Army TMO and users prior to publishing the annual aerial target allocation letter.

- 4.4.5.3. Issue a KA or PA in accordance with [paragraph 2](#).
- 4.4.5.4. Evaluate kill rates/test schedules monthly and reallocate kill and presentation authorizations as necessary, for effective inventory control. If a program's expenditures start exceeding historical loss rates, their remaining allocations will be evaluated to determine if they should be limited/curtailed.
- 4.4.6. Manage test required WRM missile allocations IAW AFMAN 11-212.
  - 4.4.6.1. In coordination with AF/A5DW, review and validate all test WRM missile expenditure requests. The purpose of this validation is to ensure the WRM missile request is a legitimate test and evaluation requirement.
  - 4.4.6.2. Ensure procedures for forecasting and programming the air-to-air missile telemetry and flight termination systems for the WRM missiles found in AFMAN 99-120 are followed.
- 4.5. Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics (SAF/AQ), through the Director, Global Power Programs (SAF/AQP). SAF/AQ will:
  - 4.5.1. Be responsible for oversight of all aerial target acquisition functions within the Air Force through the Aerial Targets Program Element Monitor for Program Element (PE) 35116F.
  - 4.5.2. In coordination with AFMC, ACC and AF/TE, develop and implement plans to ensure the Air Force (as DoD Lead Service for FSAT support) provides appropriate AFSAT resources to meet test requirements, and FSAT resources for the Department of Defense.
- 4.6. Headquarters, Air Force Materiel Command (AFMC). AFMC will:
  - 4.6.1. Accomplish MAJCOM-level coordination and authorizations through AFMC Air, Space and Cyberspace Operations (AFMC/A3F) unless other HQ AFMC or AFMC Center-level activities are specified. Example: Coordinate through AFMC Logistics, Civil Engineering, Force Protection and Nuclear Integration Directorate (AFMC/A4/10) for AFMAN 99-108 matters where MAJCOM A4 is specified. **Exception:** This does not apply to any AFMAN 99-108 matters where MAJCOM A4 is specified.
  - 4.6.2. Day-to-day operations and executions are managed through the Aerial Targets Branch (AFLCMC/EBAY), Eglin AFB FL (Air Force Lifecycle Management Center (AFLCMC), Armament Directorate, AFMC). AFLCMC/EBAY will:
    - 4.6.2.1. In coordination with SAF/AQ, establish and execute all necessary functions (for Lead Service for FSAT support, USAF) to develop, procure and sustain AFSATs to support Air Force tests, and FSATs to support DoD tests.
    - 4.6.2.2. Review and coordinate on test plans, test reports, and test-related correspondence dealing with aerial target requirements and allocations for programs on OSD T&E oversight. Where AFMC is involved, such programs are most routinely (but may not exclusively be) executed through AFLCMC and/or Air Force Test Center (AFTC).
    - 4.6.2.3. Have foreign military sales case managers bill a foreign government for aerial targets and associated items expended under this process. Accomplish this through Air



Education Training Command's Air Force Security Assistance Training Squadron, or through AFMC's Air Force Security Assistance Cooperation (AFSAC) Directorate of AFLCMC, as specified by the case. **Note:** Comply also with AFMAN 16-101, *Security Cooperation (SC) and Security Assistance (SA) Management*, where it may factor for AFMAN 99-108 matters.

4.6.2.4. Coordinate through AFMC/A3F for all AFMAN 99-108 matters requiring MAJCOM-level engagement. **Exception:** Coordinate through AFMC/A4/10 where specified.

4.6.3. Where **paragraph 4.6.2.2** programs are managed through AFLCMC, respective AFLCMC directorate PMs will support AFLCMC/EBAY by reviewing and coordinating on test plans, test reports, and test-related correspondence dealing with aerial target requirements and allocations for programs on OSD T&E oversight.

4.6.4. Where **paragraph 4.6.2.2** programs are managed through Air Force Test Center (AFTC), affected AFTC wings will support AFLCMC/EBAY by reviewing and coordinating on test plans, test reports, and test-related correspondence dealing with aerial target requirements and allocations for programs on OSD T&E oversight.

4.7. Air Combat Command (ACC) through the Director of Plans, Programs, and Requirements (ACC/A5/8/9). HQ ACC will:

4.7.1. Coordinate test resource requests for aerial targets and missile drawn from WRM.

4.7.2. Through the **Test and Training Division (ACC/A5TT)** will:

4.7.2.1. Function as the ACC PEM for PE 28015, Combat Development, PE 35116, Aerial Targets and PE 27590, Aircraft Stores Certification (SEEK EAGLE).

4.7.2.2. Act as the ACC/A5/8/9 single point for receipt of test plans, support plans, Test Resource Plans (TRP) requesting aerial target support and WRM missiles.

4.7.2.3. Serve as ACC POC for aerial targets program management.

4.7.3. Through the **Flight Operations Division (ACC/A3T)** act as OPR for CAF Plan 53, which includes Air-to-Air WSEP (COMBAT ARCHER).

4.7.4. Through the **Test Centers**. Unless directed otherwise, United States Air Force Warfare Center and Air National Guard Air Force Reserve Command Test Center will:

4.7.4.1. Submit center munitions/aerial target requirements to include telemetry instrumentation kits in support of test and evaluations and WSEP.

4.7.4.2. Review and coordinate on test plans, test reports and test-related correspondence as required for programs on OSD T&E oversight.

4.7.4.3. Through the 53d Wing and its subordinate unit, the 53 WEG execute the aerial target allocations on behalf of the test programs, manage and provide aerial target and WRM missile resources on a daily basis, IAW this manual.

4.8. Other Operational MAJCOMs. The lead command will advocate for and carry out T&E responsibilities for assigned weapon systems during their life cycle IAW DAFPD 10-9, *Lead Command/Lead Agent Designation and Responsibilities for United States Air Force Weapon*

*Systems, Non-Weapon Systems, and Activities*; to include advocating for test resources and support to WSEP for participating units. **(T-1)**

4.9. Air Force Operational Test and Evaluation Center (AFOTEC). AFOTEC will:

4.9.1. Request targets/WRM missiles and ensure that required assets are listed in the TRP.

4.9.2. Coordinate AF portion of Multi-Service OT&E resources for same if AF is not the Lead Operational Test Agency.

4.10. USAF-Lead Joint Acquisition Programs. If they require execution of shots with MAJCOM aircraft, over Air Force ranges, and against Air Force targets, they will forecast target and missile allocations through AF channels.

4.11. Program Managers (PM). The PM (or designated T&E representative) will:

4.11.1. Ensure that Chief Developmental Tester/Test Manager (CDT/TM) forms an Integrated Test Team and determines aerial target and WRM missile requirements, if appropriate.

4.11.2. For all AFMC conducted developmental test programs, the program office will include the requested targets/missiles in the appropriate TEMP or Test Strategy.

4.11.3. Coordinate with the Aerial Targets Office and ACC/A5TT to ensure all aerial target payloads required for test are certified IAW the SEEK EAGLE Program. See AFI 63-101\_20-101 for more information on SEEK EAGLE certification.

## **5. Forecasting Allocations.**

5.1. Forecasting. Each MAJCOM and AFOTEC will prepare 5-year plans to identify and justify the types of aerial targets and WRM missiles required for its T&E programs. **(T-1)** These plans will consider system design requirements, test program objectives, present and future threats, aircraft resources, missile resources, target resources, range facilities, past WSEP results, and results from other test programs.

5.1.1. Each MAJCOM and AFOTEC must establish the necessary coordination and review procedures to ensure projected expenditures are:

5.1.1.1. Prioritized according to MAJCOM and AFOTEC requirements. **(T-1)**

5.1.1.2. Based on current operational tactics, scenarios, and concepts of operations. **(T-2)**

5.1.1.3. Realistic and conforming to weapon system evaluation and other test program needs. **(T-2)**

5.1.1.4. Based on the need to determine weapon system effectiveness. The expenditures should be the minimum required to meet test objectives or weapons system evaluation requirements. **(T-2)**

5.1.1.5. Based on data collected from previous firing programs and adjusted to fit the planned employment environment. **(T-2)**

5.1.1.6. Realistic considering the limited availability of targets. **(T-2)**

5.1.1.7. Target warranty expiration considered if no overriding program guidance. **(T-2)**



5.2. Allocation/Expenditure Request Format. The aerial target and missile expenditure request should contain the items listed in [Attachment 2](#). The MAJCOM (for programs) or AFOTEC will forward this request to AF/A5DW (Cc: AF/TEP) for review and validation. Guidance on submitting this request is found in the Peacetime Conventional Ammunition Requirements (PCAR) Forecast Memorandum cited in AFMAN 11-212. This document is issued to the MAJCOM A4 munitions staff, munitions user functional managers, and munitions accountable systems officers each year for action, by the Global Ammunition Control Point (AFLCMC/EBHMB), Hill AFB UT (Air Force Lifecycle Management Center, AFMC). Inclusion of the request in these documents does not automatically provide target/missile support. Only direct aerial target allocation from AF/TEP and direct missile allocation from AF/A5DW ensures support.

5.3. **DoD Allocation/Expenditure Requests.** Any DoD component, command, or agency (e.g., Army, Navy, Northern Command) requiring Air Force aerial targets on a recurring basis will request the targets IAW [paragraph 5.2](#). These organizations will provide procurement funds to the Aerial Targets Branch (AFLCMC/EBAY) at Eglin AFB FL (Armament Directorate, AFLCMC, AFMC). Do this at least two years before the need date. This is to allow the aerial targets program office sufficient time to increase the next planned production buy. For operations and maintenance costs, the using component will coordinate costs with the 53 WEG and ACC/A5TT. **(T-2)**

5.4. Foreign Aerial Target Allocation/Expenditure Requests.

5.4.1. Foreign Military Sales (FMS) Programs. A MAJCOM will request the targets required for conducting foreign military sales programs through its resident office (i.e., ACC International Affairs FMS (ACC/IAS) for ACC-managed FMS programs; a similar office for other MAJCOMs, as appropriate).

5.4.2. Non-Foreign Military Sales Programs. Not all foreign programs conduct test shots via foreign military sales cases. Canada participates in WSEP under a Memorandum of Understanding (MOU) between the Department of Defense of the United States of America and the Department of National Defence of Canada for Test and Evaluation Program Cooperation (short title: CANUSTEP). Any questions should be referred to AF/TEP or Secretary of the Air Force International Affairs, International Armaments Cooperation Division (SAF/IAPC). Similar agreements exist with other foreign partners. DOT&E is designated U.S. MOU Director for these arrangements.

## **6. Executing/Expending Allocated Aerial Targets.**

6.1. Aerial Target Allocation Deviations. Deviations from target allocations require AF/TEP coordination. **(T-1)**

6.1.1. Interchanging subscale aerial targets for full-scale aerial targets by any using agency (MAJCOM, AFOTEC, 53 WEG, and DoD Agency) requires AF/TEP approval. **(T-1)**

6.1.2. Should a presentation authorization mission profile damage or destroy a target, AF/TEP will be notified immediately. Additionally:

6.1.2.1. The profile cannot be used again without additional authorization by AF/TEP. **(T-1)**

6.1.2.2. The program may be required to reimburse the cost of the damaged/destroyed target and/or payload, as determined by AF/TEP, in coordination with the 53 WEG and ACC.

## 6.2. Aerial Target Survivability Measures.

6.2.1. Test organizations, program managers, and the 53 WEG will employ target survivability maneuvers, or activate the missile flight termination system, for every shot profile that does not have specific endgame requirements (i.e., no need to unnecessarily put the target at risk of being hit/lost). **(T-1)**

6.2.2. Each individual KA/PA is only valid for three Not Under Live Local Operator/unmanned target sorties. If a program cannot meet its objectives within the allocated sorties, AF/TEP will review and determine if additional KAs or PAs are warranted.

6.2.3. Each kill authorization applies only to the airframe, not to an electronic attack (EA) payload, if used. Electronic attack pods/systems and associated support are not provided by the aerial target program office (AFLCMC/EBAY)/53 WEG. Programs must make separate arrangements with electronic attack pod/system owners for support and make requests/notifications to the Tyndall EA laboratory at least 30 days prior to missions which require EA Payloads. USAF requestors may contact the AFLCMC/EBAY Test Resource Management Office regarding requests for electronic attack pods/systems for Air Force developmental and operational testing. **Note:** Payload expenditures may require additional funding and coordination with the payload owner(s) or the DoD electronic attack executive agent for development/procurement of payloads. **(T-1)** Since it normally takes about 24 months from receipt of funding for a new EA asset to be built and received by the 53 WEG, procurement lead times may apply.

6.3. Special Aerial Target Procedures. Target allocations not used in one fiscal year do not carry over to the next fiscal year. AF/TEP will provide allocations for each fiscal year in an annual *Fiscal Year Target Allocations* letter. Test programs that slip from one fiscal year to the next must submit a new request for targets each year. **(T-1)**

6.4. Unprogrammed Aerial Target Requirements. MAJCOMs and AFOTEC will fill unprogrammed target requirements (also known as out-of-cycle requests) from existing, current-year allocations. **(T-1)** AF/TEP may authorize additional allocations provided the requirement is valid and inventories permit once the MAJCOM or AFOTEC has expended all other targets of the type requested.

## 6.5. Mission Feedback.

6.5.1. DoD mission. The 53 WEG will: notify AF/TEP within 72 hours of any kill/presentation authorization expenditure with the following information: date, program, range, target type/identification, electronic attack/infrared augmentation, number, and type of shooters/missiles. **(T-1)** If an Air Force target is destroyed by another Service, AF/TEP will inform OPNAV/N943 or Army TMO.

6.5.2. Foreign Support. The 53 WEG will advise the MAJCOM responsible for the foreign military sales program on mission outcome/target expenditure using guidance in [paragraph 5.4](#) The MAJCOM then notifies the foreign military sales case manager in the

Air Force Security Assistance Training Squadron. **(T-1)** The Air Force Security Assistance Training Squadron or Air Force Security Assistance Cooperation Directorate foreign military sales case manager then bills the foreign government for items expended. Once the foreign government has been billed and funds are received, the MAJCOM aerial targets line manager (as identified in the foreign military sales case) will transfer funds to the Air Force Lifecycle Management Center, Armament Directorate, Aerial Targets Branch (AFLCMC/EBAY) at Eglin AFB FL to purchase replacement targets during the next production buy. **(T-1)**

6.6. Determination of Target Mission Disposition. Customers own allocated target(s) from initial airborne state until recovered on the droneway and engines shut down. Complementing the normal planned means of expending targets as declared KA's, are two rare unplanned instances in which a non-recoverable target is destroyed and the program is either not charged a KA (Ops Loss; see [paragraph 6.6.4](#)) or is charged a KA (Ops Loss with chargeable KA; see [paragraph 6.6.5](#)). The 53 WEG determines target mission disposition as either an "Ops Loss", "KA", or "Ops Loss with chargeable KA" using the following criteria:

6.6.1. If a target arrives at the initial point (IP) for the target track in a condition or subsequently degrades to a condition that precludes a safe recovery to the droneway but can still be presented in a manner acceptable to the customer to meet mission objectives, the target will be presented. This does not include battle damage, and the target is capable of any required target saving maneuvers. If the target is subsequently hit and destroyed, the customer will be charged a kill authorization. **(T-1)**

6.6.2. If a target is successfully presented in accordance with customer objectives and due to target degradation (not to include battle damage) is subsequently destroyed in lieu of a planned recovery, 82d Aerial Targets Squadron (82 ATRS) Director of Operations (DO) or Commander (CC) will consult with AF/TEP to determine final kill authorization disposition. **(T-1)** AF/TEP will consider customer program objectives and number of previous successful target missions in support of the allocated kill authorization to make a final determination.

6.6.3. If a target arrives at the initial point in a condition or subsequently degrades to a condition in which it is unable to be presented within acceptable parameters to meet customer objectives, the customer will be fully briefed on the target's degraded capabilities. **(T-1)** If the customer chooses to have the target presented, it is assumed the customer is able to derive valid and usable shot data from the presentation. If the target is presented as such and subsequently hit and destroyed or destroyed in lieu of a planned recovery, 82 ATRS/DO or CC will consult with AF/TEP to determine final kill authorization disposition. **(T-1)**

6.6.4. If a target is launched and is never presented due to target system degradation or the customer elects to not accept a degraded target, and the target is subsequently destroyed in lieu of a planned recovery, the mission will be declared an "ops loss." **(T-1)**

6.6.5. If the mission results fall into grey areas not described in [paragraph 6.6.2](#) and [paragraph 6.6.3](#), a third possible category is "ops loss with chargeable KA". This option does not diminish the significance of an ops loss-type scenario, and the program is charged the kill authorization if warranted (i.e., customer objectives achieved, AF/TEP concurrence). This extremely rare option accentuates the need for detailed investigative

analysis of target system degradation not associated with battle damage, does not skew system risk data, and provides AF/TEP kill authorization accounting criteria. As an example, a program that successfully achieves its mission objectives, but the target is lost on recovery or in between presentations, would be a candidate for this designation.

6.6.6. **Exception:** With concurrence of the target mission commander, and to gain opportune warhead or bullet effectiveness data, chase aircraft may employ live warhead missiles or guns to destroy a target which has degraded beyond a safe recovery condition. Such kills will have no bearing on a program's kill authorization disposition determination. It is considered an alternate flight termination system. The disposition of the mission should already have been determined by events leading up to target destruction by the chase.

## **7. Expending Allocated WRM Missiles.**

7.1. Missile Allocation Deviations. MAJCOMs will not exceed programmed allocations IAW AFMAN 11-212 and the PCAR Forecast Memorandum without coordinating with AF/TEP and obtaining AF/A5DW approval. **(T-1)**

7.2. Special Missile Procedures. Missile allocations not used in one fiscal year do not carry over to the next fiscal year. The MAJCOM/AFOTEC will have to request new allocations on behalf of the program. **(T-1)** In the case where a missile has already been shipped and configured with telemetry on site, the allocation just needs to be revalidated. A new missile does not need to be ordered or procured to replace the one already on hand.

7.3. Unprogrammed Missile Expenditure Requirements. MAJCOMs/AFOTEC should first fill unprogrammed missile requirements (also known as out-of-cycle requests) from existing current-year allocations in other test programs they resource. When unprogrammed requirements cannot be met, MAJCOM/AFOTEC must submit a request for additional allocations to AF/A5DW who will validate the request with AF/TEP before approval. **(T-1)** For guidance on funding and programming any required missile telemetry instrumentation kit and flight termination system kits, see AFMAN 99-120.

CHRISTOPHER M. WILCOX  
Director, Test and Evaluation

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

DAFPD 99-1, *Test and Evaluation*, 21 May 2021

DoDI 5000.89\_DAFI 99-103, *Capabilities-Based Test and Evaluation*, 9 December 2021

AFI 10-601, *Operational Capability Requirements Documentation and Validation*, 27 April 2021

AFMAN 11-212, *Requirements for Aircrew Munitions*, 25 June 2020

DAFPD 10-9, *Lead Command/Lead Agent Designation and Responsibilities for United States Air Force Weapon Systems, Non-Weapon Systems, and Activities*, 25 May 2021

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFMAN 16-101, *Security Cooperation (SC) and Security Assistance (SA) Management*, 2 August 2018

AFMAN 11-212, *Requirements for Aircrew Munitions*, 25 June 2020

DAFMAN 21-201, *Munitions Management*, 3 May 2022

DAFMAN 90-161, *Publishing Processes and Procedures*, 15 April 2022

AFI 63-101\_20-101, *Integrated Life Cycle Management*, 30 June 2020

DAFI 91-204, *Safety Investigations and Reports*, 10 March 2021

AFMAN 99-120, *Forecasting and Programming Munitions Telemetry and Flight Termination Systems*, 11 May 2022

CAF Plan 53, *Weapon System Evaluation Program (WSEP)*, 30 May 2020

***Prescribed Forms***

None

***Adopted Forms***

DAF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**ACC**—Air Combat Command

**AFLCMC**—Air Force Life Cycle Management Center

**AFMAN**—Air Force Manual

**AFMC**—Air Force Materiel Command

**AFOTEC**—Air Force Operational Test and Evaluation Center

**AFPD**—Air Force Policy Directive

**AFSAT**—Air Force Subscale Aerial Target

**AFTC**—Air Force Test Center

**AIM**—Air Intercept Missile

**CAF**—Combat Air Forces

**CC**—Commander

**DO**—Director of Operations

**DoD**—Department of Defense

**DOT&E**—Director, Operational Test and Evaluation

**DT**—Developmental Test

**EA**—Electronic Attack

**FDE**—Force Development Evaluation **FMS**—Foreign Military Sales

**FSAT**—Full-Scale Aerial Target

**IP**—Initial Point

**ITTS**—Instrumentation, Targets and Threat Simulators

**KA**—Kill Authorization

**LFT&E**—Live-Fire Test and Evaluation **MAJCOM**—Major Command

**MOU**—Memorandum of Understanding

**NBVC**—Naval Base Ventura County

**OSD**—Office of the Secretary of Defense

**OT**—Operational Test

**PA**—Presentation Authorization

**PE**—Program Element

**PCAR**—Peacetime Conventional Ammunition Requirements Forecast Memorandum

**PE**—Program Element

**PEO**—Program Executive Officer

**PM**—Program Manager

**SA**—Security Assistance

**SC**—Security Cooperation

**SOF**—Special Operations Forces

**SSAT**—Subscale Aerial Target **T&E**—Test and Evaluation

**TEMP**—Test and Evaluation Master Plan

**TMO**—Targets Management Office



**TRP**—Test Resource Plan

**UTTR**—Utah Test and Training Range **WEG**—Weapons Evaluation Group **WIC**—Weapons Instructor Course **WRM**—War Reserve Materiel

**WSEP**—Weapon System Evaluation Program

**53 WEG**—53d Weapons Evaluation Group

**82 ATRS**—82d Aerial Targets Squadron

**ACC/A5/8/9**—ACC Director of Plans, Programs and Requirements

**ACC/A3T**—ACC Flight Operations Division

**ACC/A5TT**—ACC Director of Plans, Programs and Requirements, Test and Training Division

**AF/A5D**—Headquarters U.S. Air Force, Deputy Chief of Staff, Strategic Plans and Requirements

**AF/A5DW**—Weapons Requirements Division

**AFLCMC/EBAY**—Aerial Targets Branch Armament Directorate, AFMC

**AFMC/A3F**—HQ AFMC Air, Space and Cyberspace Operations

**AFSAC**—Air Force Security Assistance Cooperation Directorate of AFLCMC

**DD(DTE&A)**—The Deputy Director, Developmental Test, Evaluation and Assessment

**OPNAV/N943**—T&E Infrastructure, Training Ranges and Targets

**USD/R&E**—Office of the Under Secretary of Defense for Research and Engineering

### *Office Symbols*

**ACC/IAS**—ACC International Affairs FMS

**AFLCMC/EBHMB**—Air Force Life Cycle Management Center Global Ammunition Control Point

**AFMC A4/10**—Logistics, Civil Engineering, Force Protection and Nuclear Integration Directorate

**AF/TE**—Air Force Test and Evaluation

**AF/TEP**—Air Force Test and Evaluation Programs and Policy

**SAF/AQ**—Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics

**SAF/AQP**—Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics Global Power Programs

**SAF/IA**—Secretary of the Air Force International Affairs, International Armaments Cooperation Division

**STRI**—Simulation, Training and Instrumentation

### *Terms*

**BQM**—The type designation for Air Force subscale aerial targets. The designation is based on the 1962 Tri-Service Missile and drone designation system in which the first letter (“B”) designates

the launch environment of “multiple”—capable of being launched from more than one environment; second letter (“Q”) designates mission symbol for a drone; and the third letter “M” designates the vehicle type symbol--“guided missile”—an unmanned, self-propelled vehicle with remote or internal trajectory guidance.

**Kill Authorization (KA)**—One of two aerial target allocation classifications a test program can request or be issued; a KA is appropriate when it is very likely the unmanned target will be expended/destroyed during the mission.

**Presentation Authorization (PA)**—One of two aerial target allocation classifications a test program can request or be issued; a PA is appropriate when the intent is not to expend/destroy the unmanned target during the mission. A presentation authorization will be issued if no live weapons will be fired at the target, or weapons are planned to be terminated or kinematically defeated prior to impact.

**Operational Loss (OPS Loss)**—If a target gets airborne and is never presented due to target system degradation or the customer elects to not accept a degraded target, and the target is subsequently destroyed in lieu of a planned recovery, the mission will be declared an ops loss.

**Operational Loss (OPS Loss) with Chargeable Kill Authorization (KA)**—If the mission results fall into grey areas not described in [paragraph 6.6.1](#) and [paragraph 6.6.2](#), this third category is an option, whereby the significance of an ops loss-type scenario is not diminished, and the program is charged the kill authorization if warranted (i.e., customer objectives achieved, AF/TEP concurrence). This extremely rare option accentuates the need for detailed investigative analysis of target system degradation not associated with battle damage, does not skew system risk data, and provides AF/TEP kill authorization accounting criteria.

**QF**—Designation for a full-scale F-16 that has been converted into a drone for unmanned operations. The designation is derived from the 1962 Tri-Service Missile and drone designation system where “Q” designates the mission system as “drone” and “F” stands for “Fighter.”

**Note**—See DoDI 5000.89\_DAFI 99-103 for definitions of terms relating to capabilities-based test and evaluation.

**Attachment 2****AERIAL TARGET / MISSILE REQUEST FORMAT.**

**A2.1. Each MAJCOM and AFOTEC will submit a five-year forecast of aerial target and missile expenditures. (T-1)** MAJCOMs and AFOTEC will prioritize target requests according to their requirements and submit their forecasts annually to HQ USAF/A5DW (cc: AF/TEP), IAW the Peacetime Conventional Ammunition Requirements (PCAR) Forecast Memorandum that kicks off the recurring non-nuclear consumables annual analysis process to allocate war reserve materiel. **(T-1)**

A2.2. No specific format is required; however, each request should contain the following items: **(T-1)**

A2.2.1. DATE.

A2.2.2. COMMAND/ORGANIZATION.

A2.2.3. PROGRAM TITLE. Include the program title for each planned aerial target/missile expenditure (e.g., F-16 OFF).

A2.2.4. MISSILE/QUANTITY/TELEMETRY INSTRUMENTATION KIT/FLIGHT

TERMINATION SYSTEM. List the quantity, type, and series/subseries of missiles requested (e.g., 2 x AIM-9X; 5 x AIM-120C7; 1 x AIM-120D). If more than one type of missile can meet the requirement, specify all usable series/subseries (e.g., AIM-120C-7/D). List the type of missile telemetry instrumentation kit and flight termination system package requested and see AFMAN 99-120 for funding/programming for them. Programs are responsible for obtaining their own telemetry instrumentation kits and flight termination systems from the weapon program offices. For missiles not requiring them, indicate justification (i.e., “warhead shot” or “for separation purposes only”).

A2.2.5. TARGET/AUTHORIZATION TYPE/ QUANTITY. List the quantity, type and model of target requested (i.e., SSAT or QF-16). Enter the total requirements by target/authorization type for each fiscal year (e.g., 2 KA x SSAT; 3 KA x QF-16; 1 PA x SSAT). For kill/presentation authorization quantity determination, see [Attachment 3](#).

**Note:** Provide planned profiles per target and total required kills or expenditures. For a multiple-ship profile, each target requires a kill or presentation authorization.

A2.2.6. SCORING SYSTEM. List the type of scoring system requested (i.e., scalar or vector).

A2.2.7. TARGET AUGMENTATION. List the types of target augmentation systems requested (i.e., chaff, flares, electronic attack (EA) pod).

A2.2.8. SPECIAL TARGET MODIFICATION REQUIREMENTS. Provide a general description of any special engineering modifications that the 53 WEG or the user will make to the target (i.e., any special payloads, instrumentation systems, or other hardware modifications required for the target). **(T-2)**

A2.2.9. FISCAL YEAR. Provide targets by fiscal year for a period covering the next five consecutive fiscal years. Do not include the current fiscal year.

A2.2.10. RANGE. Annotate if a range other than Eglin or Tyndall is necessary (e.g., White Sands Missile Range).

A2.2.11. REFERENCE and JUSTIFICATION. Provide the test and evaluation master plan, test resource plan, and/or test plan reference (title and page number) justifying the aerial target request. If requested, provide an electronic copy of the referenced document.

**Figure A2.1. Example “AFOTEC Aerial Target Request, xx Aug 2017.”**

<b>Fiscal Year</b>	<b>Program</b>	<b>Target/Qty/ KA/PA</b>	<b>Range</b>	<b>Scoring</b>	<b>Augmentation /Mods</b>	<b>Missiles/Qty, TIK/FTS Type</b>	<b>Test Ref</b>	<b>Notes</b>
2018	F-22A Inc. 3.2B IOT&E	2x SSAT KA	Eglin	Scalar	Flares/None	2x AIM-9X	F/A-22 TEMP p.81 (attch.)	No TIK
2018	F-35 IOT&E	2x FSAT PA (QF-16)	WSMR	Vector	EA Pod/None	2x AIM- 120C7	F-35 TEMP p.103 (attch.)	2-ship formation

## Attachment 3

## KILL / PRESENTATION AUTHORIZATION CALCULATIONS.

Figure A3.1. Recommended Drone Allocation Screening Process.

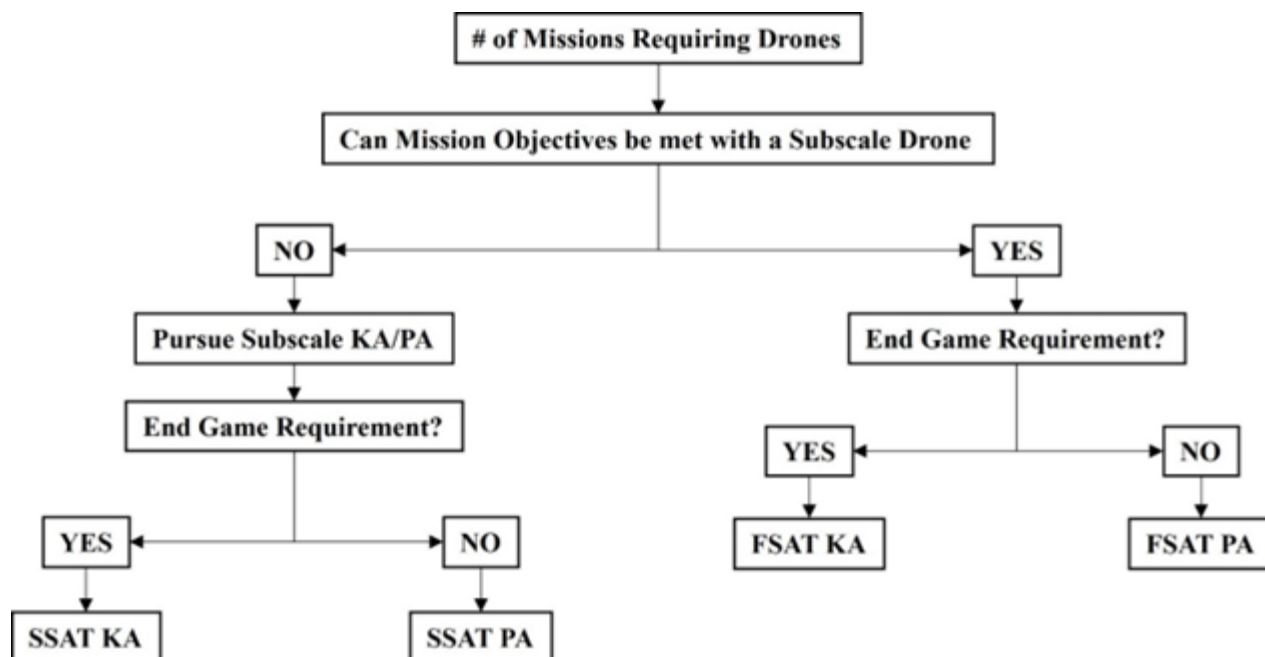


Table A3.2. Recommended Drone Kill/Presentation Authorization Calculation Process.

				FSAT KA/PA* Needed
# Missions requiring targets	=	20		
# Missions where test objectives can be met by Subscales (SSAT)	=	10		Pursue SSAT KA/PA (next table)
# Missions to be conducted for FSAT KA/PAs	=	10		
# Missions where missile is terminated <u>OR</u> no live missile shot	-	4		2 PA**
# Missions for endgame assessment	=	6		
# Missions without Drone saving maneuver	-	2		2 KA***
# Missions with Drone saving maneuver	=	4	x (Survival Factor; default 75%)	3 KA

	<b>Total:</b>	<b>5 KA / 2 PA</b>
<p><b>* One KA/PA needed for each aircraft in multi-ship formation (i.e., 2 KA for 2-ship)</b></p> <p><b>** PA charged after 3 missions to accomplish test objectives</b></p> <p><b>*** KA charged after 3 missions to accomplish test objectives or when target is expended</b></p>		

Table A3.3. Drone Kill/Presentation Authorization Calculation Process (Continued).

				<b>SSAT KA/PA* Needed</b>
<b># Missions to be conducted for SSAT KA/PAs</b>	<b>=</b>	<b>10</b>		
<b># Missions where missile is terminated <u>OR</u> no live missile shot</b>	<b>-</b>	<b>3</b>		<b>1 PA**</b>
<b># Missions for endgame assessment</b>	<b>=</b>	<b>7</b>		
<b># Missions without Drone saving maneuver</b>	<b>-</b>	<b>2</b>		<b>2 KA***</b>
<b># Missions with Drone saving maneuver</b>	<b>=</b>	<b>5</b>	<b>x (Survival Factor; default 75%)</b>	<b>4 KA</b>
			<b>Total:</b>	<b>6 KA / 1 PA</b>
<p><b>* One KA/PA needed for each aircraft in multi-ship formation (i.e., 2 KA for 2-ship)</b></p> <p><b>** PA charged after 3 missions to accomplish test objectives</b></p> <p><b>*** KA charged after 3 missions to accomplish test objectives or when target is expended</b></p>				